

Application reference: EPR/YP3236RW/V006

Operator: Duranta Teesside Limited

Facility: Teesside AD Power Plant EPR/YP3236RW, Forty Foot Road, Middlesbrough, TS2 1HG

This document has been prepared in response to a request for information received by the Environment Agency with respect to the above application on 4.8.26.

Responses from the operation to questions C, P and Q are outlined below.

Question C

For the new EWC codes, clearly explain how and where these will be accepted on site.

Operator Response

The additional codes requested are listed in the table below.

EWC Code	Description
02 01 99	Spent mushroom compost or discarded mushrooms from commercial mushroom cultivation
02 07 05	Sludges from onsite effluent treatment (only sludges from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa))
04 02 21	Wastes from unprocessed textile fibres (biodegradable material only)

These wastes will be accepted according to the existing procedures and using the existing facilities for receipt of solid and liquid wastes. A summary of the location and nature of waste reception facilities at the site is as follows.

1. For receipt of wastes in solid form – wastes are received in the solid material storage building inside an enclosed building.
2. For liquid waste, tankers offload inside the sludge reception hall and pump into the pre-storage tanks.

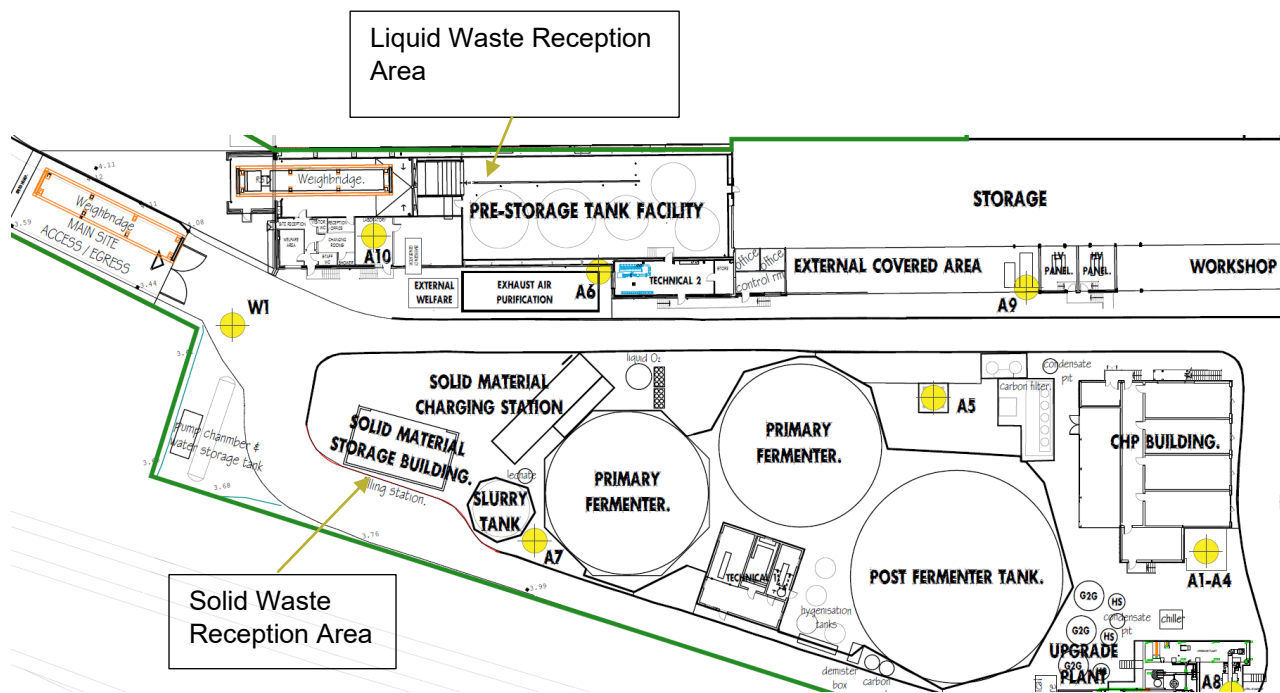
e : jo@chapmanbeck.com

t : 07715569393

www.chapmanbeck.com

Registered Company Number - 11711672

A screen shot of these areas as shown on the site emissions points and layout plan is shown below



Both reception areas are enclosed inside a building with an impermeable surface and sealed drainage system, and odorous air from both areas is collected and channeled to an odour abatement system prior to release. Further details of the abatement systems are provided in the Odour Management Plan submitted with this application, and remain fit for purpose and unchanged as a result of this application.

