Granary House
Rutland Street
Cork

Tel. [021]4321521
Fax. [021]4321522

Ms Noeleen Keavey,
Administration Officer,
Office of Climate Licensing and Resource,
Environmental Protection Agency,
PO Box 3000,
Johnstown Castle Estate,
Wexford.

21st October 2014

Re; Application for Waste Licence (W0140-04) Nurendale, Beauparc, County Meath

Dear Ms Keavey,

I refer to the Agency's Notice dated the 7th March 2014 for the purpose of Section 76(A) of the Waste Management Act to provide the information prescribed in Regulation 9 of the EPA (Industrial Emissions) (Licensing) Regulations 2013. The information is set out herein.

9 (2) (a)

(i) the name, address and telephone number of the applicant and, if different, any address to which correspondence relating to the application should be sent and, if the applicant is a body corporate, the address of its registered or principal office,

Applicant

Nurendale,
T/A Panda Waste Services,
Rathdrinagh,
Beauparc,
Navan,
County. Meath.

Telephone No.: 046 - 9024111
Fax No.: 046 - 9024189

The Corporate address is as above.

Cont'd

The Directors are: -

- Mr. Eamon Waters
- Mr. Noel Waters.
- Mr Brian McCabe

Name and Address for Correspondence

Mr. David Naughton,
Panda Waste Services,
Rathdrinagh,
Beauparc,
Navan,
County. Meath.

Telephone No.: 046 - 9024111
Fax No.: 046 - 9024189

(ii) the location or postal address (including, where appropriate, the name of the relevant townland or townlands) of the premises to which the activity relates,

Rathdrinagh,
Beauparc,
Navan,
County. Meath

(iii) the name of the planning authority in whose functional area the activity is or will be carried on,

Meath County Council.

(iv) in the case of a discharge of any trade effluent or other matter(other than domestic sewage or storm water) to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or by which it is controlled,

There is no discharge of trade effluent or other matter to the sewer of a sanitary authority.

(b) *give:*

(i) *in the case of an established activity, the number of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or*

(ii) *in any other case, the gross capital cost of the activity to which the application relates,*

There are approximately 100 employees based at the facility during the normal levels of operation.

Cont'd

(c) *specify the relevant class or classes in the First Schedule to the Act of 1992 to which the industrial emissions directive activity relates*

11.1 The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.

11.4 (b) Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, (other than activities to which the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001) apply):

(i) biological treatment;

(ii) pre-treatment of waste for incineration or co-incineration

(d) in accordance with section 87(1B)(a) of the Act of 1992 in the case where an application for permission for the development comprising or for the purposes of the industrial emissions directive activity to which the application for the licence relates is currently under consideration by the planning authority concerned or An Bord Pleanála, a written confirmation from the planning authority or An Bord Pleanála, as appropriate, of that fact together with either:

(i) a copy of the environmental impact statement, 2 hard copies and2 electronic copies or in such form as may be specified by the Agency, that was required to be submitted with the application for planning permission, or

(ii) a written confirmation from the planning authority or An Bord Pleanála that an environmental impact assessment is not required by or under the Act of 2000,

Not applicable.

(e) in accordance with section 87(1B)(b) of the Act of 1992 in the case where permission for the development comprising or for the purposes of the industrial emissions directive activity to which the application for the licence relates has been granted, a copy of the grant of permission together with either:

(i) a copy of the environmental impact statement, 2 hard copies and2 electronic copies or in such form as may be specified by the Agency, that was required to be submitted with the application for permission, or

(ii) a written confirmation from the planning authority or An BordPleanála that an environmental impact assessment was not required by or under the Act of 2000,

Cont'd

Copies of the planning permissions SA/60656 relating to the increase in waste tonnages and SA/900875, which authorised the development of Building 4 and the AD plant are in Attachment 1. Also enclosed is a copy of the Managers Order extending the lifetime of permission SA/900875. Written confirmation from the planning authority that an environmental impact assessments were not required for SA/60656 and SA/900875 are in Attachment 1.

(*f*) *Specify the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by or utilised in the activity,*

Facility operations involve the consumption of water, oil and electricity. The quantities used in in 2013 are given in the Table 1 below.

Table 1. Estimate of Resource Consumption 2013 –

Resources	Consumption 2013
Gas Oil	290,365 litres
Electricity	2376.43Mwh
Hydraulic/Gear Oil, Grease	10,000 litres
Engine Oil	600 litres
Water	Not metered

There will be an increase in electricity consumption due to the electrical motors installed in the AD plant (mixers, elevators and conveyors) and additional yard lighting, however this will be offset by the electricity generated in the on-site CHP plant. Rainwater from the roof of Building 4 will replace the groundwater that is currently abstracted for non-potable use.

(g) describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems, and operating procedures for the activity,

The relevant information is provided in Chapters 4 and 5 of the EIS and in the supporting Appendix 1.

(h) indicate how the requirements of section 83(5)(a)(i) to (v) and (vii) to (xa) of the Act of 1992 shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5(3)(b) of that Act or any applicable best available techniques (BAT) conclusions adopted in accordance with Article 13(5) of the Industrial Emissions Directive and the reasons for the selection of the arrangements proposed,

Chapter 3 of the EIS and supporting Appendices 2 and 3 of the EIS that has been submitted to the Agency indicates how the requirements of Section 83(5)(a)(i) to (v) and (vii) to (xa) of the Act of 1992 will be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5(3)(b) of that Act or any applicable best available techniques (BAT) conclusions adopted in accordance with Article 13(5) of the Industrial Emissions Directive and presents the reasons for the selection of the proposed arrangements. Cont'd

(i) give particulars of the source, nature, composition, temperature, volume, level, rate, method of treatment and location of emissions, and the period or periods during which the emissions are, or are to be, made,

The particulars on the existing and proposed emissions are presented in Chapters 4, 5 7, 8, 9, 11 and 12 of the EIS and the supporting reports in Appendices 5, 6, 7, 8, 9, 11 and 12 of the EIS.

(j) identify monitoring and sampling points and outline proposals for monitoring emissions and the environmental consequences of any such emissions,

The existing and proposed emission points and monitoring locations are shown on Drawing No 3. Rev A in the EIS. The environmental consequences of the emissions are assessed in Chapters 8, 9. 10, 11 and 12 of the EIS.

(k) provide:

(i) *details, and an assessment, of the impacts of any existing or proposed emissions on the environment as a whole, including on an environmental medium other than that or those into which the emissions are, or are to be, made, and*

(ii) *details of the proposed measures to prevent or eliminate, or where that is not practicable, to limit, reduce or abate emissions,*

The details, and an assessment, of the impacts of the existing and proposed emissions on the environment as a whole, including on an environmental medium other than that or those into which the emissions are, or are to be, made, and details of the proposed measures to prevent or eliminate, or where that is not practicable, to limit, reduce or abate emissions are presented in Chapters 4, 5, 7, 8, 9, 11 and 12 of the EIS and in the supporting reports in Appendices 5, 6, 7, 8, 9, 11 and 12 of the EIS.

(l) describe in outline the main alternatives to the proposed technology, techniques and measures which were studied by the applicant,

The main alternatives to the proposed technology, techniques and measures studied by the applicant are described in Chapter 3 of the EIS.

(m) describe the condition of the site of the installation,

The condition of the site of the installation is described in the EIS.

(n) provide, when requested by the Agency, in the case of an activity that involves the use, production or release of relevant hazardous substances (as defined in section 3 of the Act of 1992) and having regard to the possibility of soil and groundwater contamination at the site of the installation, a baseline report in accordance with section 86B of the Act of 1992,

Cont'd

Details on the soil and groundwater conditions at the site are presented in Chapters 8 and 9 of the EIS and the supporting reports in Appendices 6, 7 and 9 of the EIS.

(o) *specify the measures to be taken to comply with an environmental quality standard where such a standard requires stricter conditions to be attached to a licence than would otherwise be determined by reference to best available techniques,*

An EQS does not require stricter condition to be attached to a licence than would otherwise be determined by reference to BAT.

(p) *describe the measures to be taken for minimising pollution over long distances or in the territory of other states,*

Not Applicable.

(q) *describe the measures to be taken under abnormal operating conditions, including start-up, shutdown, leaks, malfunctions, breakdowns and momentary stoppages,*

Details of the existing and proposed safety and hazard controls are presented in Sections 4.16 and 5.10 of the EIS. In addition PANDA has prepared documented procedures for each of the MRFs which serve as a guidance documents for facility staff and describes operational control and management practices.

PANDA has documented procedure (SOP 14) on the handling and storage of potentially polluting substances used at the facility, e.g. oils and the filling of tanks and mobile plant (SOP 21). The procedure describes how filling the fuel storage tanks and refuelling/servicing the mobile plant should be carried out to minimise the risk of accidental spills and ensure that if these occur there is a rapid and effective response.

Panda is preparing a procedure on Fire Prevention and Detection that will be applied at all of its facilities. It will take into consideration the Agency's Guidance Note on Fire Safety at Non Hazardous Waste Sites and the UK Environment Agency's Technical Guidance Note TGN7-01 Reducing Fire Risk at Sites Storing Combustible Materials. The ERP will also be revised to take account of the recommendations contained in the guidance documents on the response actions to be taken.

(r) *describe the measures to be taken on and following the permanent cessation of the activity or part of the activity to avoid any risk of environmental pollution and to return the site of the activity to a satisfactory state or the state established in the baseline report if such is required under section 86B of the Act of 1992,*

PANDA has prepared a Decommissioning Management Plan (DMP) as required by Condition 10.1 of the current licence. A copy of the DMP is in Attachment 2.

(s) *describe the arrangements for the prevention of waste in accordance with Part III of the Act of 1996, and where waste is generated by the installation, how it will be in order of priority in accordance with section 21A of the Act of 1996, prepared for re-use, recycling,*

Cont'd

recovery or where that is not technically or economically possible, disposed of in a manner which will prevent or minimise any impact on the environment,

The facility is designed and operated to maximise the recovery of the materials accepted. As all of these materials are currently classified as waste the only opportunities for waste prevention relate to the small amounts of office and canteen waste generated in the office and welfare facilities.

