

Maire Buckley

Subject: FW: New submission entered for Reg no: W0274-01. (Reference Number: W0274-01-100826101516)
Attachments: 10_5235L01 (Technical Submission.pdf; 10_5235R01 _ADPower Licence EIS Review_Rev1.pdf
Importance: High

From: Verone Donohue [mailto: [REDACTED]]
Sent: 26 August 2010 10:15
To: Licensing Staff
Subject: New submission entered for Reg no: W0274-01. (Reference Number: W0274-01-100826101516)
Importance: High

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EN/10/5235L01
20 August 2010

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Environmental Protection Agency
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Dear Sir or Madame,

RE: TECHNICAL SUBMISSION REGARDING WASTE LICENCE APPLICATION REG. NO. W0274-01 AND SUPPORTING EIS SUBMITTED BY ADPOWER ROSCOMMON LTD

ADPower Roscommon Ltd has submitted an application to the Environmental Protection Agency (EPA) for a Waste Licence, Licence Registration No. W0274-01 for a proposed anaerobic digestion facility at Ballinphuill, Tibohine, Castlerea, Co. Roscommon.

AWN Consulting Ltd. has reviewed the aforementioned application and the supporting Environmental Impact Statement (EIS) and wish to make this technical submission on behalf of the Tibohine Action Group. Please find attached our submission (document ref. EN/10/5235R01).

Please note we have submitted a copy of this submission via your website and by post.

If you have any queries in relation to the attached submission, please do not hesitate to contact the undersigned.

Yours sincerely,

ELAINE NEARY
Senior Environmental Consultant

DR. FERGAL CALLAGHAN
Principal Consultant/Director

encl. *Technical Submission by AWN Consulting Ltd, Document Ref. EN/10/5235R01*

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**TECHNICAL SUBMISSION
REGARDING WASTE
LICENCE APPLICATION
REG. NO. W0274-01 AND
SUPPORTING EIS**

**FOR A PROPOSED
ANAEROBIC DIGESTION
FACILITY AT BALLINPHUILL,
TIBOHINE, CASTLEREA, CO.
ROSCOMMON**



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Technical Submission Prepared For

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Our Reference

EN/10/5235R01

Date Of Issue

26 August 2010

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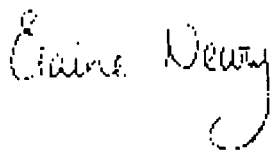
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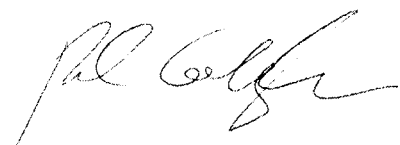
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Submission Prepared By:



ELAINE NEARY
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Submission Checked By:



DR. FERGAL CALLAGHAN
Principal Consultant/Director

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1.0 INTRODUCTION

ADPower Roscommon Ltd. has submitted an application to the Environmental Protection Agency (EPA) for a Waste Licence, Licence Registration No. W0274-01 for an anaerobic digestion (AD) facility at Ballinphuill, Tibohine, Castlereaugh, Co. Roscommon. The application is accompanied by an Environmental Impact Statement (EIS).

AWN Consulting Ltd. (AWN) has been appointed by the Tibohine Action Group to review the aforementioned application and the supporting EIS and to provide an opinion on the assessments contained within and the degree to which EPA and EIS Guidelines and best practice have been followed.

This report details the grounds for the submission and the reasons, considerations and arguments on which they are based.

The EIS deals with the impact of the development on the surrounding environment under the following headings:

- Human Beings
- Traffic Volume
- Flora & Fauna
- Soil
- Water
- Air
- Landscape
- Noise
- Cultural Heritage
- Material Assets

Our review of the EIS has been conducted under these section headings.

The context of our submission is outlined in Section 2.0.

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2.0 CONTEXT

It is our opinion that the lack of predictive data within the Waste Licence Application and EIS with respect to environmental impacts and the confusion contained within the documents as to whether the plant has a capacity of 20,000, 24,999 or 30,000 tonnes per annum are such that the EPA could not possibly derive any conclusion in relation to the actual impact of the proposed development on the environment. For this reason, AWN respectfully invite the EPA to render the application invalid and request that the applicant re-submit a complete and satisfactory application and full EIS. The EIS does not in anyway assess the proposed environmental impacts of the development and does not provide our clients with an assessment of the impact of the proposed development on the environment in which they and their families live and work. It provides some poor and incomplete baseline data and states some mitigation measures but does not predict by numerical and best practice methods what the actual impact of the development is likely to be.

The main deficiencies and inaccuracies identified are as follows:

- There is no local supply of the raw materials required to operate the facility. It is stated throughout the application that the anaerobic digester plant relies on a local supply and that there is a local supply and that this was a major contributory factor in site selection. This is incorrect.
- There is a limited local market for the organic fertiliser. It is stated throughout the application that there is a local market and that this was a contributory factor in site selection. This is incorrect.
- There is a fundamental inconsistency between the Waste Licence Application and EIS regarding the capacity of the AD plant. Page 6 of the Non-Technical Summary of the EIS states the AD plant has a capacity of 20,000 t/a. The licence application states 30,000 t/a. This is a significant difference. It is not possible to accurately assess the impact of a development, when the correct description of the development is unknown.
- There is an inconsistency between the Non-Technical Summary (NTS) of the EIS and the main text of the EIS with regarding to the waste delivery procedure. The NTS and certain sections of the main EIS text state the waste materials will be pumped into the reception tank and that it is a 'plug in' system so raw material will not come in contact with the environment. The waste materials that the applicant has requested permission to accept at the facility include solid wastes. It is not possible to 'pump' solid wastes into a tank. Only on page 31 of the EIS is it mentioned that a shredder will be used for wastes with a solid content. To use the shredder the material would have to come in contact with the environment. No information is provided to how the shredder will be loaded. The environmental assessment appear to be based on the assumption that it is a plug in system. Therefore the impacts were assessed based an inadequate understanding and/or knowledge of the process.
- The shredder proposed would require substantial volumes of water to operate. No reference is made to this requirement in the EIS or application. The application requests approval to accept up to 20,000 t/a of biodegradable waste, all of which could be solids. The shredder could require up to 100,000 m³ per annum to process the solid waste and to render it sufficiently liquid be anaerobically digested. This is a significant volume of water. The source of this supply would need to be established and the assessment of the impact on the source and also the impact of the wastewater generated on the water environment needs to be assessed. This is a significant omission from the EIS.

