

Permitting decisions- Refusal

We have decided to refuse the Landfill Permit Surrender application¹ for Workhouse Quarry Inert Landfill operated by Gallagher Aggregates Limited which was issued under the Environmental Permitting (England and Wales) Regulations 2016 (“EPR 2016”) as permit number BX8505IG.

The decision was issued on 05/11/2024

The facility location is Workhouse Quarry Inert Landfill, Workhouse Road, Ryarsh, West Malling, Kent, ME19 5LJ.

The application sought to surrender the permit held for the Workhouse Quarry Inert Landfill.

We consider that in reaching that decision we have taken into account all relevant considerations and legal requirements.

Purpose of this document

This decision document provides a record of the decision making process. It:

- highlights [key issues](#) in the determination
- gives reasons for refusal
- summarises the decision making process in the [decision considerations](#) section to show how the main relevant factors have been taken into account.

Read the permitting decisions in conjunction with the refusal notice.

¹ Landfill Permit Surrender Application submitted 26 October 2023

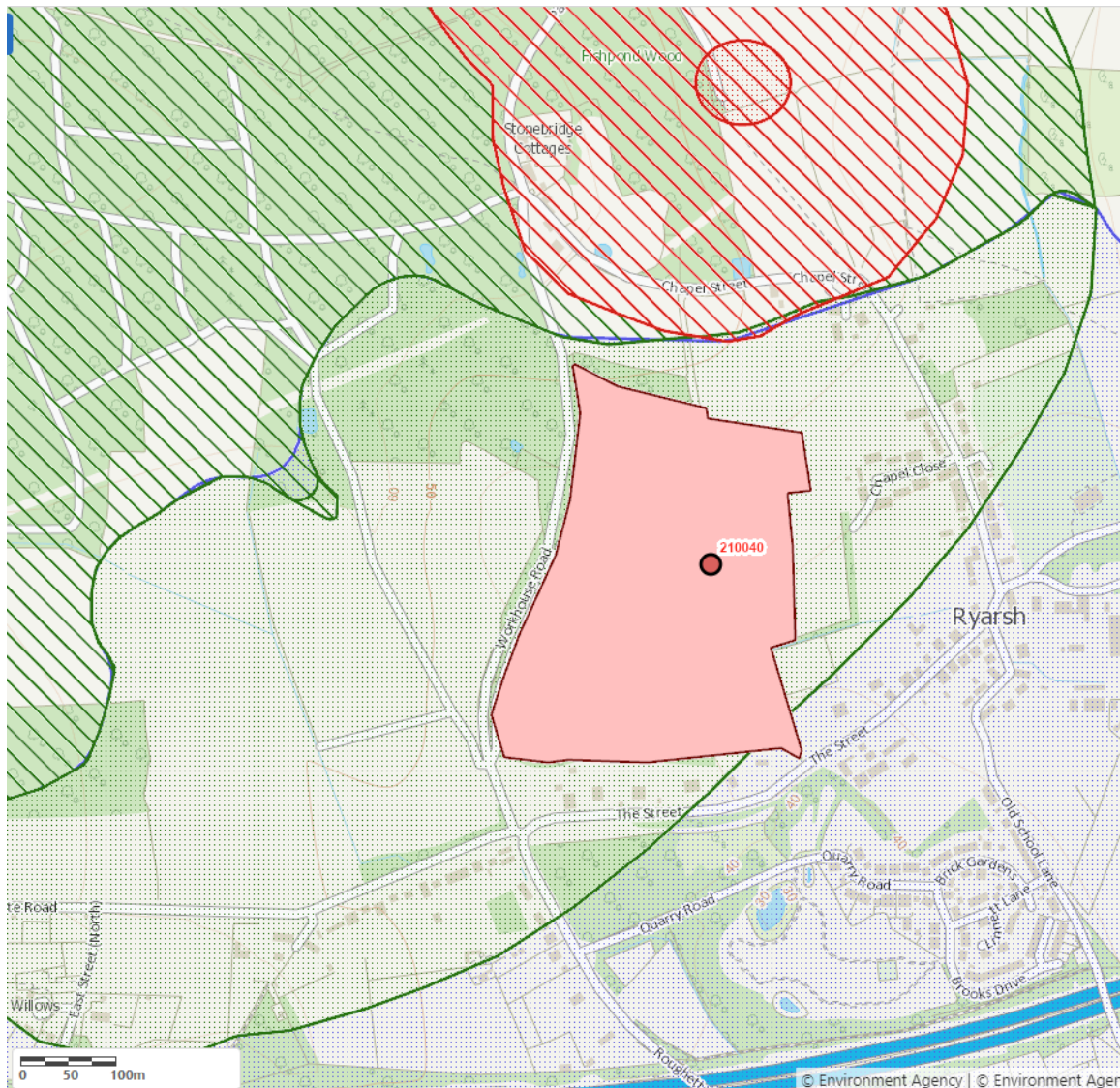
Key issues of the decision

Summary of our decision

Description of the facility

Workhouse Quarry Inert Landfill is a 10 hectare site located at Workhouse Road, Ryarsh, West Malling, Kent, ME19 5LJ. The landfill was permitted in 2005 for the acceptance of landfill directive inert waste. Waste ceased being accepted in 2011.