(t) specify, by reference to the relevant European Waste Catalogue codes as prescribed by Commission Decision 2000/532/EC of 3 May 2000, the quantity and nature of the waste or wastes produced or to be produced by the activity, or the quantity and nature of the waste or waste accepted or to be accepted at the installation,

The quantity and nature of the waste accepted at the installation, by reference to the relevant EWC codes are in Attachment 3.

(u) state whether the activity consists of, comprises, or is for the purposes of an establishment to which the European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2006 (S.I. No. 74 of 2006) apply,

The activity is not an establishment to which the Seveso Regulations apply.

(v) describe, in the case of an activity which gives rise, or could give rise, to an emission containing a hazardous substance which is discharged to an aquifer and is specified in the Annex to Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances, the arrangements necessary to comply with the said Council Directive,

The activity is not one which gives rise or could give risk to an emission containing a hazardous substance which is discharged to an aquifer.

(w) include a non-technical summary of information provided in relation to the matters specified in subparagraphs (c) to (x) of this paragraph,

A Non-Technical Summary is in Attachment 4.

Yours Sincerely

Attachment 1

Granary House
Rutland Street
Cork

Tel. (021) 4321521
Fax. (021) 4321522

environmental management for business

Mr. Donal Grant
Office of Climate, Licensing and Resource Use,
Waste Licence Applications,
Environmental Protection Agency,
Headquarters P.O. Box 3000,
Johnstown Castle Estate,
Co. Wexford.

14th August 2008

RE: Application for the Review of Waste Licence Reg. No. W0140-03
Panda Waste Services Ltd., Rathdrinagh, Navan, Co. Meath

Dear Mr. Grant,

On behalf of Panda Waste Services Ltd.(Panda), I enclose one original and two hard copies of the letter from Meath County Council confirming that an Environmental Impact Statement was not required as part of the planning application at the above referenced site.

If you have any queries, please call me.

Yours sincerely,

Jim O' Callaghan

0613804/JOC/PS
Encs.
c.c. Mr. David Naughton, Panda Waste Services Ltd.

Comhairle Chontae na Mí
Roinn Pleanáil,
Meall na Mainstreach, Bóthar na Mainstreach,
An Uaimh, Contae na Mí
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Meath County Council
Planning Dept.,
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Navan, Co. Meath
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Planning Section
12th August 2008

David Naughton
Panda Waste
Beauparc
Navan
Co Meath

Ref: SA/60656 – Environmental Impact Statement.

Dear Sir,

Further to your query re the above, I wish to confirm that an Environmental Impact Statement (EIS) was not required as part of planning application reference number SA/60656.

Yours faithfully

pp Patricia Rooney
E. Farrelly
Senior Staff Officer

15-158.

Comhairle Chontae na Mí
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Jim O Callaghan
OMC
Granary House
Rutland street
Cork.

RECEIVED 01 APR 2011

31/03/2011

Dear Mr O Callaghan,

I refer to your request for confirmation that an EIS is not required for the application SA900875 Nurendale Ltd t/a as Panda Waste.

I have enclosed a copy of the planners report which I have highlighted explaining that an EIS is not required. Also enclosed is a copy of the Notification of Decision with the conditions.

If you need any further information please contact me at number above.

Yours Sincerely

Denise Murphy
Assistant Staff Officer.
Planning Department

(A)

Meath County Council
Planning Report

To:	Fergal O'Bric, Senior Executive Planner
From:	David Caffrey, Executive Planner
Applicant Name:	Nurendale Ltd
Dev Description:	Extension to our existing materials recovery facility and will comprise the construction of one building (12,183sqm), ridge height 10.72m, to house a waste anaerobic digestion and composting system and a technical services office , 2 no above ground 6m high steel process wastewater storage tanks (154sqm and 78.5sqm0 and 2 no above ground 6m high concrete process wastewater storage tanks (61.4sqm) located in a 2.5m high bunded area air treatment biofilter with 15m stack, an internal access road to existing materials recovery facility, paved yards, oil interceptor, surface water percolation area and landscaping. The development is an activity that will require a waste licence from the Environmental Protection Agency
Date:	14 September 2009
Ref:	SA/900875
Dev Address:	Rathdrinagh, Beauparc, Co. Meath
Decision Date:	21 September 2009

Introduction:
This report shall be read in conjunction with previous planning report on this application requesting further information. The following outlines the response to the request from the Planning Authority.

Site Description:
The application site is located within the townland of Rathdrinagh, south and east of Rathdrinagh Cross roads off the N2, approximately 4km south of Slane village. The subject site is directly behind an existing filling station known as "The Brink". Also fronting on to the N2 at this point is an existing transport café/restaurant. Part of the application site is currently in use as a waste transfer station with all activities being carried out within a large industrial structures granted PP under **P01/4304** and **SA/30347**

Planning History:

- **SA60656** permission was granted for for Materials processing building (c. 4320m2), a skip repair building (c. 416m2), a reed bed surface water treatment area, ancillary site works a their existing facility at Rathdrinagh, Beaupark, Navan. This application relates to a development, which compromises or is for the purpose of an activity, which requires a license from the Environmental Protection Agency under the Waste Management (Licensing and Amended) Regulations S.I No. 162 of 1998.
- **01/4304** Panda Waste Services Ltd were granted pp for new entrance, new waste transfer/recycling facility with single storey ancillary office/canteen and toilet areas; a separate single storey associated office, associated landscaping

and site development, including a weighbridge, 16 surface car parking spaces, 8 truck parking spaces, 49 skip parking spaces, a bio-cycle treatment system, and percolation area. This application relates to a development which comprises or is for the purposes of an activity which requires a licence from the environmental protection agency under the waste management (licensing and amended) regulations. S.I. No. 162 of 1998. This application will be accompanied by an environmental impact statement, this statement together with any further information provided in relation to the proposed development will be available at the offices of the Planning Authority: Meath County Council, County Hall, Navan, Co Meath. (39 conditions)

- **SA/20106** Panda Waste Services Ltd the complete demolition of existing dwelling (reg. ref. 01/4304)
- **SA/20249,** Panda Waste Services Ltd were granted pp for single storey E.S.B. substation (2 conditions)
- **SA/30347** Panda Waste Services Ltd were granted pp for a new recycling facility for dry packaging materials, relocated and enlarged single storey office block, relocated ESB sub-station and switchroom, new canteen, toilets, cloakroom, yard open bin storage, associated car parking and site works, new public recycling dry goods amenity center all at existing waste transfer/recycling facility (26 conditions attached)
- **SA/60294**, the applicants lodged an application for permission for a materials processing building (c.4320 m2), a reed-bed surface water treatment area, ancillary site works all at their existing facility .This was withdrawn.
- **UD06303** regarding non-compliance with condition no. 3 of SA/30347 and the use of an unauthorized entrance, this has since been closed up.

Local Planning Policy:
The site is located on unzoned lands. Chapter 4 of the County Development Plan details the criteria for waste management facilities and includes the following policies:

INF POL 74 To implement the provisions of the Waste Management Hierarchy and the Replacement NorthEast Regional Waste Management Plan. All prospective developments in the county will be expected to take account of the provisions of the Replacement Regional Waste Management Plan and adhere to those elements of it that relate to waste prevention and minimisation, waste recycling facilities, and the capacity for source segregation. Account will also be taken of the proximity principle and the inter regional movement of waste as provided for under the Section 60 Policy Direction by the Minster for the Environment, Heritage & Local Government (Circular WIR:04/05)

INF POL 75 To promote education and awareness on all issues associated with waste management, both at industry and community level. This will include the promotion of waste reduction by encouraging the minimisation, re-use, recycling and recovery of waste within the county.

INF POL 76 To ensure the provision of quality cost effective waste infrastructure and services, which reflect and meet the needs of the community and to ensure that the 'polluter pays' principle is adhered to in all waste management activities.

INF POL 77 To ensure that all waste disposed of by private companies shall be undertaken in compliance with the requirements of the EPA and the Waste Management Legislation.

INF POL 79 To support the development of recycling sites / waste disposal sites or transfer stations and associated developments in appropriate locations, subject to normal planning and environmental sustainability considerations. In assessing applications for these types of development, the Planning Authority will have regard to the Groundwater Protection Plan and appropriate response matrix.

EU Policy:
European Policy framework as set is guided by the "Proximity Principle" which outlines that member states "should establish a network enabling waste to be disposed of in one of the nearest appropriate installations, by means of the most appropriate methods and technologies to ensure a high level of protection for the environment and for public health".

National Policy:
The Irish National policy on waste management as set down in "Waste management-changing our ways" recognises the role of private sector companies, such as Panda waste in the provision of waste management infrastructure. In 2002 another National document "Preventing and Recycling Waste-Delivering Change" outlines constraints and the challenges that are ahead in terms of recycling in Ireland. One constraint that is highlighted is "the lack of available recycling and reprocessing facilities and lack of access to the facilities which do exist". One of the challenges that is ahead of us is "undertaking sorting and pre-treatment of separately collected wastes at appropriate facilities". At present only 10% of municipal waste is recycled, 90-95% of household waste is land filled and the majority of C & D waste is also land filled.

Regional Policy:
NE regional Waste Management Plan 2005-10
It is acknowledged that waste cannot simply be looked at in terms of an internal regional basis and that waste transfer on an inter-regional basis should be permitted given that the issue of waste does not end at a regional boundary. It is noted that the level of commercial recycling under the existing NE WMP has increased from 9% to 35% and that having consulted, reviewed and assessed the existing Plan the key policy objectives in the achievement of waste prevention and minimization and it is recognized that a more flexible approach should be taken with regard to the movement of waste across regional boundaries. It is also noted that "the capacity of waste facilities within the region should satisfy the needs of the region whilst not precluding inter regional movement of waste and allowing flexibility to cater for the development of required national infrastructure".