- Water supply for the site is from an onsite well. Insufficient information is provided regarding the demand on the well. It is stated that 350m³ per annum will be required for the welfare facilities but data is provided for the demand from the wheel wash/wash down facilities and the shredder. This information is necessary for the impact assessment. No assessment is provided on the potential drawdown and cone of depression that may be created as result of the abstractions. A 72 hour pump test to determine yield and draw down is required. The water impact assessment should then be reviewed to take in account the findings of the assessment.
- Traffic survey and assessment was not carried out by a professional traffic engineer.
- The Noise impact assessment is completely inadequate. In order to determine the impact of the development, the baseline monitoring needs to be completed in accordance with the appropriate standards and the impact needs to be calculated and modelled using appropriate standards and software.
- No vibration assessment was carried out. This would be a standard section of any robust EIS submitted for similar applications. A vibration assessment should be completed.
- No odour impact assessment was carried out. The odour associated with many of these raw materials will be significant and should have been quantified in terms of both a concentration (OU_E/m³) and as an odour emission rate (OU_E/S). Biofilter systems are designed to reduce odorous emissions but have finite odour removal efficiencies. The applicant should be requested determine the odour emission rate and model the release of this odour using an air dispersion model such as AERMOD or ADMS.
- Ecology assessment is inadequate. The survey was undertaken in winter. A full ecology survey during the period April to September would be necessary to fully characterise the existing ecology of the site. In the absence of this survey information, it is not possible to determine suitable mitigation measures or derive any conclusion in relation to the actual impact of the proposed development on the ecological environment.
- The water section contains inaccurate and misleading information in relation to the wells in the area. The applicant did not carry out a door to door well survey. The GSI records show approx. 60 wells within a 5km radius. The EIS states that there is none. The impact of the development on the hydrogeological environment cannot be appropriately assessed without a complete and thorough review of the GSI well card data as well as a door to door survey in vicinity of the site.
- The planning permission for the facility does not extend to permit the facility to accept the waste streams detailed in the current waste licence application to the EPA.
- The waste licence application is largely incomplete. The applicant has not completed any of the tables in Section E Emissions which are required to be completed. The applicant makes reference to this information being available in the EIS. This is not the case. The EIS does not provide the necessary information to complete these tables.

The following sections of this report provide a detailed review of each of the sections of the EIS which relate to the above points.

3.0 ENVIRONMENTAL IMPACT ASSESSMENT

3.1 General Observations

Table 3.1 details the findings of our review of the Introduction, Existing Site and Description of the proposed development sections of the EIS.

Page	Heading	Issue	Comment
4 of NTS and 23 of EIS	1. Introduction 1.8 Need for the facility	<p>The following statement is made in the Introduction of the Non-Technical Summary:</p> <p><i>"A BioPark® needs to be sited in an agricultural area, with an adequate supply of feed stocks, and market for organic fertiliser"</i></p> <p>It is also stated in Section 1.8 of the EIS that:</p> <p><i>"The process and operation of the anaerobic digester relies heavily on farming in the local area for the supply of raw materials"</i></p>	<p>As stated in the EIS, the feed stock proposed for the rape seed processing plant and ultimately biodiesel production is rape seed. The rape seed processing plant has a capacity of 10,000 t/a of rape seed. Local agricultural sources advise there is no rape seed grown in the area, nor is the land suitable for rape seed production so biodiesel production at this facility is not sustainable.</p> <p>As stated in the EIS, the feed stock proposed for the fuel pellet production is oaten, barley, wheaten straw. Local agricultural sources advise these crops are not grown in the area, nor is the land suitable for production of 10,000 t/a of these crops so fuel pellet production at this facility is not sustainable.</p> <p>Furthermore, the EIS states that there is a market for the organic fertilisers. There is a very limited local market for the organic fertiliser, local agricultural sources advise.</p> <p>The EIS makes numerous references to the facility being appropriately sited and completely sustainable due to the adequate local supply of feed stocks, and market for organic fertiliser. This information is not correct, based on advice from local agricultural sources. The proposed location is total unsuitable for a facility of this nature.</p>
6 of NTS	3 Description of Development	Section 3.3 Description of the development states that the anaerobic digester has a capacity of 20,000 t/a.	<p>Page 18 of the Waste Licence Application form states that the maximum tonnage of waste to be handled is 24,999 t/a. This shows inconsistencies in the data provided. If the anaerobic digestion facility only has a capacity of 20,000t/a, what will be done with the surplus 4,999t/a? Furthermore, page 5 of Attachment A of the Waste Licence, Section E specifies that the anaerobic digester will be designed for an organic waste throughput of 30,000t/a.</p> <p>This is a significant difference. It is not possible to assess the impact of a development on the environment when the information on the nature of the development are ambiguous and inconsistent.</p> <p>The EPA should request the applicant to provide a comprehensive accurate project description. The applicant</p>

Page	Heading	Issue	Comment
7 of NTS	3 Description of Development	<p>Section 3.3 of the NTS, Item 4 of the description of the anaerobic digestion processing facility refers to the reception tank and states that it is an enclosed tank that the raw material delivery tanker "plugs" into.</p>	<p>should also be requested to explain the reasons for the significant inconsistency in the stated capacity of the AD plant.</p>
31 of EIS	3 Description of Development	<p>The anaerobic digestion process is described as follows:</p> <ol style="list-style-type: none"> 1. Incoming loads of raw material are weighed at the weighbridge 2. The raw material is then pumped into the reception tank from within the reception building 3. The raw material is then pumped to the digestion tank where anaerobic digestion will take place. <p>Furthermore, Section 4.1.2 of the mitigation measures for impacts on Human Beings specifies that raw material will not come in contact with the atmosphere.</p>	<p>The reception tank described on page 7 of the EIS would be suitable for liquid wastes only. Attachment H.1 of the Waste Licence application lists the waste types that will be accepted which include both solid and liquid wastes. Solid wastes include Biodegradable kitchen and canteen waste (20 01 08) and biodegradable waste from garden and parks (20 02 01).</p> <p>Page 31 of EIS specifies that wastes with a solid content of greater than 15% will be passed through a Vogelslang shredder and then transferred to the Anaerobic Digester feed tank. There is no reference made to this in the NTS. The description of the AD process in the NTS and main text are different. If solid wastes are going to be passed through a shredder, then they will not be pumped into the reception tank.</p> <p>Absolutely no information is provided on how the solid wastes are going to be fed into the shredder. It is anticipated that solid wastes would need off-loaded into a storage tank/area or onto the ground and then would need to be loaded into a hopper or similar so these wastes would come into contact with the atmosphere.</p> <p>There is inconsistent and insufficient information is provided on the waste delivery procedure. The applicant has neglected to provide any information on how the solid waste will be loaded into the shredder. This is a gross omission. The impact assessments refer to the 'plug-in' procedure for receiving wastes on numerous occasions and have used this description to assess the impact of the development on the environment. This indicates that the specialists assessing the impact of the development, did not have clear and accurate information on the process. Based on the inconsistent and limited information provided on the process in EIS, the writer of the EIS or a reviewer could not derive any conclusions in relation to the actual impact.</p> <p>The EPA should request the applicant to provide a comprehensive accurate process description and the environmental assessments reviewed to take into account of the potential environmental impact of the process of transferring the solid wastes to the</p>