It should be further noted that the operator may not choose to receive these new waste codes directly at the site. However, the new ADRF¹ complaint wastes may be component wastes of any ADRF/PAS110 compliant food soup mix that might be received at the site, and as such in order for the operator to accept such food soup, these wastes codes will need to appear on the operator's site permit.

The new wastes codes will be subject to the same pre-acceptance assessment and waste reception and quarantine procedures as are currently approved and implemented at the site. These measures are also outlined in section 4 of the Odour Management Plan submitted with this application.

¹ [Anaerobic digestate: resource framework - GOV.UK](https://www.gov.uk/government/publications/anaerobic-digestate-resource-framework)

Question P

Your application states that “The plant was first commissioned in 2015 and produced electricity using Combined Heat and Power (CHP) engines. It has been subsequently expanded to include a biomethane upgrading system, which is owned and operated by Air Liquide.” Your current permit includes the biogas upgrading plant and your proposal looks to include a further biogas upgrading plant. Under our guidance ‘Legal operator and competence requirements: environmental permits’ “If contractors work at your site, you can still be classed as the legal operator if you have sufficient control of the activities carried out by your contractors. But if things change and the contractor takes over sufficient control of the activities, you must apply to have the permit transferred to them.” If Air Liquide is the owner and operator of the biogas upgrading plants, then they will need to apply for a directly associated activity permit and you would operate as a multi operator permit.

In line with guidance ‘Legal operator and competence requirements: environmental permits’ clearly explain how Duranta Teesside Limited would meet the requirements of a legal operator for the biogas upgrading plants and not Air Liquide.

Operator Response

The existing biogas upgrading unit is currently owned by Air Liquide. However, Duranta Teesside Limited is in the late stages of completing a purchasing agreement to purchase the unit from Air Liquide. The purchase process is anticipated to complete within the next few weeks and certainly before the completion of the assessment of this permit variation application. Once the purchase has been completed, Duranta Teesside will be both the owner and operator of the existing biogas upgrading unit.

The new biogas upgrading unit will be purchased, owned and operated by Duranta Teesside Limited. It should be noted that the technology specification for the new biogas upgrading unit provided with this application is for technology supplied by Bright Renewables and not Air Liquide.

As such Duranta Teesside Limited can demonstrate that they will satisfy the requirements for ‘Legal Operator’ of both the existing unit, and the new unit from day one of installation, commissioning and operations.

Question Q

On review of your proposal, it is unclear what assets the new flare will serve. i.e. if this is just the new biogas upgrading plant. Provide a clear process flow diagram that identifies the assets that the new and existing flares will serve as your waste gas inventory identifies that “off-spec biogas” will be burnt in the emergency flares. “BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns)” the flaring of “off-spec biogas” would not be considered BAT unless this was as part of the limited shutdown or diversion switchover.

Clearly explain the situations that off-spec biogas will be flared, and how this will meet BAT.

Operator Response

The existing emergency flare serves the existing plant which includes all gas (in storage, transport and use) arising from existing operations. This includes gas from the existing biogas upgrading unit. Biogas from the existing biogas upgrading unit and grid entry unit is returned to store in the secondary digester and gas stored in the secondary digester can be routed to flare in emergency/abnormal operational conditions.

The new flare will exclusively serve the new development area, so gas associated with the new digester, biogas upgrading unit and associated grid entry unit.

The wastewater and waste gas streams inventory submitted identifies 'off spec biogas from the upgrading process' as a potential waste gas stream arising from operations. The document states that this waste gas stream will be either burnt in the emergency flare but also states that it may be returned to gas storage.