In 2002 another National document "Preventing and Recycling Waste-Delivering Change" outlines constraints and the challenges that are ahead in terms of recycling in Ireland. One constraint that is highlighted is "the lack of available recycling and reprocessing facilities and lack of access to the facilities which do exist". One of the challenges that is ahead of us is "undertaking sorting and pre-treatment of separately collected wastes at appropriate facilities". The proposed development could also be said to conform with the European Union (EU) objective of the "Proximity Principle"

whereby an appropriate Waste facility shall be proximal to significant centres of population.

PANDA/Nurendale are identified in the Plan as one of the main household collectors and the application site is identified as a Waste transfer Station.

The applicants are established on site and since July 2002 has been operating under an EPA license. They have achieved a high degree of re-cycling to date and the current proposals will strengthen their efforts to achieving a higher participation in the levels of re-cycling in the region and thereby reducing the amount of waste consigned to landfill.

The applicant has identified a processing system comprising of dry fermentation and composting that will treat the organic waste and divert it from land fill. The new processing plant cannot be accommodated in the existing buildings and therefore a new building of 12,183 square metres is required to facilitate this. A standing area of 3,350 sqm will be required also, as will the construction of 2 above ground steel process water storage tanks each 61.45sqm. The proposal will require a licence from the EPA.

Submissions/Prescribed Bodies:
No submissions have been received.

Referrals in relation to FI request:
Road Design – no objections
Environment – no objections subject to conditions
Water services – states the following:

This planning application shall comply with the following documentation –

'Greater Dublin Strategic Drainage Study (GDSDS) – March 2005'
'Greater Dublin Regional Code of Practice for Drainage Works, Version 6.0'
'Meath County Council Water Bye-Laws 2007'

Water Supply

In accordance with Meath County Council Water Bye-Laws 2007 Part 3 Water Conservation the applicant shall submit a Water Management and Conservation Plan for the approval of Meath County Council Water Services Section prior to commencement of development. Such plan shall set out details of how best practice in water conservation shall be applied in respect of the proposed development to include water mains and internal plumbing and how water usage, leaks or excessive consumption may be identified and remedied. Plumbing systems and all fittings used in the supply of water are to be of a type designed to achieve water conservation. The applicant shall demonstrate how the measures outlined in the said Water Management and Conservation Plan will reduce the potable water demand of the proposed development.

Prior to commencement of development, the applicant shall submit a Hydrogeological Report, prepared by a qualified, experienced and competent

Hydrogeologist, for the 2 no. existing on-site wells which the applicant is proposing to use to supplement the collected roof rainwater which will be used to supply the dust suppression system, the new composting process, the road sweeper and the jet vac fleet.
The Hydrogeological Report shall identify - the groundwater gradients, the vulnerability of the wells, the zones of contribution, the potential impact on nearby private wells, the extent and nature of the aquifer/water source and source protection plans for the wells. The source protection plans for the wells to be approved by Meath County Council Water Services Section prior to commencement of development.

The water supply requirements for fire fighting purposes to be agreed with Meath County Council Chief Fire Office prior to commencement of development.

Wastewater

In the Planning Application Form the applicant statesd that all sanitary wastewater and process wastewater from the proposed development will be collected and tankered off-site for treatment in an off-site wastewater treatment plant.
However, in the Further Information submission the applicant states that sanitary wastewater will continue to be treated in the on-site Biocycle waste water treatment system. The applicant further goes on to state that the system has ample capacity to treat the additional 15 staff members.

Prior to commencement of development the applicant shall provide details of the existing on-site proprietary waste water treatment system, the location and details of the percolation area together with copies of Service Inspection Reports provided by the maintenance company confirming that the existing on-site proprietary waste water treatment system is operating efficiently, not creating environmental problems and has the capacity to accommodate the additional wastewater loading from the proposed development. The applicant shall carry out any works that may be deemed necessary by Meath County Council Environment Section to ensure that the existing on-site proprietary waste water treatment system is not causing environmental problems.

Surface Water Management

The applicant is proposing to collect the roof rainwater in an above ground water storage tank and to use for dust suppression, in the new composting process and for supplying the road sweeper and Jet Vac fleet.
The applicant is proposing to direct the surface water runoff from paved yard areas to a percolation area via an oil interceptor. The applicant is proposing to design the percolation area to BRE 365.

The proposed soakaways to comply with BRE Digest 365, CIRIA C522.

All new developments must incorporate Sustainable Drainage Systems (SuDS). This application shall comply with the Greater Dublin Strategic Drainage Study (GDSDS) Technical Documents, Volume 2, New Development Policy.

The rate of surface water discharge from the proposed developed site shall not exceed the equivalent predevelopment 'greenfield' runoff rate.

Recommendation

We have no objections to the proposed development subject to compliance with the plans and documentation submitted with the planning application and as amended by the Further Information submission and also subject to compliance with the conditions highlighted above in ***'bold italics'***.

Key Planning Issues:
The current application was the subject of a Further Information request on a number of issues. The principle of developing the site was considered to be acceptable as per the original planners report. As such the key issues at this stage relate solely to the matters raised in the FI request.

Planning Assessment:
Further Information Response:
Item 1
Taking together with the permitted development on site, the planning authority notes that the total cumulative annual intake of waste may exceed 25,000 tonnes. The Planning Authority brings your attention to Schedule 5 Part 2 (11b) of the 2001 Planning and Development Regulations which states that an Environmental Impact Statement is required for projects within an annual intake of waste which exceeds 25,000 tonnes. Having regard to the foregoing and the likely effects the proposed development would have on the environment, the planning authority considers that an EIS should accompany the proposed development and you are requested to submit same. In this regard, you are invited to liaise with Meath County Council Planning Department re the scoping of the EIS.

Response:
As detailed in the applicants FI submission Schedule 5 Part 2 11(b) of the 2001 Planning and Development Regulations deals with ***"Installations for the acceptance of waste with an annual intake greater that 25,000 tonnes not included in Schedule 1 of this Schedule".*** *The requirement for an EIS in this respect relates to the proposed development of new waste facilities, or where it is proposed to increase the amount of waste accepted by more than 25%.*

The applicant has clarified the exact nature of the proposed development in this application whereby the proposed development will not result in any increase in the amount of wastes accepted at the overall facility and relates to the construction of a new building to accommodate a new biological processing system-Anaerobic Digestion and composting- to treat the biodegradable wastes that are already accepted at the facility. It is submitted that the proposed treatment system is crucial if PANDA/Nurendale is to meet its obligations under National and European Union waste management policies and regulations to divert biodegradable wastes from landfill. In conclusion therefore, as the construction of the building and the provision of a new biodegradable treatment system is not designed or intended to increase the volume of waste accepted, it is considered that the proposed development is not one to

which Schedule 5 Part 2 11(b) of the 2001 Planning and Development Regulations applies. Item 1 of the FI request has been addressed.

Item 2

The applicants are requested to submit more detailed information in relation to the full extent of activities to be carried out on site in terms of types of materials that will be accepted on site, quantities of materials, source of materials, destination of processed materials and details *of* stored materials at the proposed development.

Response:

In response to item 2 the applicant has indicated that the feedstock for the proposed biological treatment process will comprise the organic wastes already accepted at the facility including food and kitchen wastes, garden wastes and timber. The development will not alter the types or volumes of wastes accepted on site. It is submitted that the development will not result in any significant changes to the source of the wastes and the treated end product, which will be suitable for horticultural or agricultural use will be sold to on to various parties. Given that it is not intended to increase the quantity or type of materials accepted to the facility, I am satisfied that item 2 of the FI request has been addressed.

Item 3

The applicant has not submitted sufficient information in relation to both the existing and projected traffic movements to and from the site. Given the location of the site adjacent to a national primary route and the scale of the proposed development it is considered prudent to request a Traffic Impact Assessment. Please include details of current and projected traffic movements to the site within the Traffic Impact Assessment.

Response:

The applicant has provided clarification relating to traffic movements into and out of the site and has stated that there will be no increase outside of the additional staff required. No objections have been received from Road Design in relation to this and it is considered that a TIA is not necessary in this instance. The additional staff numbers will be minimal and will not be excessive in terms of traffic movements.

Item 4

The applicant has submitted insufficient information in relation to water, wastewater and surface water management to enable an assessment to be made on the impacts the proposed development will have on these issues. Please submit the following information

(a) **(i)** ***In accordance with Meath County Council Water Bye-Laws 2007 Part 3 Water Conservation the applicant shall submit a Water Management and Conservation Plan. Such a plan shall set out details of how best practice in water conservation shall be applied in respect of the proposed development to include water mains and internal plumbing and how water usage, leaks or excessive consumption may be identified and remedied. Plumbing systems and all fittings used in the supply of water are to be of a type designed to achieve water conservation. The applicant shall demonstrate how the***

measures outlined in the said Water Management and Conservation Plan will reduce the potable water demand of the proposed development.

(ii) The applicant shall also submit full details of the existing water supply and usage associated with the existing facility and full details of the increased water demand which will be brought about by the proposed facility, what the water will be used for on a daily basis and where the proposed additional water will be sourced from.

(iii) The applicant shall provide full details of the 2 existing on-site wells including locations, history, yield and Water Management & Source Protection Plans for the wells.

(b) Wastewater

In the Planning Application Form the applicant states that all sanitary wastewater and process wastewater from the proposed development will be collected and tankered off-site for treatment in an off-site wastewater treatment plant. Please submit the following information in relation to this

(i) Applicant to submit full details of the nature and estimated quantity of wastewater which will be produced at the proposed facility and where this wastewater will be processed off-site.