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Page	Heading	Issue	Comment
		<p style="color: red; transform: rotate(-45deg); opacity: 0.5;">For inspection purposes only. Consent of copyright owner required for any other use.</p>	<p>shredder.</p> <p>Furthermore, the shredder proposed would require substantial volumes of water to operate. No reference is made to this requirement in the EIS or application. The application requests approval to accept up to 20,000 t/a of biodegradable waste, all of which could be solids. The shredder could require up to 100,000 m³ per annum to process this solid waste to a level which would make it sufficiently dilute to be digested (assume it has to be diluted to 10% solids and that it already has a moisture content of 50%). This is a significant volume. The omission of any information on the water supply requirements for the shredder is significant. The EIS only makes reference to the water requirement for the office and canteen of 350 m³ per year. The use of the onsite for the shredder, is likely to have a significant impact on the aquifer which serves as a domestic water supply in the immediate vicinity of the site and which is also likely to be hydraulically linked to the nearby Local Authority Regional Water Supply.</p> <p>The source of this supply would need to be established and the assessment of the impact on the source and the impact of the wastewater generated on the environment needs to be assessed. The applicant should be requested to provide clarification on the source and re-assess the impact of the development on the water environment.</p>
22 of EIS	1.7 Planning Context	<p>The EIS quotes Policy 52 from the Draft Roscommon County Development Plan (2008 – 2014) as being relevant to the proposed development. Policy 52 is quoted as follows:</p> <p><i>“Support the location of industries in Ballaghaderreen that have a high level of synergy with the local economy and are sustainable in the long term”</i></p>	<p>As previously noted in this review, the proposed development is not sustainable in the long term for the following reasons:</p> <ol style="list-style-type: none"> 1) The local area cannot supply the rape seed required to make the rape seed production plant and biodiesel plant sustainable. There is no rape seed grown locally. The land is not suitable for rape seed production. Rape seed will have to be transported into the area for use in the facility making the plant unsustainable. 2) The local area cannot supply the oaten, barley and wheaten straw required to provide the fuel pellet production facility with 10,000 t/a. These feed stock will have to be transported into the area for use in the fuel

Page	Heading	Issue	Comment
			<p>pellet production plant making the plant unsustainable.</p> <p>3) There is a limited market for organic fertiliser in the area. Therefore, the organic fertiliser will have to be transported outside the area for spreading.</p>
19	1.1 Background	<p>The following statement is made:</p> <p><i>"BioPower Ltd decided to submit an EIS in order to illustrate fully that this project is small scale with minimal negative environmental impacts."</i></p>	AWN has carried out a comprehensive technical review of the EIS. Based on the information contained in the EIS, it is not possible to derive any conclusions in relation to the actual impact of the proposed development.
31	3. Description of proposed development	<p>Hygiene measures include:</p> <ol style="list-style-type: none"> 1) Disinfection spray for exterior of all vehicles prior to leaving waste reception building 2) Steam cleaning for disinfection of internal surfaces of vehicles delivering Cat 3 materials 3) Steam cleaning of equipment and internal surfaces of the waste reception building 	<p>There is no information provided on how these procedures will be enforced. If these hygiene measures are not implemented, there will be a significant impact on the environment in terms of odour and contamination of surface water, groundwater and soil from residues of wastes that could spill off the vehicles exiting the site. The applicant should be requested to specify their procedure for enforcing these hygiene measures.</p>
34	3.4 Water Supply	<p>It is stated that the water supply for the site will be from an existing water well. Water demand for the site is 350m³ per year.</p> <p>It is stated that this water supply is for the office and staff welfare facilities. However Attachment D of the waste licence application states that water for the wheel wash facilities will be from the onsite well.</p>	<p>No information is provided to determine if existing well can meet the demands of the development.</p> <p>No information is provided to determine if abstraction of water from this well will result in drawdown of the groundwater table in the area. The borehole log for this well states that the estimate output is 600 litres per hour. There is no details provided regarding how this output estimate was determined.</p> <p>It is also stated that the water supply for the wheel wash will be from the onsite well. As noted above, the use of the shredder proposed would necessitate the use of significant quantities.</p> <p>The information provided in the EIS and application is unclear with regard to the water demand on the onsite well. The applicant should be asked to provide unambiguous information on the water demand and the source water for the shredding operation. A pump test (minimum 72 hour test) would be required to determine if the abstraction of water from this well to service the development will result in draw down of the water table and cause a cone of depression. The applicant should be asked to conduct a pump test with a standing well an adequate number of observation wells to determine the yield of the well and assess the drawdown. We have calculated that water use could be in the region of 100,000 m³/annum, no assessment has been made as to</p>

Page	Heading	Issue	Comment
			whether or not the aquifer has the capacity to supply this volume of water. The impact the water environment should then be re-assessed.

Table 3.1 General Comments

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3.2 Human Beings

Table 3.2 details the findings of our review of the Human Beings section of the EIS.

Page	Heading	Issue	Comment
36	4.1.1 Likely Environmental Impacts – Noise	<p>The following statement is made:</p> <p><i>"The everyday noise the BioParks® plant and machinery will be minimal"</i></p>	<p>A detailed review of the Noise impact assessment is provided in Section 2.8 of this submission. The findings of the review which are relevant to this statement are:</p> <p>A review of Noise impact assessment found that no attempt has been made in the EIS to assess the relative increase in background noise in relation to the development at the nearby noise sensitive locations. Based on the information contained in the document, it is not possible to derive any conclusions in relation to the actual impact of the proposed development.</p>
36	4.1.1 Likely Environmental Impacts - Air	<p>The following statement is made:</p> <p><i>"In relation to the anaerobic digester, odour will not be a problem as all the tanks are airtight and the reception building is under negative pressure, the air within the building will be passed through a peat filter"</i></p>	<p>A detailed review of the Odour impact assessment is provided in Section 2.7 of this submission. The findings of the review which are relevant to this statement are:</p> <p>The material to be used in the anaerobic digester are inherently odorous and include:</p> <p><i>"Municipal and Industrial sludge's, dairy waste, agricultural slurries, precision chopped grass and maize, glycerol, grain screenings, sub standard fuel pellets and Rape Seed cake"</i> (page 7 of the EIS).</p> <p>The odour associated with many of these raw materials will be significant and should have been quantified in terms of both a concentration (OU_E/m^3) and as an odour emission rate (OU_E/S). Biofilter systems are designed to reduce odorous emissions but have finite odour removal efficiencies. Without a quantification of the odour emission rate of the raw materials and an indication of the efficiency of removal of the odour by the biofilter the actual odour emission rate released to the environment cannot be determined.</p> <p>Once the odour emission rate to atmosphere has been determined it is then necessary to model the release of this odour by means of an air dispersion model. Appropriate models include AERMOD and ADMS which are in common use for assessments of this type. The absence of an air dispersion modelling does not allow the impact of the odour release in the surrounding environment and at the nearest</p>

