

Ref	Request	Full Comment / Suggested Response Approach
1	Confirm how the site will meet BAT conclusion 14 d	<p>The Operator confirms that the installation will implement appropriate measures to contain, collect and treat diffuse emissions arising from waste reception, storage and treatment activities.</p> <p>The following measures will be implemented at the installation:</p> <ul style="list-style-type: none"> <li>• Waste reception and handling activities associated with odorous materials (ABP food waste) is be undertaken within fully enclosed systems, both for waste reception as well process areas;</li> <li>• Enclosed areas operate under negative pressure to minimise the uncontrolled release of emissions;</li> <li>• Air extracted from process areas will be collected via a dedicated extraction system;</li> <li>• Collected air will be directed to an appropriate abatement system prior to discharge to atmosphere;</li> <li>• Operational controls described within the Odour Management Plan will minimise the duration of waste storage and handling activities;</li> <li>• Site inspections and maintenance procedures will ensure the continued integrity and effectiveness of containment and extraction systems.</li> </ul> <p>The Operator considers that the combination of physical containment, extraction and treatment systems, together with operational controls, satisfies the requirements of BAT Conclusion 14(d).</p> <p>The BAT Assessment has been updated accordingly to describe the containment, collection and treatment measures implemented at the installation.</p> <p>The Odour Management Plan is also updated to reflect the above description</p>
2	Provide Company Secretary contact details	<p>Company Secretary Details:  Caroline Anne Jones</p> <p>Email: <a href="mailto:caroline@guyandwright.com">caroline@guyandwright.com</a></p> <p>Tel: 07885574849</p>

3	Complete forms C2 and C3	Please find attached Forms C2 and C3 completed.
4	Justify 100,000 tpa throughput	<p>The 100,000 tonnes annual throughput has been applied for to reflect the potential theoretical capacity of the infrastructure on site. The daily tonnage figure that was supplied, reflect a more realistic throughput of the facility currently and in the near future.</p> <p>However, as the operator wants the Permit to be future proof, the daily tonnage figure has been adjusted in the application forms 274 tonnes/day. Documents in the application are also updated to reflect the daily tonnage.</p>
5	Provide air quality modelling files	Please see attached zip file ref. FM1539_Wiser_EAfiles
6	Secondary containment (C736 compliance)	<p>We can confirm that site containment systems and digestate storage infrastructure have been designed and constructed in accordance with the relevant principles and good practice requirements of:</p> <ul style="list-style-type: none"> <li>• CIRIA C736 – <i>Containment Systems for the Prevention of Pollution</i>; and</li> <li>• CIRIA C759 – guidance relating to the design and construction of engineered containment systems and lagoons.</li> </ul>
7	Lagoon construction (CIRIA C759)	<p>The site incorporates engineered secondary containment and lagoon infrastructure associated with the anaerobic digestion facility, including:</p> <ul style="list-style-type: none"> <li>• above-ground digestate holding tanks;</li> <li>• impermeable bunded containment systems;</li> <li>• engineered lined digestate lagoons;</li> <li>• enclosed feedstock and digestate transfer pipework; and</li> <li>• controlled draw-off and leak detection systems.</li> </ul> <p>The submitted engineering drawings (see folder ref. Primary and secondary containment plans) demonstrate that the above-ground holding tanks are provided with impermeable reinforced concrete secondary containment. The bund design has been constructed using C35 impermeable concrete with reinforced</p>

blockwork construction and provides a containment capacity exceeding 110% of the primary tank storage volume.

The digestate lagoons have been designed as engineered containment systems and incorporate:

- continuously seam-welded 2.5 mm HDPE liner systems;
- engineered anchor trenches containing low permeability material;
- leak detection and sampling points;
- controlled draw-off sumps;
- engineered embankment construction;
- compacted earthworks constructed in controlled layers;
- freeboard provision;
- internal and external slope stability design; and
- perimeter security fencing.

The lagoon drawings specify that:

- embankment construction and compaction are undertaken in accordance with BS 6031:2009;
- subgrade preparation removes objects and contamination capable of damaging the geomembrane;
- HDPE liner systems are continuously welded and anchored;
- leak detection infrastructure is incorporated into the lagoon design; and
- groundwater protection measures are incorporated within the containment design.

The updated twin lagoon design additionally incorporates:

- floating HDPE cover systems;

		<ul style="list-style-type: none"> <li>• rainwater collection and management measures;</li> <li>• geogrid reinforcement within embankments; and</li> <li>• interconnecting controlled transfer pipework between lagoons.</li> </ul> <p>The site layout drawings further demonstrate that feedstock and digestate transfer between process areas, tanks and lagoons is undertaken via enclosed pipework systems, reducing the risk of fugitive emissions and uncontrolled releases.</p> <p>The Operator therefore considers that the containment systems, lagoon design and associated infrastructure provide an appropriate level of environmental protection and are designed and constructed in accordance with recognised good practice for pollution prevention and containment engineering.</p>
8	Lagoon covers	<p>The existing digestate storage lagoon is not fitted with a fixed or floating cover.</p> <p>Historically the risk of significant emissions to air, including odour emissions, from the lagoon is low due to the characteristics of the stored digestate and the operation of the anaerobic digestion process.</p> <p>Digestate transferred to storage has undergone the full anaerobic digestion process and is retained within the digestion system for a sufficient period to maximise biogas generation and recovery prior to transfer to lagoon storage. As a result, the residual biodegradable fraction and remaining biogas generation potential of the stored digestate is substantially reduced.</p> <p>In addition, the stored digestate naturally forms a stable surface crust layer during storage. This crust acts as a passive barrier which reduces surface agitation and suppresses the release of residual odorous compounds and emissions to air. The formation of a natural crust layer on digestate storage systems is a recognised characteristic of stabilised digestate storage and contributes to minimising fugitive emissions from the lagoon surface.</p> <p>Operational management measures further reduce the potential for emissions, including:</p> <ul style="list-style-type: none"> <li>• minimisation of unnecessary agitation and transfer activities;</li> <li>• management of storage levels and retention times;</li> </ul>