(c)Surface Water Management

The applicant is proposing to collect the roof rainwater for use at the existing facility for dust suppression and for supplying the road sweeper and Jet Vac fleet.
The applicant is proposing to direct the surface water runoff from paved yard areas to a percolation area via an oil interceptor. The applicant is proposing to design the percolation area to BRE 365.

(i) The applicant shall submit full details of the existing Surface Water Management Design for the existing developed landholding together with full details, including calculations, of the impact the proposed development will have on the site surface water management system.

(ii) For proposed soakway, applicant shall submit full details and calculations together with soil permeability test rates and depth measurement from bottom of proposed soakway to winter water table level.

(iii) Applicant shall submit full details of the existing drain along the Southern site boundary and confirmation of any discharges to this drain.

(iv) Applicant shall also to submit design together with calculations for dealing with a 1:100 year storm event and greater storm events on the proposed development site.

(v) Applicant to provide full details of the proposed Percolation Tanks together with details of their proposed use and operation.

Response:
Further to the report from Water Services, it is considered that the applicant has addressed all the issues raised within item 4 of the further information request. Relevant conditions will be attached to the decision notice in relation to the water services at the site.

Item 5
The applicant states that process consists of initial dry fermentation which will produce a bio-gas that will be used as a fuel in a combined heat and power plant (CHP). The electricity generated in the CHP plant will be fed into the national grid. There are no details submitted with the applications confirming the rated thermal input of the proposed plant. In this instance that the applicant shall be requested to confirm nominal heat output to be generated by the proposed CHP plant.

Response:
This request was an error on the previous report and does not require a response.

Item 6
Please submit details regarding number of employees within the proposed facility on this site once fully operational.

Response:
It is submitted that the proposed development will increase the number of staff employed by approximately 15 persons on a full time basis along with additional employment generated during the construction phase. I am satisfied that the numbers of staff intended will have a negligible impact in terms of additional traffic movements and I would contend that the additional employment creation will offset any concerns in this regard.

Item 7
The applicants are requested to submit an artists impression and/or photo montage provided whereby the impact of the proposed and existing development upon the landscape from the northern, southern, eastern and western perspectives shall be demonstrated. Please include mitigation measures where necessary

Response:
The applicant has submitted photomontages of the proposed development whereby the potential visual implications can be assessed. From inspection of same, it appears as though the visual prominence of the proposed building will be mitigated by the existing screening available on site and the views from the N2 will be intermittent by reason of the existing and permitted developments to the immediate west of the proposed building. I am satisfied that the visual impacts are negligible. Item 7 of the FI request has been addressed.

Item 8
You are requested to submit a detailed landscaping proposal for the whole of the application site given the site's prominent location adjacent to a National Primary route and residential properties.

Response:
A landscaping scheme has been submitted, which will serve to allay concerns in respect of the potential visual implications. It is appropriate to condition that planting take place in the first planting season following substantial completion of the development. It is also appropriate to condition that all existing trees and hedgerows be retained in any grant of permission. Item 8 of the Fi request has been addressed.

Item 9
The applicant shall submit details of projected noise generation from the proposed development given the close proximity of existing residential dwellings. Details of how the applicant proposes to mitigate against projected noise shall be provided as part of a noise assessment report.

Response:
Six noise sensitive location were identified with noise predictions ranging from less than 35dB(A) at operational stage (night) to 54.5dB(A) during construction phase. A 4m high acoustic berm constructed on the boundary of the site using topsoil will reduce the noise emission at house locations by circa 8dB(A). I am satisfied that the applicant has addressed item 10 of the FI request, however should permission be granted I would recommend that conditions relating to noise levels should be included.

Item 10
No details of existing habitats have been submitted within the report, this is considered prudent given the extent of the development and the rural location of the site. Please submit details of the existing biodiversity on site and mitigation methods if required.

Response:
There is a general absence of mammal species within the development site and it is stated that the impact upon any existing habitats in terms of hedgerows and trees will be minimal. It is therefore considered that the applicant has adequately addressed the issues raised in item 10 of the further information request.

Conclusion:
The proposed development in this application will not result in any increase in the amount of wastes accepted at the overall facility and relates to the construction of a new building to accommodate a new biological processing system-Anaerobic Digestion and composting- to treat the biodegradable wastes that are already accepted at the facility. The proposed treatment system is crucial if PANDA/Nurendale is to meet its obligations under National and European Union waste management policies and regulations to divert biodegradable wastes from landfill. In this regard it is my opinion that the proposed development is consistent with the policies of the Meath County development Plan 2007 and on foot of the FI response I am of the opinion that the proposed development is acceptable.

Development Contributions:
The proposed development involves the provision of a 12,183sq metre industrial building. Development levies should be applied to the total floor area as detailed below. The site is served by a private well and is not served by the public sewer. Contributions in respect of water and sewerage are therefore not applicable.

Industrial/Manufact./Warehousing(incl.Port) €28.45 per sq metre

Public water	**N/A**
Public sewerage	**N/A**
Roads	**€154,602**
Amenity	**€22,173**

Recommendation:
In consideration of the planning merits of this application and in terms of the information submitted, I am satisfied that the proposed development is in accordance with the proper planning and sustainable development of the area (including the preservation and improvement of the amenities thereof) and the provisions of the County Development Plan. I consider, therefore, that permission should be granted subject to the conditions set out in the attached schedule.

1. CE 1 10/06/09 & 25/08/09

2. The development shall be served by the existing entrance as indicated on approved plans.

3. The applicant shall ensure that tanks for fuel oil, waste oil and waste batteries and all other materials that pose a risk if spilled shall be stored in designated storage areas which shall be bunded to a volume of 110% of the capacity of the largest tank within the bunded area. Drainage from the bunded area shall be diverted for collection and safe disposal. The use of bunded pallets for storage of drums is acceptable.
Reason ; In the interest of public health.

4. The applicant shall ensure that during the construction surface water run off from open cut areas to any stream or watercourse shall be prevented. These waters shall be trapped and held in temporary settling ponds until such time as the suspended solids are deposited and the colour of the water dropped to a level that will not cause dis-colouration of the receiving waters. The settled waters shall be directed to oil interceptors prior to the discharge to surface water drains. The concentration of suspended solids in the surface water run off from the construction works for discharge to watercourses shall not exceed 30mg/litre.
Reason ; In the interest of public health.

5. The applicant shall ensure that activities on site shall not give rise to noise levels at noise sensitive locations which exceed the following sound pressure limits (Leq, 15 min):

(i)	8am-6pm Monday to Saturday inclusive	55dB(A)
(ii)	any other time	45dB(A).

Neither shall there be any clearly audible tonal component or impulsive component in the noise emission from the site at ant noise sensitive location.
Reason: In the interest of residential amenities.

6. The planning authority require that during the construction phase, best available technology not entailing excessive cost shall be employed by the developer to minimise noise from the construction operations.
Reason: In the interest of residential amenities.

7. Uncontaminated surface water shall be separately collected and discharged to the storage tank. Details of storm water wetlands and proposals for use of same shall be subject to the written agreement of the infrastructural engineer prior to commencement of development.
Reason ; In the interest of public health.

8. All sludge arising from the interceptors shall be disposed of in a waste licensed or waste permitted facility in accordance with the Waste Management Act 1996 to 2008.
Reason ; In the interest of public health.

9. The applicant shall maintain a sludge register, which shall be submitted to the Licensing Authority within two months of the date of grant of this planning. The sludge register shall include the following:

(i) the name of the waste contractor used to dispose of sludge off site
(ii) the date sludge was taken off site
(iii) the quantity of sludge in tonnes (or litres) taken off site
(iv) the final destination of sludge taken off site
(v) the person and company responsible for sludge taken off site.

Reason ; In the interest of public health.

10. The development shall be so constructed and operated that there will be no emission of malodours, fumes, gas, dust or other deleterious materials, no industrial effluent and no noise vibration or electrical interference generated on the site such as would give reasonable cause for annoyance to any person in any residence or public place in the vicinity'
Reason: In the interest of residential amenities

11. The proposed treatment process shall comply with the Conditions for Approval and Operation of Bio-gas and Composting Plants Treating Animal By-Products issued by the Department of Agriculture Fisheries and Food (DAFF).
Reason ; In the interest of public health.

12. Prior to the commencement of development the developer shall submit proposals for the off-site disposal of waste excavation material, which shall only be disposed of to a site which has a current waste licence/permit in accordance with the waste Management Act 1996. These shall be submitted for the written agreement of the Planning Authority.
Reason: In the interest of proper planning and development

13. All service lines and cables servicing the proposed development shall be located underground except where otherwise agreed with the Planning Authority.
Reason: In the interest of orderly development and visual amenity.

14. Prior to the commencement of development, details of all external walls and roof finishes shall be submitted for written agreement of the Planning Authority.
Reason: In the interest of visual amenity.