Page	Heading	Issue	Comment
			residential receptor to be determined. The applicant should be requested to determine the odour emission rate and model the release of this odour using an air dispersion model such as AERMOD or ADMS.
37	4.1.2 Mitigation Measures – Odour	One of the mitigation measures specified for odour is that the digester is a "plug in" system where the raw materials are pumped directly from the delivery tanker to the enclosed raw material reception tank. It is stated that raw materials will not come in contact with the atmosphere.	The "plug in" system is not applicable to solid wastes which will be accepted at the facility. The EIS specifies that wastes with a solid content of greater than 15% will be passed through a Vogelslang shredder and then transferred to the Anaerobic Digester feed tank. However, no information is provided to confirm how the solid wastes are fed to the shredder. It is anticipated that solid wastes would need to be tipped out into a storage tank or on to the ground and the loaded into a hopper or similar so these wastes would come into contact with the atmosphere.
37	4.1.2 Mitigation Measures – Housing Density	The following statement is made: <i>"the housing density in the locality is low"</i>	The EIS fails to make any reference to the fact that there is approximately 30 no. houses within the immediate vicinity of the site as well as a school, church and community centre.

Table 3.2 Human Beings Comments

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3.3 Traffic Volumes

Table 3.3 details the findings of our review of the Traffic Volumes section of the EIS.

Page	Heading	Issue	Comment
37-38	4.2 Traffic Volume	The predicted vehicle movements of the operational development detailed in this section are: Commercial/Agricultural Vehicles – 26 per day Plus 10 no. Employees. Based on 10 no. employees, it is assumed this equates to 20 vehicle movements per day So, 46 no. movements in total	Page 13, Section 6.5.1 of the Non-Technical Summary details the estimated number of vehicle movements as 38 no. This shows inconsistencies in the data provided. The applicant should be asked to verify the correct no. of vehicle movements so that the impact can be correctly assessment.
38	4.2.2. Mitigation Measures - Traffic	One of the mitigation measures proposed is that " <i>sprinklers will be used during dry months to keep the dust to a minimum</i> "	There has been no quantification of any air emissions and thus there is no way of knowing if this mitigation measure is sufficient to avoid an environmental impact from dust.
37-39	Overall traffic	Traffic survey and assessment was not conducted by a professional traffic engineer	A traffic survey and impact assessment should only be undertaken a qualified professional traffic engineer. The survey and assessment should be repeated by a suitably qualified professional traffic engineer.

Table 3.3 Traffic Volume Comments

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3.4 Flora & Fauna

The Flora & Fauna section of the EIS was prepared by Jeremy Scott-Bolton. Table 3.4 details the findings of our review of this section of the EIS.

Page	Heading	Issue	Comment
Appendix D	Flora and Fauna Survey	<p>The Ecology Reports notes the following survey constraints:</p> <p><i>"The visit was carried out in February. It is possible therefore, that species may be under recorded"</i></p>	<p>A winter ecology survey of the site is not sufficient to identify plant and animal species at the site and any rare or threatened habitats. A full ecology survey during the period April to September would be necessary to fully characterise the existing ecology of the site. In the absence of this survey information, it is not possible to determine suitable mitigation measures or derive any conclusion in relation to the actual impact of the proposed development on the ecological environment. The applicant should be requested to carry out the required additional surveys and to update the Flora and Fauna assessment with the appropriate mitigation measures and conclusions.</p>
39	4.3.1 Flora and Fauna – Likely Environmental Impacts	<p>The following statement is made:</p> <p><i>"If effort is not made on behalf of BioPower Ltd then there is a danger that the construction and operation of the proposed Bio-Park® could damage the native flora and fauna"</i></p>	<p>The mitigation measures proposed in the EIS to address this potential ecological impact are as follows:</p> <ul style="list-style-type: none"> • Effective management of the construction phase will ensure the least disruption to the site as possible • The proposed landscaping plan will mitigate any impact of the site and improve the existing habitats <p>There is no information provided on how the construction phase will be effectively managed to ensure the least disruption. There is no detail provided on how the landscaping plan will improve the existing habitats. There is insufficient baseline ecology information to establish the existing flora and fauna at the site and therefore to determine the appropriate mitigation measures to protect the native habitats. The mitigation measures only refer to the construction phase of the development. The likely environmental impact specified by the ecologist stated that there is also a danger that the operation of the development could damage the native flora and fauna.</p> <p>In summary, based on the information contained in the Flora & Fauna assessment, the writer of the EIS or any reviewer could not derive any conclusion regarding the actual ecological impact of the development.</p>

Table 3.4 Flora & Fauna Comments

3.5 Soils

The soil section of the EIS was prepared by O'Neill Ground Water Engineering. Table 3.5 details the findings of our review.

Page	Heading	Issue	Comment
39	4.4 Soil	The following statement is made: <i>"The proposed BioPark® will not have any negative impacts on the soils in the area. The BioGrow® will be used as an organic fertiliser. This will actually improve the quality of the soil in the surrounding area"</i>	The BioGrow® organic fertiliser will be produced from a variety of waste types including industrial sludges and sludges from physiochemical treatment (dechromatation, decyanidation, neutralisation). If there are contaminants in the organic fertiliser, it could hamper the growth of plants and could negatively affect the quality of the soil.
39	4.4.1 Soil – Likely Environmental Impact	The EIS states that soil will be excavated during the initial ground works and the foundation construction.	There is no information provided on the volume of soil that will be excavated. There is no information provided of what will be done with the soil once excavated. If it is stockpiled during construction, there are no mitigation measures specified to ensure the stockpiles are correctly sited so that there is no surface water runoff from the stockpiles into surface watercourses. Surface water runoff from the stockpiles would increase the suspended solids in the watercourse and affect the quality of the water.
39	4.4 Soil	The bedrock is described in the EIS as karstified limestone.	The only information provided is the bedrock type. There is no information provided on the depth to bedrock in this section. Section 4.5 states that weathered limestone bedrock was encountered at 2.5m below ground level. It is anticipated that some excavation of bedrock may be necessary to facilitate construction of the facility for utilities or construction of the soakaway. No information is provided to confirm if bedrock will be excavated, the volume of rock to be excavated and the methodology for excavating the rock. A geotechnical investigation of the spreadlands and of the proposed site is required to determine the environmental impact of the development by defining depth to bedrock, aquifer status and depth and type of overburden.