The site is located west of the village of Ryarsh and is located in a groundwater Source Protection Zone (“SPZ”) 2 and 3. The aquifers under the site are the Folkestone Formation and Hythe Beds Principal aquifers, separated by a 2 m thickness of the Sandgate Formation Secondary A aquifer. Residential properties are present to the south of the site on “The Street” and to the west of the site on “Chapel Close”.



The environmental permit (“the permit”) in its current form was an Agency Initiated variation issued on 28 September 2007, and required groundwater monitoring within the Folkestone Formation, perimeter gas monitoring, surface water monitoring, and an improvement condition to consider in-waste gas monitoring. Compliance “trigger levels limits” were set for two down-gradient groundwater monitoring boreholes installed in the Folkestone Formation, and for methane and carbon dioxide within the perimeter boreholes.

Additional groundwater monitoring boreholes were installed in the Hythe Beds in 2013. On 31 December 2013 the Environment Agency (“the Agency”) advised the Operator that groundwater compliance limits for these boreholes needed to be developed for the downgradient groundwater in the Hythe Beds for the closure report. This was included in a CAR form issued on 25 February 2014².

Six in-waste gas monitoring boreholes were installed in 2014. On 7 December 2012, the Agency notified the Operator in a CAR form³, that it was unlikely that the six in-waste gas monitoring boreholes would be sufficient for supporting a permit surrender application. The Operator was also advised in the CAR form issued 25 February 2014 to submit a permit application to vary the perimeter carbon dioxide gas compliance limits in line with the Industry Code of Practice as part of a closure application, neither of which has been submitted.

From a brief review of documents submitted by the Operator on 22 December 2022, relating to a surrender application together with a site closure plan, the Agency provided the Operator with advice in a letter dated 23 February 2023⁴ about additional requirements for supporting a closure or surrender application. The landfill gas risk assessment and groundwater quality review and risk assessment documents were subsequently submitted with the surrender application unchanged.

On 26 October 2023, the surrender application was submitted. Prior to ‘Duly Making’ the application on 9 February 2024, the Agency wrote⁵ to the Operator on 29 January 2024 to request further information regarding how the Operator had addressed the advice previously provided by the Agency. On 3 June 2024⁶, a notice was issued under Schedule 5 of the Environmental Permitting (England and Wales) Regulations 2016 (“EPR 2016”) (“the Notice”) which requested clarification and additional evidence from the Operator to demonstrate that the surrender test requirements were met. On 1 July 2024, the Operator submitted a response⁷ to the Notice.

² CAR form dated 25 February 2014 – In Annex 1

³ CAR form dated 7 December 2022 – In Annex 1

⁴ CAR form dated 23 February 2023 – In Annex 1

⁵ Request for Further information dated 29 January 2024

⁶ Notice issued under Schedule 5 of the EPR 2016 dated 3 June 2024

⁷ Operator’s response to the Schedule 5 Notice dated 3 June 2024

The legal framework

The Environmental Permitting (England and Wales) Regulations 2016, Schedule 5, Paragraph 14, states:

'(1) The regulator must accept an application for the surrender of an environmental permit in whole or in part under regulation 25(2) if it is satisfied that the necessary measures have been taken—

(a) to avoid a pollution risk resulting from the operation of the regulated facility; and, in the case of a permit authorising the carrying on of a flood risk activity (in whole or in part), to avoid any of the risks specified in sub-paragraph (3),

and

(b) to return the site of the regulated facility to a satisfactory state, having regard to the state of the site before the facility was put into operation.'

Based on the information provided by the Operator to the Environment Agency, the Environment Agency is not satisfied the necessary measures have been taken to meet the surrender requirements.

For this reason, our decision is to refuse this application for surrender.

The published guidance under [Landfill and deposit for recovery: aftercare and permit surrender - GOV.UK](#)⁸ includes guidance on what needs to be demonstrated for the surrender of inert landfill site permits. The relevant issues are covered under points A) and B).

A) The Operator needs to demonstrate, through waste acceptance records, that the waste accepted was inert and is not presenting a risk.

The definition of inert waste material in the Landfill Directive (Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste) is:

"...waste that does not undergo any significant physical, chemical or biological transformations. It will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollution content of the waste and the ecotoxicity of the leachate must be insignificant, and, in particular, not endanger the quality of surface water and/or groundwater".

⁸ Landfill and Deposit for Recovery Guidance at <https://www.gov.uk/government/publications/landfill-epr-502-and-other-permanent-deposits-of-waste-how-to-surrender-your-environmental-permit/landfill-and-deposit-for-recovery-aftercare-and-permit-surrender>

In order to surrender the permit the Operator needs to demonstrate that the necessary measures have been taken to avoid a pollution risk resulting from the permanent deposit of waste at Workhouse Quarry Inert Landfill, this is through evidence that the Operator complied with waste acceptance controls during the life of the site, and that ongoing active management (including monitoring) of the site is not or is no longer required. As a risk-based process the Operator must first identify any pollutants arising from the waste source (“the source”), what pathways exist for any pollution to leave the site and travel to any receptors that could be affected by that pollution.