15. No development, exempted or otherwise shall be constructed over the public sewer.
In the interest of public health.

16. In accordance with Meath County Council Water Bye-Laws 2007 Part 3 Water Conservation the applicant shall submit a Water Management and Conservation Plan for the approval of Meath County Council Water Services Section prior to commencement of development . Such plan shall set out details of how best practice in water conservation shall be applied in respect of the proposed development to include water mains and internal plumbing and how water usage, leaks or excessive consumption may be identified and remedied. Plumbing systems and all fittings used in the supply of water are to be of a type designed to achieve water conservation. The applicant shall demonstrate how the measures outlined in the said Water Management and Conservation Plan will reduce the potable water demand of the proposed development.
Reason: in the interest of public health

17. Prior to commencement of development, the applicant shall submit a Hydrogeological Report, prepared by a qualified, experienced and competent Hydrogeologist, for the 2 no. existing on-site wells which the applicant is proposing to use to supplement the collected roof rainwater which will be used to supply the dust suppression system, the new composting process, the road sweeper and the jet vac fleet.
The Hydrogeological Report shall identify - the groundwater gradients, the vulnerability of the wells, the zones of contribution, the potential impact on nearby private wells, the extent and nature of the aquifer/water source and source protection plans for the wells. The source protection plans for the wells to be approved by Meath County Council Water Services Section prior to commencement of development.
Reason: in the interest of public health

18. Prior to commencement of development the applicant shall provide details of the existing on-site proprietary waste water treatment system, the location and details of the percolation area together with copies of Service Inspection Reports provided by the maintenance company confirming that the existing on-site proprietary waste water treatment system is operating efficiently, not creating environmental problems and has the capacity to accommodate the additional wastewater loading from the proposed development. The applicant shall carry out any works that may be deemed necessary by Meath County

Council Environment Section to ensure that the existing on-site proprietary waste water treatment system is not causing environmental problems.
Reason: in the interest of public health

19. The proposed soakaways to comply with BRE Digest 365, CIRIA C522.
All new developments must incorporate Sustainable Drainage Systems (SuDS). This application shall comply with the Greater Dublin Strategic Drainage Study (GDSDS) Technical Documents, Volume 2, New Development Policy.
The rate of surface water discharge from the proposed developed site shall not exceed the equivalent predevelopment 'greenfield' runoff rate.
Reason: in the interest of public health

20. NRD 3 **€154,602**

21. NRD 4 **€22,173**

Sarah McDaniel
Executive Planner

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17 September 2009

Fergal O'Bric
Senior Executive Planner

Fergal O Bric

D.S
18/9/09

RECOMMENDATION
ACCEPTED
18 SEP 2009
Signed

Attachment 2

Granary House
Rutland Street
Cork

Tel. [021]4321521
Fax. [021]4321522

DECOMMISSIONING PLAN

PANDA WASTE SERVICES

RATHDRINAGH,

BEAUPARC,

COUNTY MEATH

WASTE LICENCE NO. W00140-03

Prepared For: -

Panda Waste Services
Rathdrinagh,
Beauparc,
Navan,
County Meath

Prepared By: -

O' Callaghan Moran & Associates,
Granary House,
Rutland Street,
Cork

December 2013

Project	Decommissioning Management Plan Panda Waste Services Beauparc.			
Client	Panda Waste Services W0140-03			
Report No	Date	Status	Prepared By	Reviewed By
138160302	12/12/2013	Draft	Michael Watson MA	Jim O'Callaghan MSc, CEnv, MCIWM, IEMA
	20/12/2013	Final		

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1. INTRODUCTION

Nurendale Ltd operates a Materials Recovery Facility at Beauparc, Rathdrinagh, County Meath under a Waste Licence (W0140-03) issued by the Environmental Protection Agency (the Agency). Nurendale Ltd, which trades as Panda Waste Services, is the holder of Waste Licences at three other waste management facilities in Dublin and Meath

Condition 10.2.1 of the Licence requires the preparation of a Decommissioning Management Plan (DMP) that identifies the actions that will be taken in the event of the decommissioning or closure of the facility and details the costs. PANDA commissioned O'Callaghan Moran & Associates (OCM) to prepare the DMP.

OCM is an environmental consultancy, established in 1997, which provides environmental services to private and public sectors. OCM has been involved in the completion of environmental risk assessments for Waste Licensed and Integrated Pollution Prevention Control licensed facilities since 2001. OCM's approach was based on the guidance in the Agency's recently issued draft revised guidance 'Guidance on assessing and costing environmental liabilities' (July 2013).

1.1 Facility Description

The facility is located is in the townland of Rathdrinagh. It is on the N2, approximately 4km south of Slane. The current licensed area occupies 4.7 hectares and there are three main processing buildings (Buildings 1, 2 and 3) a Skip Repair Building, a Lean To, Administration Building and extensive paved open yards.

Waste activities began in the northern area of the site (approximately 3.4ha) in the early 1990's. Prior to this, the site was undeveloped and used for agricultural purposes (pasture). The original Waste Licence (W0140-01) was issued in July 2001 (W0140-01) and allowed the acceptance of 45,000 tonnes of non-hazardous waste annually.

In 2004 Panda applied to revise the Licence to expand the facility to allow for the acceptance of 165,000 tonnes of similar waste types per annum, to operate a municipal solid waste (MSW) drying system, construct Building 2 and install ancillary infrastructure including paved areas and drainage. The revised licence approving the changes was issued in April 2005 (W0140-02).

In May 2007, Panda applied to revise the Licence to increase the license area, construct Building 3 and the Skip Repair Building and increase the volume of waste inputs 250,000 tonnes per annum. The Licence was issued in March 2009 (W0140-03) and Building 3 and the Skip Repair Building were constructed.

In September 2009, Panda applied to revise Licence to extend the licence area and construct a new building (Building 4), which will house a combined Anaerobic Digestion (AD) and Composting system. This application is currently being considered by the Agency.

In June 2012 there was a fire in Building 3. The emergency response plan was activated and the fire services were called to the site. Although the fire was contained within the building the building was badly damaged. The building was refurbished and came back into use in 2013.

1.2 Closure Scenarios

The facility has no defined lifetime and the risk of closure is low. The commercial viability of the facility will be kept under review and, if market conditions dictate the need to close the facility, the Agency and Meath County will be notified and the DMP will be implemented.

1.3 Plan Update & Review

The DMP will be reviewed and updated annually during the preparation of the Annual Environmental Report. The DMP will also be updated following the revision of the Waste Licence. It may be revised following any future on-site incidents that have the potential to affect soil and groundwater.

1.4 Scope of the Plan

The Plan deals with the facility decommissioning and closure, which will involve the removal of all residual consumable materials and wastes, cleaning and removal of all plant and equipment, as well as cleaning of all buildings. Following closure, PANDA may, depending on the future plans for the facility, apply to surrender the Licence.

1.5 Limitations

PANDA has applied to the Agency for a review of the Waste Licence to construct a new building (Building 4) that will house an anaerobic digestion and compost plant, and to produce refuse derived fuel (RDF) in Building 3. This DMP is based on the current authorised activities and PANDA will review and update the document following the grant of the revised Waste Licence.

The assessments of costs associated with the implementation of the DMP are on the information available at the time of the report preparation, PANDA's and the Agency's draft Guidance and may be subject to amendment based on future investigations.

2. SITE EVALUATION

2.1 Operator Performance

2.1.1 Facility Management

The facility is managed by a suitably qualified and experienced Facility Manager and all facility personnel are provided with appropriate training and have the requisite qualifications and experience to complete their assigned tasks. The Facility Manager has 7 years experience in Waste Management and holds a Certificate in the FAS Waste Management Training Course. The Deputy Manager has 5 years experience in waste management and holds a Certificate in Waste Management and EPA Waste Licence Training (agreed equivalent to the FAS Waste Management Training Course)

2.1.2 Incident History

In June 2012 there was a fire in Building 3. The emergency response plan was activated and the fire services were called to the site. The fire was contained within the building and, while residents in nearby houses were evacuated. Fire water run-off was contained within the site and subsequently removed for off-site treatment. The incident did not result in any short term (surface water pollution) of long term (soil and groundwater contamination) liabilities.

2.1.3 Compliance History

The facility has been the subject of numerous complaints concerning odours and noise from two neighbours since 2012. The Agency carried out 5 site inspections in 2012 and 2013 and identified a total of 3 non compliances with the Licence conditions, none of which related to noise and odours. The non-compliances were:

- Failure to have copies of the Accident Prevention Policy available or review;
- Timber shredder located in open yard, and
- Failure to carry out integrity testing within three years of the last test (October 2009).

2.1.4 Enforcement History

In 2009 Nurendale Ltd was convicted of exceeding the annual waste acceptance limit at the facility in 2008. This is the only enforcement action taken by the regulatory authorities against the facility.

2.2 Environmental Pathways & Sensitivities

2.2.1 Surface Water

The ground slopes from north to south and there is a land drain along the southern site boundary that flows from west to east and discharges into an unnamed third order stream, which is a tributary of the River Boyne. This stream enters the Boyne at Roughgrange, approximately four kilometres northeast of the facility.

Originally, surface water run-off from site discharged to the land drain on the southern site boundary, but this stopped in 2006 with the agreement of the Agency. The surface water drainage system was changed to divert runoff to an underground holding tank via silt traps and an oil interceptor, where it is stored pending consignment to an off-site waste water treatment plant.

The Licence authorises the installation of a constructed wetland within the site, which will have an outlet to the drain on the southern site boundary. When installed the oil interceptor will be connected to it and surface water run-off from the site will once again discharge to the drain.

2.2.2 Geology & Hydrogeology

A site investigation has confirmed the subsoils comprise a brown clay to approximately 1m, which is underlain by a grey/black clay with a proven depth of more than 10m. The site is underlain by the Balrickard Formation, which is a coarse sandstone, shale. It is classified as a bedrock aquifer that is generally unproductive except for local zones. The aquifer vulnerability to pollution from sources at the ground surface is low.

2.2.3 Surrounding Land Use

The facility is bordered to the west by the N2 and to the north by the Knockcommon Road. Surrounding landuse is predominantly agriculture, however there are some commercial units to the west. There are nine residential dwellings with 0.5km of the site along Knockcommon Road, with a further thirteen residences within 0.5km, along the N2 and Senchelstown Road.

2.3 Site Processes & Activities

2.3.1 Waste Types & Volumes

The facility is licensed to accept the following waste types and quantities: -

- Dry Recyclable Household (35,000 tonnes),
- Commercial & Industrial (75,000 tonnes),
- Construction & Demolition (120,000 tonnes),

- Source separated biodegradable waste for composting (20,000 tonnes)

No hazardous wastes or liquid wastes are accepted.

2.3.2 Waste Acceptance & Handling Procedures

Building 1 is used for is used to shred wood recovered from the incoming C&D waste and residual material from the wood picking line at Building 2. The shredded wood is sent to off-site licensed facilities for use in the manufacture of pallet blocks or manufactured dense fibreboard. The shredded residual material is sent to Building 3. Due to the shift to manufacturing the SRF, the use of the drying tunnels has been temporarily suspended but they are likely to be used again in the future.