Table 3.5 Soil Comments

3.6 Water

The water section of the EIS was prepared by O'Neill Ground Water Engineering. Table 3.6 details the findings of our review.

Page	Heading	Issue	Comment
40	4.5 Water	<p>The following is stated as one of the objectives of the water section of the EIS:</p> <p><i>"provide mitigation measures to maintain a good water quality status for all waters which may be impacted upon"</i></p>	<p>The EIS should reference the targets of the WFD and establish the status of the receiving waterbodies.</p>
44	4.5 Hydrogeology	<p>The bedrock aquifer underlying the site is a regionally important karstified conduit aquifer.</p> <p>The EIS states that the <i>"permeability of competent limestone is very low which could also explain the high density of surface water features."</i></p>	<p>This statement regarding the low permeability of the limestone is inconsistent with the fact that it is a karstified conduit aquifer which would allow a strong interconnection between the surface water and groundwater.</p>
44	4.5 Well inventory	<p>The following statements are made in the EIS:</p> <p><i>"A search of the GSI well database was undertaken as part of the of the desktop study. However no wells were located within a 5km radius of the site"</i></p> <p>Furthermore, the author states that:</p> <p><i>"A door to door well survey was also carried by OGE and no wells were located in the vicinity"</i></p>	<p>AWN reviewed the GSI well card database and found that there is over 60 no. wells within a 5km radius of the site.</p> <p>AWN has contacted a number of local residents within a 1km radius of the site and has identified at least 4 wells within 0.5km of the site which are used as domestic water supplies. These residents have never been contacted by OGE or any other company regarding a well survey. These wells are from springs. They are the only water supply source for these residents.</p> <p>Therefore, the authors statements regarding the well inventory is inaccurate. The impact of the development on the hydrogeological environment cannot be appropriately assessed without a complete and thorough review of the GSI well card data as well as a door to door survey in vicinity of the site.</p>
44	4.5 Groundwater levels & gradients	<p>The author states that there are insufficient wells to determine the groundwater gradient.</p>	<p>In order to determine the impact of the development on the hydrogeological environment, and the nearby water supply wells, it is important that the direction of groundwater flow is firmly established. This is essential given the very close proximity of these number of water supply wells to the site. As noted above, the sources of these wells are from natural springs and they are the only water supply source available to these residents. It is imperative that the integrity of each of these wells is protected.</p> <p>It is not satisfactory to state that there were insufficient wells to determine the direction of groundwater flow. The applicant should be requested to</p>

Page	Heading	Issue	Comment
			install and monitor a sufficient number of additional wells to allow them to accurately determine the direction of groundwater flow.
46	4.5 – Conceptual Hydrogeological Model	The author describes the conceptual hydrogeological model for the site.	An accurate conceptual hydrogeological model cannot be derived for the site in the absence of correct information on the wells in the area and without establishing the direction of groundwater flow. A full well survey should be carried out and the direction of groundwater flow determined by installing and monitoring an adequate number of wells. The conceptual model should then be reviewed.
46	4.5 – Conceptual Hydrogeological Model	It is stated in the EIS that the recharge to the aquifer in the vicinity of the site is thought to be low.	However, on page 43, the author indicates that the soil would have a moderate permeability due to the subsoil thickness of less than 3m.
46	4.5.1	It is proposed to landspread digestate on lands agricultural lands in the surrounding area.	The results of the sample collected from the onsite stream shows that the stream is already nutrient loaded with a high orthophosphate of 0.06mg/l and ammonia of 0.15mg/l. This stream is likely to be a tributary of the Lung River which flows into Lough Gara. Lough Gara is the main water supply to hundreds of homes in the Sligo/Roscommon area. Lough Gara is also a SPA.
41-46	General Water Section	The Lung River and Lough Gara are mentioned in the water section of the EIS. However, no baseline information is provided for these rivers in terms of status of these water bodies. No reference is made to the status of these waterbodies.	As noted above, the Lung River is a tributary of Lough Gara. Lough Gara provides the main water supply to the area. The onsite stream is possibly a tributary of the Lung River. Therefore, it is important to establish a baseline for the Lung River and Lough Gara. Reference should be made to the status of these waterbodies as detailed in the River Basin Management Plan.
46	4.5.1	Storm water from the buildings and hardstanding areas will be discharged to ground via a soakaway.	Storm water from hardstanding areas may be contaminated with hydrocarbons as result of spillages or leaks from vehicles. Storm water will be discharged through a hydrocarbon interceptor before being discharged to ground. However, if the interceptor is not properly maintained, it could allow hydrocarbons to be released into the aquifer. There is no information provided on the construction of the soakaway. The author considers the soil to have low permeability. The soil is therefore unsuitable for a soakaway. It will be necessary to import suitable soil for the soakaway. This information is not provided in the EIS. The construction of a soakaway will create a pathway for migration of contaminants from the surface of the site to the groundwater. The

Page	Heading	Issue	Comment
			groundwater in the area is an important local water supply. As the aquifer is a karstified conduit aquifer, flow is rapid so contaminants could be quickly transported to neighbouring wells.
12	6.3.1	<p>Non-Technical Summary states the following:</p> <p><i>"It is proposed that wastewater from office be discharged to ground via a septic tank system"</i></p> <p>However, Section 4.5 of the main EIS text states that treated effluent from the onsite wastewater treatment system which serves the offices and canteen will be discharged to the anaerobic digester.</p>	<p>This information is contradictory.</p> <p>The EIS should be consistent in the information provided. Clarification should be sought on the actual proposal for managing the wastewater from the canteen and offices.</p> <p>It is not possible to accurately assess the impacts of the projects, if the information provided on the characteristics of the development are not clearly provided.</p>

Table 3.6 Water Comments

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3.7 Air Quality

Table 3.7 details the findings of our review.