		<ul style="list-style-type: none"> <li>• routine inspection of lagoon condition;</li> <li>• prioritisation of digestate deployment where required; and</li> <li>• implementation of the site Odour Management Plan.</li> </ul> <p>The lagoon has operated for an extended period without significant pollution incidents or substantiated odour complaints associated with digestate storage.</p> <p>In addition to the above, the proposed new twin lagoon infrastructure incorporates floating HDPE cover systems and rainwater management measures as part of the enhanced containment and environmental protection design.</p> <p>The Operator therefore considers that the existing and proposed lagoon storage arrangements provide an appropriate level of environmental protection and emission control having regard to the characteristics of the stored digestate, the operational controls in place, and the overall site-specific risk profile..</p>
9	Lagoon storage capacity (2 months)	<p>The installation incorporates multiple digestate storage systems, including engineered lagoons, digester storage capacity and associated holding tanks.</p> <p>The storage infrastructure includes:</p> <ul style="list-style-type: none"> <li>• digestate storage lagoons with a combined net storage capacity of approximately 20,000 m<sup>3</sup>;</li> <li>• additional digester storage capacity of approximately 5,000 m<sup>3</sup>; and</li> <li>• associated holding tank storage infrastructure.</li> </ul> <p>The maximum proposed throughput is approximately 274 tonnes/day. Assuming digestate density broadly equivalent to water, this equates to approximately 274 m<sup>3</sup>/day of digestate requiring storage.</p> <p>Based on the available lagoon storage capacity alone:</p> <p>274 m<sup>3</sup>/day × 61 days = 16,714 m<sup>3</sup></p> <p>The available lagoon storage capacity therefore exceeds the minimum two-month storage requirement.</p>

		<p>Additional operational flexibility and contingency storage capacity are also provided through the digester and holding tank systems shown on the submitted site layout drawings.</p> <p>The Operator therefore considers that the installation provides sufficient storage capacity to accommodate a minimum of two months digestate storage in accordance with the relevant operational and environmental management requirements.</p>																				
10	Combustion unit details (MCPD)	<p>The installation comprises four biogas-fired combined heat and power (CHP) units.</p> <p>A summary of the combustion plant is provided below.</p> <table border="1" data-bbox="586 571 1991 916"> <thead> <tr> <th>Combustion Unit</th> <th>Electrical Output</th> <th>Thermal Input (Fuel Input)</th> <th>Date Brought into Operation</th> </tr> </thead> <tbody> <tr> <td>CHP1 – MWM biogas CHP</td> <td>500 kWe</td> <td>1,195 kW</td> <td>4 April 2014</td> </tr> <tr> <td>CHP2 – MWM biogas CHP</td> <td>600 kWe</td> <td>1,441 kW</td> <td>14 March 2016</td> </tr> <tr> <td>CHP3 – TEDOM Cento 200</td> <td>200 kWe</td> <td>511 kW</td> <td>24 February 2021</td> </tr> <tr> <td>CHP4 – TEDOM Cento 200</td> <td>200 kWe</td> <td>511 kW</td> <td>22 March 2023</td> </tr> </tbody> </table> <p>The aggregated thermal input of the combustion plant is therefore approximately 3,658 kW thermal input (3.658 MWth).</p> <p>The thermal input values are based on the manufacturer stated fuel input values at full load operation.</p> <p>The Operator confirms that:</p> <ul style="list-style-type: none"> <li>the installation is not subject to a Capacity Market agreement arising from the 2014 or 2015 capacity auctions; and</li> <li>no Feed-in Tariff (FIT) preliminary accreditation application was received prior to 1 December 2016.</li> </ul>	Combustion Unit	Electrical Output	Thermal Input (Fuel Input)	Date Brought into Operation	CHP1 – MWM biogas CHP	500 kWe	1,195 kW	4 April 2014	CHP2 – MWM biogas CHP	600 kWe	1,441 kW	14 March 2016	CHP3 – TEDOM Cento 200	200 kWe	511 kW	24 February 2021	CHP4 – TEDOM Cento 200	200 kWe	511 kW	22 March 2023
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		The Operator has confirmed that the installation instead operates under Renewable Obligation Certificate (ROC) accreditation arrangements for part of the installed generating capacity.
11	Water discharge quality	We can confirm that only uncontaminated water is discharged to the drainage ditch.
12	Aerial site plan	Please see attached the site infrastructure plan annotated with:  E1 to E4: emission points of the 4 CHP units. The attached plan ref. 20160348-06D provides labelled tanks and storage containers. The attached plan ref. 20160248-07 provides details of the lagoon bunding. Please let us know if more details are needed to comply with this requirement.
13	Site-Specific Bioaerosol Risk Assessment (SSBRA)	Please see attached an SSBRA for the site ref. K163.1~09~015.