Building 2 is used to process the C&D waste, using a shredder, trommel, density separator, magnet, ballistic separator and a picking line to recover ferrous and non-ferrous metals, rubble, timber and inorganic fines. The 'light fraction' which comprises paper and plastics, are sent to Building 3 for further processing, while the 'heavy fraction is sent to the crusher in the Lean To. .

Building 3 is used for mixed waste and dry recyclables. Source segregated dry recyclables, such as cardboard and plastics, bulked up and sent for recovery. The mixed waste is mechanically treated using a shredder, magnet. Non-recyclable residual waste is sent to landfill. The wastes can on occasion be wet and any liquid on the floor, along with liquid from the drying tunnels, is collected in an 11m^3 underground storage tank located adjacent to the oil storage bund.

The equipment in the Lean-To include a crusher, a magnet, a screener (flip-flop) and an enclosed density separator. Heavy items (>1kg), such as concrete blocks and rubble, are passed through the crusher, which produces an inert aggregate. The smaller fraction is passed through the 'flip flop' screen, which produces two fractions. The larger fraction (>12mm) is passed through the density separator, which removes paper and plastics. The materials processed in the 'flip flop' are stored in bays inside the Lean-To. The inert aggregate produced by the crusher is stockpiled in the open yard. The materials from the density separator are stored in roofed bays.

2.3.3 Emissions

Potential and actual emissions from the facility include: -

- Odours,
- Noise,
- Dust,
- Surface Water,

2.4 Buildings, Plant and Equipment

The current licensed area occupies 4.7 hectares and details of the infrastructure presented in Table 2.1.

Table 2.1 – Site Infrastructure

Ref	Infrastructure	Details
1	Administration Building	Located adjacent to the site entrance at the northern boundary.
2	2 No Weighbridge and associated office	Located close to the facility entrance in the north of the facility
3	Building 1	Waste processing building (2800 m^2) – Processing of mixed and residual Municipal Solid Wastes and feeding the Drying Tunnels.
4	Building 2	Waste processing building (2600 m^2) – Processing of Construction & Demolition Wastes and Timber.
5	Building 3	Waste processing building (4,248 m^2) - Processing of mixed and source separated dry recyclables.
	Lean-To	Located adjacent to Building 2 and houses a covered 'flip-flop' unit that processes the C&D. fines
	Skip Repair Building	The building (372m^2) is located between Buildings 2 and 3.
6	2 No Dust suppression system	Building 1 and Building 2 have water sprayers installed to control dust levels
7	2 No Drying Tunnels	Located adjacent to Building 1 and used to treat mixed municipal waste
8	Above ground water tank	660 m^3 capacity
9	Truck wash	Located to the northeast of Building 1.
10	Paved Yards	35,000m^2
11	Above ground water storage tank	660m^3
11	Underground surface water storage tank	72m^3
12	Underground wastewater storage tanks (5No)	Serving B1 – 11m^3 Serving B2 – 3m^3 Serving B3 – 3m^3 Serving truck wash-3m^3 Serving Wright Tunnels-25m^3
13	Biocycle wastewater treatment plant	
14	Oil Storage Tanks	Diesel Oil – 59,000 litres Gas Oil – 14,000 litres Adblu – 1,000 litres

Facility operations require the use of a range of fixed and mobile plant which are listed in Table 2.2.

Table 2.2 Plant List

No.	*Fixed Plant*	No.	*Mobile Plant*
2	Composting Tunnels	3	Volvo L120
1	Doppstadt Wood Shredder	2	Kobelco Tracked Machine
1	M&J Shredder	1	Volvo L60
1	Trommel	1	Teleporter
2	Magnets	2	Hoists
1	Nihot Density Separator	1	Forklift
1	Ballistic Separator	2	Fuchs Grabs
1	Flip Flop Screen	1	Shunter
1	Wind Shifter		
1	Crusher		

2.5 Inventory of Raw Materials

Diesel and gas oil are stored in above ground tanks (59,000 litres and 14,000 litres respectively) in a dedicated structure at the eastern boundary, close to Building 1. The tanks are provided with individual bunds, each of which has a minimum capacity of 110% of the volume of the tank. The bunds are subject to routine integrity testing, as required by the Licence conditions and are structurally sound. Adblu, a diesel additive, is stored in a 1,000 litre IBC which is bunded and located adjacent to the oil bunds. The maximum amount of fuel and Adblu stored on site at any one time are shown in Table 2.3.

Table 2.3 – Raw Materials

Products	Quantity Stored litres
Diesel Oil	59,000
Gas Oil	14,000
Adblu	900

The quantities given in the Table are based on the volumes kept on site at any one time, but in the event of the planned closure, the actual quantities should be considerably smaller, as the shutdown would be preceded by a reduction in the on-site inventory.

2.6 Site Services

The facility obtains its water supply from an on-site well. There is a 660m^3 water tank and associated pump house located at the northern boundary, which is topped up from the well as required.

Water from floor wash downs inside the waste processing buildings discharges to three underground holding tanks located inside the buildings. Leachate from the Wright Tunnels is collected in two underground holding tanks and the water from the vehicle wash is collected in a separate underground storage tank. All the wastewater is sent to the municipal wastewater treatment plant.

Sanitary wastewater from the Administration Building is collected and directed to an on-site Biocycle wastewater treatment plant, located to the south of the building. The treated effluent used to discharge to an on-site percolation area, but this has been discontinued and the effluent is currently sent off-site for treatment in a local authority owned municipal wastewater treatment plant.

3. CLOSURE TASKS & PROGRAMMES

3.1 Closure Tasks

3.1.1 Materials Management

A planned shutdown of operations would be carried out after the last batches of waste received at the site had been processed and consigned. It would be preceded by a scaling down of activities, thereby reducing the quantities of materials, particularly fuel and wastes, to be dealt with when implementing the DMP.

It should be possible to return some materials e.g. diesel, engine and hydraulic oils to the suppliers either for resale, or reuse. The remaining materials may have to be disposed of as waste, some of which may be deemed hazardous due to their composition e.g. waste oils.

A vacuum tanker will empty the oil interceptor, the wastewater storage tanks serving the buildings, truck wash and the Wright Tunnels and the contents will be sent for disposal at a suitably licensed facility. As the routine surface water monitoring has never identified a problem with the operation of the surface water drainage system is not considered necessary to empty and clean out the storm water holding tank.

3.1.2 Buildings

It is not proposed to demolish any of the building. All of the buildings will be cleaned out and left in situ for future use. Given the non-hazardous nature of the waste handled at the facility, specialist decontamination will not be required the cleaning will primarily involve power washing the floors and the use of a road sweeper. The contents of the administration building, which comprise office equipment, will be removed.

3.1.3 Plant & Equipment

The plant and equipment will either be sent other facilities operated by Nurendale Ltd, sold for use, or scrapped at an approved waste recycling/recovery facility. At the time of the preparation of this DMP it is not possible to determine if every item listed in Table 2.2 would be suitable either for use at other Nurendale Ltd facilities or for sale, as this depends on their condition at the time of the closure.

Those items that cannot be sold will be scrapped. Given the nature of the waste handled at the facility, none of the plant items will require specialist decontamination. The decontamination will be carried out on-site and will involve power washing inareas where the wash water can be collected in the existing wastewater storage tanks.

3.1.4 Soil & Groundwater Assessment

There is no evidence of any soil and groundwater contamination at the site. The scope of any such assessment, if required, will be agreed in advance with the Agency, but it may comprise the installation of soil borings and groundwater monitoring wells and the collection and testing of soil and groundwater samples. The investigations will be supervised by an experienced geologist/environmental scientist.

The field observations and results of laboratory results will form the basis for the assessment of the significance of the impact, if any, and the need for and extent of any remedial works. If remedial works are considered necessary, a proposed scope will be submitted to the Agency for approval before implementation.

3.1.5 Environmental Monitoring

Monitoring will continue following the closure of the facility and pending the surrender of the Licence. The extent of the monitoring and the frequency may be amended, subject to the Agency's approval, to reflect the fact that the facility is closed.

3.2 Closure Programme

In the event that the entire facility is closed, all the operational areas will be decommissioned. The decommissioning will take approximately 4 weeks and will be carried out in a number of tasks, some of which will happen concurrently.

Task 1: Removal of consumables and wastes from all buildings and yards: 2 weeks

Task 2: Cleaning and consignment of plant and equipment; 3 weeks.

Task 3: Clean out of buildings, wastewater storage tanks and interceptor; 1 week.

Task 4 Cleaning of yards; 2 days.

Task 5: Emptying and degassing of diesel tanks; 1 day.

Task 6 : Emptying and cleaning oil interceptor

Task 7: Emptying Biocycle wastewater treatment plant

Task 8: Disconnecting site services; 1 day.

Task 9: Closure Plan Validation 2 weeks.

4. CRITERIA FOR SUCCESSFUL CLOSURE

Successful decommissioning will be complete when;

- All buildings have been cleaned out and are secured;
- All equipment, materials, wastes or any other materials that could result in environmental pollution are removed from the site and recycled, recovered or disposed in accordance with all regulations in force at the time;
- All storage tanks, bunds and interceptors have been emptied and the oil storage tanks degassed,
- There is no evidence of any soil or groundwater contamination at the site.

5. CLOSURE PLAN VALIDATION

5.1 Closure Audit & Validation Report

Following the completion of the site decommissioning, PANDA will appoint an experienced independent environmental auditor, who will be approved by the Agency, to carry out a Closure Audit and produce a Validation Report that demonstrates the successful implementation of the Plan. The Closure Audit will address: -

1. Disposal of raw materials;

2. Disposal of wastes;

3. Decommissioning of plant, equipment and storage tanks;

4. Cleaning of buildings, plant and equipment;

5. Destination of all items of plant and equipment sent from the site;

6. Results of monitoring and testing during the decommissioning period;

7 Soil & Groundwater Assessment, and

8 The need for on-going monitoring, remedial actions or aftercare management.

The Validation Report will describe all of the activities carried out during the Closure Audit and will contain records of the destinations of all wastes, materials, plant and equipment consigned from the site. The Report will be submitted to the Agency within three months of execution of the Plan.