Page	Heading	Issue	Comment
47	4.6 Air	Overall air section	<p>The air quality section is extremely brief. There is no discussion of any of the appropriate headings under which an environmental impact assessment should be undertaken including:</p> <ol style="list-style-type: none"> 1) Statutory Air Quality Standards – there is no discussion of the relevant statutory air quality standards which are relevant including S.I. 271 of 2002 which incorporates Council Directives 1999/30/EC and 2000/69/EC into Irish Law. No mention is made of Council Directive 2008/50/EC which will shortly be transposed into Irish Law. 2) Description of the Existing Environment - No assessment of the baseline air quality has been undertaken. The traffic accessing the site will emit pollutants such as nitrogen oxides (NO_x), nitrogen dioxide (NO₂), benzene, PM₁₀ and PM_{2.5} and thus an assessment of the existing levels of these pollutants should be undertaken. 3) Description of the Proposed Environment – There is no quantification of any air emissions from the operation of the proposed facility. In relation to hydrogen sulphide and ammonia there is no discussion of the pre-abatement concentration or mass emission of these compounds. Furthermore, there is no discussion of the efficiency of the abatement system (gas scrubber).
37	4.1.2	Odour	<p>The authors have taken the view that odour will not be relevant for this development. This is highlighted by the statement:</p> <p><i>In the most unlikely event that odour becomes an issue a bio filter will be used, this will involve extraction of the air in the raw material reception building and pumping it through a peat filter"</i></p> <p>However, the material to be used in the anaerobic digester are inherently odorous and include:</p> <p><i>"Municipal and Industrial sludge's, dairy waste, agricultural slurries, precision chopped grass and maize, glycerol, grain screenings, sub standard fuel pellets and Rape Seed cake" (page 7 of the EIS).</i></p> <p>The odour associated with many of these raw materials will be significant and should have been quantified in terms of both a concentration (OU_E/m³) and as an odour emission rate (OU_E/S). Biofilter systems are designed to reduce odorous emissions but have finite odour removal efficiencies. Without a quantification of the odour emission rate of the raw materials and an indication of the efficiency of removal of the odour by the biofilter the actual odour emission rate released to the environment cannot be determined.</p>
47	4.6.2	Odour Modelling	<p>Once the odour emission rate to atmosphere has been determined it is then necessary to model the release of this odour by means of an air dispersion model. Appropriate models include AERMOD and ADMS which are in common use for assessments of this type. The absence of an air dispersion modelling does not allow the impact of the odour release in the surrounding environment and at the nearest residential receptor to be determined. Suitable guidance for the release from air emissions (including odour) is available from the EPA publication "Air Dispersion Modelling From Industrial Installations Guidance Notes – AG4 (EPA, 2010)".</p>
47	4.6.3	Mitigation	<p>There has been no quantification of any air emissions from the facility and thus there is no way of knowing if the mitigation measures as proposed are sufficient in order to avoid an environmental impact.</p>

Table 3.7 Air Quality Comments

3.8 Noise & Vibration

The noise and vibration section of the EIS was prepared by O'Neill Ground Water Engineering. Table 3.8 details the findings of our review.

Page	Para	Issue	Comment
51	4 (of Sec 4.9)	The following statement is made: "Noise monitoring was carried out to the international standard ISO 1996/1 Acoustics- Description & Measurement of Environmental Noise"	The correct reference for this document is <i>ISO 1996 – 1: Acoustics – Description, measurement and assessment of environmental noise – Part 1: Basic quantities and assessment procedures</i> . The stated standard had been superseded at the point of writing the EIS. A thorough assessment should also outline the consideration of the <i>ISO 1996 – 2: Acoustics – Description, measurement and assessment of environmental noise – Part 2: Determination of environmental noise levels</i> in conjunction with the first standard.
52	Table No. 1	Wind Speeds – Table No. 1 states an average wind speed of 12.9 knots with gusts up to 36 knots. Assuming similar conditions were experienced on site this equates to an average wind speed of 6.6m/s with gusts of up to 18.5m/s.	The EPA "Environmental Noise Survey Guidance Document (2003) states "An average wind speed of less than 5m/sec is the preferred limit when noise measurements". While an upper level of 7m/s is noted it would be considered inappropriate that a noise survey be carried out in the area in question (i.e. near a forested area) in such wind conditions.
			Furthermore, the following statement detailed in the EPA document should also be noted: "In general, noise attributable to wind and or rain should be at least 10 dB below the noise source being measured; otherwise the measurements may be invalid." Insufficient information is presented as part of the noise survey in order to allow the reader to form a valid opinion as to whether this is a concern or not in relation to the work completed and presented.
53	Table No. 3	Table No. 3 details the extent of the noise monitoring carried out for the baseline noise survey. This consists of 6 measurements in total, one at each of the noise monitoring points. Note the measurement durations are not clearly stated. ISO 1996 Part 2 clearly states that this information should be presented again indicating a lack of detailed knowledge of relevant standards.	This monitoring programme is considered insufficient. At a minimum it would be recommended that the attended noise monitoring would encompass 3 fifteen minute measurement periods at each location conducted on a cyclical basis (i.e. 12 measurements in total) and that a 24 hour continuous noise monitoring period be carried out at or in the vicinity of the most exposed noise receptor. Also consideration should be given to the fact that noise levels on weekends may be somewhat lower in the area due to reduced traffic volumes on the N5. A shortened snap shot noise survey should ideally be carried out over this period.
53	Noise Discussion	An extended discussion of the noise monitoring results is presented. On a number of occasions comment is made to statistical noise measurements however no supporting data is presented	Lack of detail in terms of statistical values measured at each location result in insufficient information for the reviewer to determine a full picture of the noise environment within the area of the site.