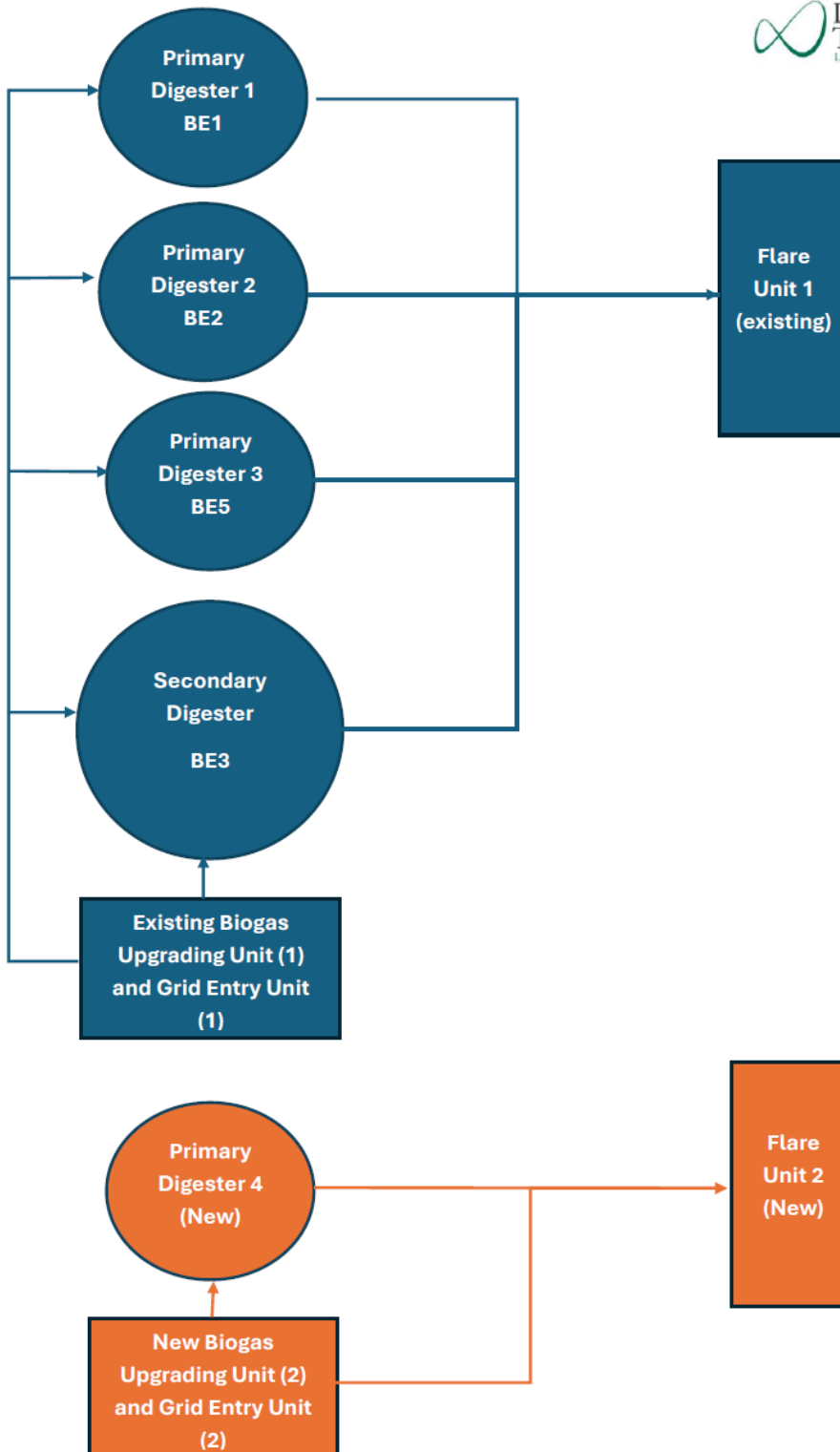
A simplified process flow diagram on the next page of this document shows this arrangement.

Under normal operating conditions, reject gas from the biogas upgrader and Grid Entry Unit (GEU) is returned to the enclosed gas storage bag in the head of the digesters. The GEU has provision for propane injection into the biomethane to meet the required gas quality specification for grid injection. The propane enrichment system is automatically stopped if the required gas quality is not achieved within 20 minutes, with manual intervention then required to identify and rectify any fault.

The reject gas is returned to the digester gas storage bag, where it is diluted within the existing biogas volume and does not present an operational issue under normal conditions.

However, under an abnormal condition, such as a failure of the propane control system, continuous enrichment or excessive propane dosing could occur, resulting in elevated propane concentrations being returned to the digester gas space. This could subsequently cause gas quality and operational issues for the downstream membrane treatment system.

Only under such abnormal conditions would the reject gas be diverted to the flare for controlled disposal. Under normal operating conditions, off spec or reject gas from the upgrader and GEU is not routed to the flare. As such the operator can demonstrate that the current and proposed flare operations at the site are in accordance with BAT. Flare usage can be demonstrated to have been designed to minimise operation and ensure use only for emergencies, during maintenance, and during unusual operational conditions to protect the integrity of the plant.



Duranta Teesside Limited
Flare Usage Process Flow
August 2026