6. CLOSURE PLAN COSTING

The costs of a planned closure will be met in full by PANDA. The cost of implementing the DMP in an unplanned closure scenario, where PANDA is not is a position to meet the costs are presented in Table 6.1. The costs are based on the following assumptions:

- The closure will be unforeseen and unexpected, with no advance warning that would allow an orderly wind down of activities.
- The entire facility will be decommissioned and cleaned, with all wastes and consumables being removed from the site.
- The removal of the wastes, consumables, plant and equipment and the plant and building and plant cleaning will be carried out by third parties.
- Although the works could be done by another waste contractor it is assumed that a temporary site manager and general operatives will be appointed to implement the DMP.
- A total of 2,500 tonnes of waste will be on site, comprising 400 tonnes of unprocessed C&D; 350 tonnes C&D fines; 200 tonnes of wood; 50 tonnes of woodchip; 150 tonnes of SRF; 150 tonnes of unprocessed MSW and 1000 tonnes of recycled aggregate.
- The woodchip has a value of €15/tonne and it assumed that this will cover the cost of the transport of the timber from the site to another recovery facility.
- The diesel storage tank (59,000l) and gas oil tank (14,000l) are full. Some of these will be consumed during plant clean out.
- The baled SRF is sent to authorised end destinations. The costs of overseas shipping will be met by the bonds held by the Transfrontier Shipment Office.
- The cleaning of the plant and equipment and off-site removal will be cost neutral given their resale/scrap value. This is a conservative approach given the type of plant and equipment on-site.
- It is not proposed to demolish any of the buildings or remove oil storage tanks.
- A soils and groundwater assessment will not be required. This is based on the current conditions at the site, where there is no evidence of the presence of soil and groundwater contamination. This will be kept under review and the DMP may be amended in the future to include for such an assessment.

Task	Description	Quantity (No.)	Measurement Unit	Unit Rate (€)	Cost (€)	Source of unit rates
Facility Management	Site Manager 4 No Operatives 5 days/week for 4 weeks Utility Bills	20	Day	700	14,000 1000	
Materials/Waste Disposal/Recovery	Removal and off site recovery of unprocessed C&D waste	400	Tonnes	40	20,000	
	Removal and off-site recovery or processed C& D waste (aggregate)	1,000	Tonnes	3.75	3,750	Licensed inert landfill
	Removal and off-site recovery of wood*	-	-	-	-	
	Removal and off-site recovery of SRF	150	Tonnes	40	6,000	Agreed rate
	Removal and off site recovery of unprocessed C&I/Lights	150	Tonnes	97.50	14,625	Rate agreed with WtE plant
	Removal and off-site disposal of diesel and waste oils	40,000	litres	70c	28,000	EPA Guidance
Building Plant & Equipment Clean Out	Clean out of Buildings(Included in Management Cost)		Day Rate			"
	Cleaning Plant and Equipment (Included in Management Cost)		Day Rate			
	Removal of Plant and Equipment*	-	-	-	-	-
	Degassing of diesel tanks	1	1	400	400	
	Cleaning of oil interceptor, and wastewater storage tanks	1	Day Rate	1,000	1000	PANDA charge out rates
	Removal of sanitary waste water from Biocycle unit and wastewater tanks	50	m^3	5	250	″
Yard Cleaning	Cleaning open yard (Roadsweeper)**	2	Daily Hire			
Env. Monitoring	Surface water quality monitoring	4	Sample	250	2000	
Validation Audit	Validation Report (Consultant)	1		2,500	2,500	
Security Costs	Included in Management Cost		Day			
Services Disconnection	Disconnect electricity and telecoms	1	Day	400	400	
Total Liability €)					89,425	
Contingency (10%)					8,942.50	
Net Costs (€)					98,367.50	

*Cost covered by sale of woodchip **Use on-site road sweeper.

Attachment 3

EWC Codes

Household	C & I	C & D	Compostables
200101	010101	170101	200108
200102	010102	170102	200125
200108	010306	170103	200201
200110	010308	170107	190503
200111	010309	170201	160306
200125	010408	170202	190809
201034	010409	170203	
200136	010410	170302	
200138	010411	170401	
200139	010412	170402	
200140	010413	170403	
200141	020104	170404	
200201	020107	170405	
200202	020109	170406	
200203	020110	170407	
200301	020304	170411	
200302	020501	170504	
200303	020601	170506	
200307	030101	170508	
	030105	170604	
	030301	170802	
	030307	170904	
	030308		
	030310		
	120101		
	120102		
	120103		
	120104		
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	160103		
	180104		
	180203		
	190501		
	190502		
	190503		
	190801		
	190802		
	190809		
	191001		
	191002		
	191004		
	191201		
	191202		
	191203		
	191204		
	191205		
	191207		
	191208		
	191209		
	191210		
	191212		
80,000 tonnes	**70,000 tonnes**	**70,000 tonnes**	**30,000 tonnes**

Attachment 4

NON-TECHNICAL SUMMARY

The Installation

The current planning permission and Waste Licence allow PANDA to take in and process up to 250,000 tonnes of non-hazardous waste annually. The wastes are collected from households, businesses and construction sites and are processed in three main buildings (Buildings 1, 2 and 3).

The processing includes sorting the wastes to pick out the clean paper, cardboard, plastics, wood, metals, organics, rubble, soil and stones that can either be recycled or used to manufacture refuse derived fuel. The remaining mixed materials, for example dirty paper and organic residues that are not suitable for recycling, can be treated in the compost tunnels before going to landfill.

PANDA has looked at ways to reduce the amount of waste going to landfill so as to keep the costs to its customers as low as possible. The two best options are to expand the composting operation (biological treatment) for the food stuff and to improve the quality of the refuse derived fuel. This will not involve changing either the type or the amount of waste taken in, but will require the construction of a new building (Building 4).

Currently approximately 100 people are based at the facility. These comprise a Facility Manager, weighbridge clerk, machine operators, general operatives, collection vehicle drivers and customer service personnel. The current operational hours are 8am to 8pm Monday to Friday and 8am to 4pm on Saturday.

Site Development

PANDA has looked at ways to reduce the amount of waste going to landfill so as to keep the costs to its customers as low as possible. The two best options are to expand the composting operation (biological treatment) for the food stuff and to improve the quality of the refuse derived fuel. This will not involve changing either the type or the amount of waste taken in, but will require the construction of a new building (Building 4).

Biological Treatment

The expansion of the composting system will involve the use of what is called a 'dry fermentation anaerobic digestion' plant at the initial stage of the process. This type of system is ideal for the types of waste PANDA accepts and is fully proven and safe.

It will consist of a series of fully enclosed tanks, called digesters, in which the wastes will be placed. The oxygen in the air in the digesters will be used up by the microbes in the waste to produce anaerobic (no oxygen) conditions. The microbes will break down the waste and, in the process, produce a number of different gases (biogas). The most common gas will be methane, which is the 'natural gas' supplied by Bord Gais. The biogas will be cleaned (scrubbed) to remove contamination and used as a fuel in new electricity generators, which will connect to the national grid.

While methane gas is explosive and can pose a risk of explosion when present in the air at certain levels, as is the case with natural gas used in homes, the dry fermentation process is designed to minimise the risk of this occurring. The design of the plant will be based on a rigorous hazard assessment including design and operational controls on the gas collection and ventilation systems, explosion protection, fire safety and lightning protection.

The digesters will reduce the amount of organic matter in the wastes, and convert it to biogas. The waste will then be moved to the composting area, where they will be composted in fully enclosed containers called tunnels. Unlike anaerobic digestion, the compost process requires oxygen and air will be pumped into the tunnels to ensure that oxygen levels are kept at the level needed to complete the composting.

The existing composting tunnels are provided with an odour control system that draws air from the tunnels into a bio-filter, where the substances that form the odours are removed. This type of system has proven very effective in controlling odours and bio-filters units are in operation at more than 15 other composting plants around the county. A similar system will be provided to treat the air inside the anaerobic digestion and composting building.

When the composting process is complete, the material will be pasteurised by raising and maintaining the temperature to a level that kill the microbes. The compost will be sold to farmers, market gardeners, landscape contractors and the general public.

Pasteurisation is required in the composting process to meet the requirements of the Department of Agriculture Fisheries and Marine for the treatment of wastes containing residues of meat and fish (Animal By-Products) so as to avoid the spread of animal diseases, for example mad cow disease and foot and mouth.

The Department has issued guidelines on how anaerobic digestion and composting plants must be designed and operated. The proposed design fully complies with the Departments guidance. Furthermore, approval must be obtained from the Department before the process can start. Once it is operational vets from the Department will also carry out inspections of the plant to ensure that it is operating properly. These inspections will be entirely separate from those carried out by the EPA.

Manufacture of Fuel

The remaining mixed wastes that are not suitable for recycling will be turned into a fuel, called refuse derived fuel RDF or Solid Recovered Fuel (SRF) which can be used in industrial plants in Ireland and abroad, for example cement making plants.

The mixed waste contains a lot of water and needs to be dried to improve its value as a fuel. This will be done using heat from a new furnace. It had been intended to use LPG (liquefied petroleum gas) as a fuel, but this was not the best environmental option because it is a fossil fuel and produces greenhouse gases that contribute to global warming.

A better environmental alternative is to use wood (biomass), as a fuel. Wood is a renewable source of energy and will help PANDA reduce its greenhouse gas emissions from fossil fuels. Waste plastic, paper, cardboard etc will not be burned in the furnace and the EPA will not approve such use.