Page	Para	Issue	Comment
		<p>therefore the supporting statements cannot be confirmed or denied.</p> <p>A number of comments in relation to the analysis of statistical noise levels (e.g. <i>“Statistical analyses at this station show a general increase in sound pressure, from the L₉₉ to the L₀₁ value. This indicates a general mix of sound been present.”</i> draw conclusions that cannot be made by a review of the numbers alone.</p>	<p>As a matter of good practice it would be considered that L_{Amax} and L_{A90} levels should be stated for all noise monitoring locations.</p> <p>This data would allow a reviewer to develop an appropriate opinion on the existing noise environment in the area and base any subsequent considerations on the potential noise impact of the proposal on a more robust grounding.</p>
53 – 55	General	<p>The EIS adopts the following criterion:</p> <ul style="list-style-type: none"> • 55dB L_{Aeq} (30mins) Daytime • 45dB L_{Aeq} (30mins) Night time <p style="color: red; transform: rotate(-45deg); opacity: 0.5;">Consent of copyright owner required for any other use. For inspection purposes only.</p>	<p>While these limits are commonly applied to the site the following comments should be noted:</p> <p><i>“In particularly quiet areas, such as remote or rural settings, where the background noise levels are very low (e.g., below approximately 35 dB measured as L₉₀), lower noise limits may be more appropriate and this may be reflected in more stringent licence limits”.</i></p> <p>Note – insufficient information is detailed within the EIS to form an opinion on this matter. In all likely hood background noise levels at some of the noise sensitive locations will be the order of the 35dB L₉₀ stated here.</p> <p>Also consider: <i>“the assessor may use BS 4142 to undertake the assessment, particularly for rating the noise and/or when the impact relative to background noise is being assessed”</i></p> <p>Note - No attempt has been made to assess the relative increase in background noise in relation to the development at the nearby noise sensitive locations. A cursory review of the stated design goals and limited noise survey data presented in the EIS would indicate potential concerns that need to be clearly addressed and clarified.</p> <p>It is considered that to demonstrate a robust assessment of potential noise impacts the EIS should address these issues clearly and in a transparent manner. Based on the information contained in the document the writer of the EIS or any reviewer could not derive a robust conclusion in relation to the actual noise impact of the proposed development.</p>
54	4.9.1	<p>The following statement is made:</p> <p><i>“Noise levels and the nature of the noise arising from the proposed developments at this site, cannot be exactly predicted. All production will be carried out indoors, the insulation of buildings, type and servicing of plant and equipment, location of extraction fans, doors and ventilation areas on buildings will all have an effect</i></p>	<p>With appropriate information on noise sources, locations and building structures the prediction of expected noise levels at nearby noise sensitive locations can be prepared with a high level of accuracy. Broad statements of intent would be considered insufficient to demonstrate that any potential impact will be suitably mitigated due to the fact that the magnitude of any such impact not being</p>

Page	Para	Issue	Comment
		<i>on the overall noise generation from the site. On-site boundary monitoring, after site commissioning, will assess the cumulative effect of these factors."</i>	quantified in the first instance. The statement that the impacts will assess the ' <i>cumulative effect of these factors</i> ' is considered unacceptable (i.e. defining the impact after the event).
N/A	N/A	No discussion is presented in relation to traffic noise impacts on the local road network or on access roads to the site.	This is considered an omission and would be a standard section of any robust noise and vibration EIS submitted for similar applications.
N/A	N/A	No discussion is presented in relation to construction noise limits associated with the site preparations or site construction.	This is considered a gross emission and would be a standard section of any robust noise and vibration EIS submitted for similar applications.
N/A	N/A	Vibration	Vibration is not addressed at any point in terms of operational or construction impacts. This is considered a gross emission and would be a standard section of any robust noise and vibration EIS submitted for similar applications.

Table 3.8 Noise & Vibration Comments

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3.9 Cultural Heritage

Table 3.9 details the findings of our review of the Cultural Heritage section of the EIS.

Page	Heading	Issue	Comment
55	4.10 – Cultural Heritage	Overall cultural heritage	<p>The cultural heritage section is extremely brief amounting to less than half a page. The baseline assessment is inadequate. Other than OSI maps, no reference is made to the data sources reviewed.</p> <p>The only cultural heritage information provided for the area is reference to two pSACs, the Lough Gara SPA and one national monument.</p> <p>The cultural heritage assessment fails provide any details of the aforementioned designated sites. The national monument identified is referred to as No. 46 with no information on what type of monument it is.</p> <p>AWN conducted a preliminary review of National Monuments in the vicinity of the site. In addition to the National Monument No. 46, there are at least 6 no. other national monuments in the vicinity of the site. These include a church, a graveyard, 3 no. ringforts/raths and an earthwork monument.</p> <p>The omission of these National Monuments shows that the cultural heritage assessment was incomplete. The Cultural Heritage section should be updated to include a comprehensive baseline assessment of the cultural heritage of the area.</p> <p>This data would allow a reviewer to develop an appropriate opinion on the existing cultural heritage environment in the area and base any subsequent considerations on the potential impact of the proposal on a more robust grounding.</p>

Table 3.9 Cultural Heritage Comments

3.9.1 Material Assets

The Material Assets assessment is presented as one sentence in Section 6.9 of the Non-Technical Summary (NTS) of the EIS. It merely states that the public service, local amenities and industry will not experience any significant negative effects as a result of the proposed development. There is no Material Assets section provided in the main text of the EIS. The NTS is supposed to be a summary of the main text. This is inadequate. It is not sufficient to state there will no significant negative effects in the Non-Technical Summary. A Material Assets assessment should be prepared in accordance with the EPA Guidelines on Information to be Contained in EISs.

4.0 WASTE LICENCE APPLICATION

4.1 Planning Permission

ADPower Roscommon Ltd were granted planning permission by Roscommon County Council in May 2008 for the development of a BioPark®. Planning Permission Register Ref. PD/08/656. The planning permission permits the facility to accept rape seed, oaten, barley and wheaten straw only. These were the raw materials specified on the planning application submission. Condition 11 of the planning permission states the following:

"The raw materials to be supplied to the development shall be as stated in the submission made to the planning authority on 6th August 2008."

The planning permission for the facility does not extend to permit the facility to accept the waste types detailed in the Waste Licence Application W0274-01.

A letter from John Cunningham, Director of Service, Planning and Water Service dated 12th February 2010, which is submission No. 1 of the submissions to the EPA regarding the waste licence application confirms that the planning permission for the facility does not extend to the permit the facility to accept the waste streams detailed in the current waste licence application to the EPA.

4.2 Section B General

Section B, page 18 of the application states that the maximum annual tonnage to be handled is 24,999 t/a. As detailed in Section 3.1 of this submission, the EIS and planning permission specifies the capacity of the AD plant to be 20,000 t/a. Furthermore, the waste licence application states the capacity of the AD plant is 30,000 t/a. This is a significant difference. It is not possible to accurately assess the impact of a development, when the correct description of the development is unknown.

4.3 Section E Emissions

Section E of the application requires the applicant to give particulars of the source, location, nature, composition, quantity, level and rate of emissions arising from the activity and, where relevant, the period or periods during which such emissions are made or are to be made.

The applicant has neglected to complete any of the required tables. Instead reference is made to the EIS. The EIS does not contain the information necessary to complete these tables. The omissions are outlined below.

