

**Grays Biogas Ltd
Mona AD Plant
Noise & Vibration Management System**

3407/819/B Version 1.0



Oaktree Environmental Ltd

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1.0	14/03/2016		For submission with variation application. Change in Technology Provider and increase in permit boundary

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1. CONTROL OF NOISE AND VIBRATION

The nature and infrastructure proposed including insulated acoustic enclosures, in closed tanks, restricting operating hours for certain operations and its rural location setting will keep any potential noise nuisance to a minimum. The nearest potentially affected noise-sensitive locations are residential dwellings approximately 100m east of the proposed AD facility and a residential property beyond the chicken farm approximately 170m to the north of the from the permit boundary. The road to Llangefni runs along the eastern boundary of the site, with open fields beyond. To the south and west of the site are fields and business units associated with Mona Industrial Estate. A noise survey has been carried out related to operation manoeuvring, arrival and dispatch of delivery vehicles, and the sources of noise associated with the processing and plant operation of the AD facility. Copy of the report will be attached to this document.

Noise will be related to the operation manoeuvring, arrival and despatch of the delivery vehicles fleet but the main source of noise associated with the processing of wastes will be site plant and equipment.

The vehicles which are likely to consist of tankers for the transport of liquids and tractor and associated trailers (for chicken litter and silage) will discharge their loads within the proposed reception areas. The chicken litter will be deposited within the designated reception, the silage will be deposited within the enclosed silage compounds which have 5m high containment walls. Liquid feedstocks and the resulting digestate will be discharged by pipelines into the receiving vessels/tankers. The layout of the site is such that the noise from the site will be screened as much as possible by the site infrastructure from both residential sites.

Adequate maintenance of site plant will contribute significantly to noise reduction minimising the risk of generating excessive noise. Generally all maintenance activities will be undertaken within the buildings during normal daytime hours.

The potential impact of the proposed development consisting of an AD Plant and associated CHP plant have been predicted as part of the Noise Assessment Report carried out by Miller Goodall Environmental Services. The main items of plant which have been included in the assessment include the CHP and the flare stack (for temporary use only- ie only operational during periods of maintenance and engine downtime which has been estimated to a maximum of 600 hours per year). Predictions of noise from the operational traffic, vehicle movements on site and the plant and equipment for Phase 1 were undertaken in order to assess the potential impact of noise on existing residential receptors in the vicinity of the site. Methodology described in BS 4142:2014 was used to assess the impact during day time periods and concluded that there would be a low impact for all

the assessed scenarios for Phase 1. During the assessment of the night time periods there was found to be an adverse impact at the nearest receptors. The main contributor to the total sound level predicted (the Consultant though assessed both Phase 1 &2) found that the CHP was the when assessed to BS 8233 and WHO guidelines were found to be below the recommended guidelines for internal spaces.

Mitigation was recommended in the form of enhancements to the acoustic sound insulation of the CHP container and any weak points in the container where air intakes and outlets are positioned. The operator has agreed therefore to the implementation of these recommendations and therefore the report concludes that a suitable and commensurate level of protection against noise will be provided to the occupants of the nearest sensitive dwellings.

For further details refer to the Noise Impact Assessment Report produced by Miller Goodall Environmental Services including the list of potential noise sources assessed which is attached to this Noise Management Plan in Annex 1.

When selecting new plant and equipment, consideration shall be given to the need to meet all legislation and statutory guidance including BAT standards on noise levels and to minimise levels of noise from selected equipment.

Noise monitoring at the site will consist of an assessment of noise levels by the Plant Manager or his nominated deputy using hand held equipment.

The table below identifies the likely sources of noise arising from the site activities and, the actions to be taken / procedures to be followed or planned in order to prevent or minimise levels.

<i>POTENTIAL NOISE SOURCE</i>	<i>ACTION TO BE TAKEN TO PREVENT OR MINIMISE NOISE</i>
<i>HGVs travelling to and from the site for delivery/collection of wastes/products.</i>	<ul style="list-style-type: none"> - <i>All vehicles are required to be driven onto and off site with due consideration for neighbouring premises.</i> - <i>HGV movements will be spread out evenly throughout the day.</i>
<i>Loading/unloading of waste delivery vehicles</i>	<ul style="list-style-type: none"> - <i>Vehicles must be well maintained and operated with silencers. Moving parts to be regularly lubricated. All vehicles must be driven slowly around the site (5mph site speed limit).</i> - <i>Engines to be switched off when not in use.</i> - <i>Reversing alarms to be preferentially fitted with white noise alarms to minimise impacts on neighbouring sites.</i> - <i>Drivers must lower the tipper body for inert waste deposits before driving away from the reception area.</i> - <i>No shaking of vehicle bodies whilst raised.</i>
<i>Small vehicles travelling to and from the site (e.g. staff and visitor's cars, courier van deliveries etc.)</i>	<ul style="list-style-type: none"> - <i>All those working on and visiting the site to be made aware of need for considerate driving and keeping vehicles well maintained.</i> - <i>Small vehicles will arrive marginally earlier than the main site operating hours.</i>
<i>Plant & machinery</i>	<ul style="list-style-type: none"> - <i>Full noise and vibration assessment has been carried and recommendations taken on board. Additional acoustic lining or lagging of the CHP container and on the intake and outlet points to be included.</i>

The above details and procedures are considered to meet the indicative BAT requirements within the Sector Guidance notes.

COMPLAINTS PROCEDURE

All noise complaints and the actions taken in response will be recorded and dealt with in accordance with the complaints procedure appended to the Environmental Management System Appendix Q.

ANNEX 1

Noise assessment