The mixed waste will be placed inside a drying drum and the temperature raised using heat from furnace. The air inside the building and the steam from the dryer will contain odours. The air and steam will be sucked into pipes by fans and drawn into the furnace. The temperature of the furnace is designed to ensure that all the odour causing substances are destroyed.

It had been proposed to use a Regenerative Thermal Oxidiser (RTO), operating independently of the furnace to treat the steam from the dryer. However the RTO is fuelled by LPG and if it broke down the production of the RDF would have to stop. The biomass furnace is designed to achieve the same temperatures (800^0C to 850^0C) and same level of treatment performance as the RTO.

As a back-up measure for when the furnace is shut down for maintenance, the odorous air in the building will be treated in carbon filter unit. These units are commonly used in industries that use or manufacture odorous chemicals.

The actual and potential emissions associated with the new waste activities include noise, dust, odour, trade effluent and rainwater run-off will not breach any applicable legal standard or emission limit. Trade effluent, which includes water from washing down the floors of the buildings, is collected and stored in a tank before being taken to the Irish Water Navan Sewage Treatment Plant.

The design and method of operation at both the existing facility and proposed development are based on the requirements the Agency's Final Draft BAT Guidance on Best Available Techniques for the Waste Sector: Materials Recovery and Transfer and of the European Commission's Reference Document on Best Available Techniques for the Waste Treatment Industries 2006 (BREF), which specifies the Best Available Techniques (BAT) for Waste Management Facilities.

The emission limit values were determined by those set in the existing Waste Licence, which comply with BAT, and an assessment of the impacts of the new emission sources, which include odours and noise.

On 15th September 2009 Nuerndale Ltd. was convicted at Navan District Court of an offence under the Waste Management Act for a breach of its previous Licence (W0140-02) relating to taking in more waste than approved under the licence. The current Licence (W0140-03), which was granted in March 2009, allows the acceptance of 250,000 tonnes per annum.

Nature of the Emissions and Assessment of Impact

The actual and potential emissions from the site are:

Rainwater run-off from the yards and building roofs.

Sanitary wastewater and wastewater from the biological treatment process.

Noise from plant and equipment used to process the wastes; delivery/collection vehicles and odour control fans.

Dust from waste processing and vehicle movements on yards during dry weather.

Odours from the processing of the household and residual food waste.

Vehicle exhaust gases from the delivery and collection vehicles.

Surface Water

Rainwater falling on the existing concrete yards is collected in an underground tank and stored before being sent off-site for treatment at a local authority owned sewage treatment plant. Treatment is required because rainfall on concrete yards where vehicles travel and park can become contaminated with silt and small quantities of oil that may leak from vehicle oil sumps.

PANDA has approval to change the drainage system to channel the water from the existing yards to a new reed bed that will be located beside Building 3. The reed bed will remove contaminants that may have been picked up by the rainwater and the treated water will discharge into a drain along the southern site boundary. This drain is a tributary of the River Boyne, which is 3km from the site.

Rainwater from the roof of the new building will be collected in a tank and used for spraying the yards to keep dust down. The rainwater from the new yards will pass through silt traps and oil interceptors, which will reduce the contamination to acceptable levels, before going to a new soakaway.

Wastewater

Water from the canteen and the toilets is collected and initially treated in an on-site wastewater treatment plant before being sent to a local authority owned sewerage treatment plant. The water used clean the floors of the buildings and the water from truck wash is collected in an underground tank and also sent to a local authority owned sewage treatment.

The biological treatment process will produce wastewater and all of this will be collected in drains inside the new building and pumped to new storage tanks. The tanks will be fully enclosed by walls designed to trap any spills or leaks that may happen. The design and construction of the tanks and containing walls will be approved by the EPA.

Much of the wastewater will be reused in the process, but any that cannot, will be sent to the Irish Water treatment plant.

Groundwater

The only emission to ground will be the rainwater run-off from the new concrete yards. The rainwater will pass through silt traps and an oil interceptor before it enters the soakaway.

Dust

The main source dust emissions with the potential to cause a nuisance are vehicle movements over the concrete yards in dry weather and the Construction and Demolition Waste processing area. The proposed new waste activities will be carried out inside the new building, which will effectively prevent dust causing a nuisance.

Odours

The odour management measures, which have already been described, will ensure that smells from the new activities will not cause a nuisance. Odour surveys carried out by the EPA have confirmed that the site is not a source of obnoxious odours.

Noise

The noise sources include the waste processing equipment operating inside the main buildings the C&D processing plant and truck and car movements. The noise monitoring carried out by both PANDA and the EPA has consistently shown noise from the site is not causing a nuisance.

Vermin and Pests

Birds, rats and flies can be attracted to sites where there is available food. The waste accepted at the site include waste accepted at the site includes foodstuffs. All such wastes are and will continue to be processed and stored inside the buildings. This has already been effective in preventing bird attraction. A pest and vermin contractor is used to control flies and rodents.

Proposed technology and other techniques to prevent or eliminate, or where this is not practicable, limit, reduce or abate emissions from the installation

The design and method of operation of both the existing facility and proposed development are based on the requirements of the European Commission's Reference Document on Best Available Techniques for the Waste Treatment Industries 2006 (BREF), which specifies the Best Available Techniques (BAT) for Waste Management Facilities and the Agency's Final Draft BAT Guidance on Best Available Techniques for the Waste Sector: Materials Recovery and Transfer.

Condition 2 of the current Waste Licence requires PANDA to develop and implement an Environmental Management System for the facility, which is consistent with the requirements of both Agency's BAT Guidance Note and the BREF. It requires PANDA to prepare operational control procedures for all waste activities and ensure that facility staff are provided with the appropriate skills and training to perform their assigned functions.

The Licence conditions require the implementation of the control measures specified in the BREF in so far as they apply to non-hazardous solid waste processing and the prevention of soil contamination. The conditions also specify the relevant control techniques referenced in the Agency's BAT Guidance

The proposed changes take into consideration the requirements of the BREF and the Agency's BAT Guidance. In particular;

- The collection and treatment of odorous air from the buildings which will handle the household residual and food waste. This will be achieved by a combination of building design and construction; provision of a negative air system, and the treatment of the odorous air in appropriately designed and operated treatment plant.

- For the preparation of waste for use of a solid waste fuel BAT requires the development of a close relationship with the solid fuel user to ensure user in order that a proper transfer of the knowledge of the waste fuel composition is carried out; have a quality assurance system to guarantee the characteristics of the waste fuel produced, and to manufacture different type of waste fuels according to the type of user (e.g. cement kilns, power plants).

- For the preparation of a solid fuel from non-hazardous waste it is BAT to visually inspect the incoming waste to sort out the bulky metallic or non-metallic parts; use magnetic ferrous and non-ferrous metal separators and use a combination of shredder systems and pelletisers suitable for the preparation of the specified size waste fuel.

Measures to Comply with Waste Management Hierarchy

The existing facility is designed and operated to maximise the recovery of recyclables from the incoming wastes. The proposed changes are consistent with the Waste Hierarchy as the production of SRF/RDF using non-recyclable materials will gain the maximum value from the waste.

Abnormal Operating Conditions

PANDA has prepared and adopted an Accident Prevention Policy (APP) and Emergency Response Procedures (ERP). The APP addresses all potential hazards, with particular reference to the prevention of accidents that may cause damage to the environment. The ERP identifies all potential hazards at the site that may cause damage to the environment and also specifies roles, responsibilities and actions required to deal quickly and efficiently with all foreseeable major incidents and to minimise environmental impacts.

Avoidance of the Risk of Environmental Pollution due to Closure of the Facility

PANDA has prepared an Environmental Liability Risk Assessment (ELRA) and Decommissioning Management Plan (DMP) for the facility and these, along with a proposal for Financial Provision, were submitted to the Agency in December 2013.

Environmental Monitoring:

Environmental monitoring will be carried out in accordance with the licence conditions. The monitoring will includes noise, dust, surface water and odours.

Measures to Comply with an Environmental Quality Standard

The emission limit values proposed in the application and those that will be set by the EPA in the new licence are and will be based on achieving compliance with the relevant EQS

Measures to comply with Council Directive 80/68/EEC and 2006/118/EC in relation to the protection of groundwater.

The only discharge to ground will be rainfall run-off. The site is designed to prevent accidental emissions to ground.

The Main Alternatives to the Proposed Technology, Techniques and Measures

Alternative Sites

The site is suitable for the proposed biological treatment and the expansion of the existing RDF/SRF manufacturing process and an agreement to acquire the lands on which Building 4 will be constructed has been reached with the land owner. The only alternative to the proposed development would be to construct a new waste management facility to house the biological treatment plant and the relocated RDF/SRF manufacturing line.

This would require the acquisition of land, the construction of two new waste processing buildings and supporting infrastructure (offices, maintenance workshops, weighbridge) and the provision of new site services (surface water, foul water, power, water supply, security etc). The development of a new facility offers no environmental advantages compared to extending the existing operations.

Alternative Site Layout & Processes

PANDA carried out extensive research on a range of waste treatment technologies that could achieve its objectives of reducing to a minimum the materials that are consigned to landfill and replacing non-renewable energy sources. These technologies included stand alone AD, pyrolysis, stand alone composting and the manufacture of bio-diesel from recovered plastics.

While pyrolysis and the manufacture of bio-diesel are technically proven, they are complex processes and, based on international experience, there are doubts over their long term commercial viability, particularly the manufacture of bio-diesel which relies on government subsidies.

While standalone AD and composting of MSW have been proven commercially viable, each has drawbacks. Standalone AD generates liquid and solid residues that must be disposed of, typically by application to agricultural lands, which requires the availability of suitable land banks. Although composting can produce a high quality end product that is suitable for agricultural and horticultural use, it does not allow the exploitation of the energy value of the waste.

Therefore, the proposed combined AD/composting process allows the recovery of the maximum value from the waste, while minimising the generation of residual wastes that require disposal/further treatment.