E.1 Emissions to Atmosphere

In Attachment E, the applicant states that there are emissions to atmosphere. Therefore, the applicant is required to complete Table E.1(ii) and E.1(iii) for all emissions to atmosphere. These tables have not been completed. The application states that emissions to the atmosphere are outlined in Sections 4.6 and 4.7 of the EIS. However, there is insufficient information in the EIS to complete these tables.

E.4 Emissions to Groundwater

The applicant is required to describe the proposed arrangements necessary to give effect to Articles 3,4,5, 6 & 7 of Council Directive 80/68/EEC of December 1979 on

the protection of the environment against pollution by certain dangerous substances. The applicant provides no information in this regard.

In Attachment E, the applicant states that there are no direct emissions to ground. However, surface water runoff from the site is to be discharged to ground via soakaway. Therefore the applicant is required to complete Table E.4(i). The emission pathway section of the table even makes reference to a soakaway as a pathway. The applicant has failed to complete the table. The applicant makes reference to Section 4.5 of the EIS. However, the EIS does not have the information necessary to complete the table.

E.5 Noise Emissions

The application requires the applicant to give details of the source, location, nature, level, and the period or periods during which the noise emission are to be made and complete Table E.5(i) and provide supporting information in Attachment E. The applicant fails to complete this table. The supporting information in Attachment E is the following statement: "*Noise emissions from the proposed facility are discussed in Section 4.9 of the EIS*" This is totally inadequate.

4.4 Section F Control & Monitoring

F.1: Treatment, Abatement and Control Systems

The application form requires the applicant to describe the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation/facility. Details of treatment/abatement systems (air and effluent emissions) should be included, together with appropriately scaled schematics ($\leq A3$) as appropriate. For each Emission Point identified the applicant is required to complete Table F.1 of the Annex and include detailed descriptions and appropriately scaled schematics ($\leq A3$) of all abatement systems. Attachment F.1 should contain any supporting information.

The applicant has neglected to complete Table F.1. The applicant does not provide any supporting information but refers to the air abatement controls in outlined in Attachment D2 and the abatement controls for emissions to air, surface water, groundwater, sewers in Sections 4 and 5 of the EIS. The EIS contains insufficient information to complete this table for any of the abatement controls mentioned.

F.2- F. 9. Monitoring and Sampling Points

This section of the application states that programmes for environmental monitoring should be submitted as part of the application. These programmes should be provided as **Attachments F.2 to F.6** and meet the advice published by the Agency in the relevant BAT Note.

Section F.5 for groundwater monitoring has been completed as not applicable. It is proposed to discharge surface water run off to ground via a soakaway. Considering the bedrock is shallow (2.5m below ground level at the borehole on the site) and the aquifer is a regionally important karstified conduit aquifer, it is important the discharges to groundwater are controlled and monitored. The applicant should be asked to complete this section of the application form.

4.5 Section H Materials Handling

H.2 Waste Acceptance Procedures

This section requires that procedures for checking waste loads as they arrive at the facility must be included in the application. These should follow the requirements of

the Agency's Waste Acceptance Manual. A copy of these procedures and other associated documentation should be included as Attachment H.2.

The applicant has not provided these procedures. Instead, the applicant has just stated the following "*Standard operating procedures for the acceptance, handling and processing of waste will be developed prior to commencement of waste operations at the facility*"

Consider the volumes and types of wastes the applicant intends to accept at their facility, it is paramount that there are clearly defined procedures for checking waste loads are they arrive. Stating that they will be submitted after the waste licence has been granted is not sufficient for the EPA to assess if they are adequate to control the wastes received.

H.3 Waste Handling

Waste handling and the operating procedures used at the facility including waste treatment processes should be described in Attachment H.3. Included in the attachment should be information on the plant used on site and on the methods and processes for handling waste on-site.

The applicants response to the requirements for H.3 is to state "see above". This is should not be considered to be sufficient. The above information does not clearly set out the waste handling and operating procedures. The applicant should be required to complete all necessary sections of the application instead of referring to the EIS or other sections of the application where only part of the information is provided.

H.4 Waste Arisings

Waste Arisings should be considered for all contaminated soil applications. Details of all waste materials generated on the site including name, description and nature as well as the source(s) should be identified. The quantities of each type of waste generated on an annual/monthly basis should be calculated and stated in Tables H.1(i) and H. 1(ii) of the application form.

The applicant has not completed the tables as required. Attachment H.4 of the application states "*No waste arisings are expected from the process*". This is not correct. There will be waste generated on the site from the office and staff facilities. The applicant should be asked to complete the tables as necessary.

4.6 Section I Existing Environment & Impact of the Facility

I.6. Noise

The applicant has failed to complete Table I.6(i). Attachment I.6 merely makes reference to Section 4.9 of the EIS. The following information is required in Table I.6(i):

Complete Table I.6(i) in relation to the information required below:	Information Supplied in EIS	Information Supplied in Waste Licence Application
(i) State the maximum sound Pressure Levels which will be experienced at typical points on the boundary of the operation. (State sampling interval and duration)	No	No
(ii) State the maximum Sound Pressure Levels which will be experienced at typical noise sensitive locations, outside the boundary of the operation.	No	No
(iii) Give details of the background noise levels experienced at the site in the absence of noise from this operation.	No	No

The following table needs to be completed as part of the Waste Licence Application:

Table I.6(i) Ambient Noise Assessment

Third Octave analysis for noise emissions should be used to determine tonal noises

	National Grid Reference	Sound Pressure Levels		
	(5N, 5E)	L(A) _{eq}	L(A) ₁₀	L(A) ₉₀
1. SITE BOUNDARY				
Location 1:				
Location 2:				
Location 3:				
Location 4:				
2. NOISE SENSITIVE LOCATIONS				
Location 1:				
Location 2:				
Location 3:				
Location 4:				

NOTE: All locations should be identified on accompanying drawings.

Note this table is incomplete in the Waste Licence application and that insufficient information is contained within the EIS section for it to be completed. At a minimum this information should be requested for a proper review of the application, in terms of noise, to be considered by the relevant bodies.

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5.0 Summation

In summary, we have highlighted in the preceeding pages numerous issues which render the EIS and Waste Licence Application incomplete.

We respectfully request the EPA to render the Waste Licence Application invalid as there is simply no assessment of the environmental impact of the proposed development contained therein, and therefore we respectfully submit that the EPA request the application to prepare a new EIS and Waste Licence Application, which contains the additional studies and information we have highlighted as being necessary to allow the determination of the environmental impact of the construction and operation of the proposed development. Only after a new and complete application and EIS has been prepared can the EPA assess the impact of the proposed development on the environment in which our Clients and their Families live and work.

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