As part of characterising the source, we expect the Operator to provide records to confirm that only inert wastes have been accepted.

These records should include but not be limited to:

- i. Waste acceptance records showing the imported waste is genuinely inert.
 - ii. Waste audit records and Compliance Assessment Report forms from the Environment Agency to demonstrate that the Operator is compliant with their waste acceptance procedures and criteria during the operational phase
- A) In case of non-compliance, evidence that the Operator removed unacceptable waste or where it was not removed evidence that the Operator has assessed the contribution that this non-compliant waste will have on emissions and confirmed its significance.

Provision of the above evidence will support an application by showing that the waste is not a source of pollution. If it is a source of pollution a description of the necessary measures put in place to avoid the risk of that pollution should be provided.

B) A review of relevant environmental monitoring

In addition to the information about the waste accepted at the site, any environmental quality monitoring data collected can provide useful supporting evidence of the state of the waste. It may also show whether any pollutants are migrating off site and posing a threat to a receptor. Depending on the site setting and permit requirements, the relevant environmental quality monitoring could include in-waste and perimeter gas monitoring, surface water and groundwater monitoring data. If there was no requirement to monitor the site during the operational and aftercare phases and records do not confirm that the waste is unlikely to cause pollution, additional investigation works may be required.

In line with the published guidance for landfill site surrender, we have reviewed the submitted information and are unable to accept that items A and B have been demonstrated as explained in the Environmental issues section below.

Environmental issues: likelihood of pollution

A) Demonstration that the waste accepted is inert and not representing a risk.

From the supporting information submitted with this application and our existing records, there is evidence that not all imported waste was genuinely inert. Evidence for either the removal or quantification of the contribution of non-compliant materials has not been provided beyond reference to the site accepting a limited amount of biodegradable material that would not represent a significant gas migration risk.

- Site inspection reports, Compliance Assessment Reports (“CAR”) between 2005 and 2010 highlight the presence of quantities of unauthorised waste material namely: tarmac, asbestos, wood, plastic, hydrocarbons, throughout the operational period of the landfill site, for example as reported on:
 - CAR form dated 9 February 2006⁹
 - Letter dated 10 August 2006¹⁰
 - CAR form dated 22 July 2007¹¹
 - CAR form dated 28 July 2007¹²
 - CAR form dated 14 August 2007¹³
 - CAR form dated 17 August 2007¹⁴
 - CAR form dated 15 September 2007¹⁵
 - CAR form dated 24 July 2008¹⁶
 - CAR form dated 1 October 2008¹⁷
 - CAR form dated 11 September 2009¹⁸
 - CAR form dated 12 April 2010¹⁹
 - CAR form dated 11 May 2010²⁰
 - CAR form dated 18 May 2010²¹
 - CAR report dated 19 May 2010.²²
- The Operator has only provided one record of a waste acceptance criteria testing in response to a Duly Making request dated 5 February 2010 after the periods of non-compliance noted above. The Operator confirmed in the

⁹ CAR form dated 9 February 2006 – In Annex 1

¹⁰ Letter dated 10 August 2006 – In Annex 1

¹¹ CAR form dated 22 July 2007 – In Annex 1

¹² CAR form dated 28 July 2007 – In Annex 1

¹³ CAR form dated 14 August 2007 – In Annex 1

¹⁴ CAR form dated 17 August 2007 – In Annex 1

¹⁵ CAR form dated 15 September 2007 – In Annex 1

¹⁶ CAR form dated 24 July 2008 – In Annex 1

¹⁷ CAR form dated 1 October 2008 – In Annex 1

¹⁸ CAR form dated 11 September 2009 – In Annex 1

¹⁹ CAR form dated 12 April 2010 – In Annex 1

²⁰ CAR form dated 11 May 2010 – In Annex 1

²¹ CAR form dated 18 May 2010 – In Annex 1

²² CAR report dated 19 May 2010 – In Annex 1

response to a schedule 5 request that the data provided also included topsoil data from the final restoration rather than that accepted to the landfill. It was also confirmed that no perched leachate data is available, and no waste samples were taken to obtain leach test quality data during the installation of in-waste monitoring boreholes.

- The information provided in the response to the Notice dated 3 June 2024 stated that the 6 in-waste boreholes represented a characterisation distribution of 1.5 boreholes per hectare, despite not providing the area that the landfill site covers in the surrender application documentation. This would only be sufficient if the site covered an area of 4 hectares, but the Operator also stated at the Duly Making stage that the site area is nearer the 9 hectares highlighted by the local area team in a CAR report dated 7 December 2012²³.
- In-waste gas monitoring data provided between October 2014 and October 2023 noted high concentrations of methane within 3 of the 6 boreholes. Since 2021 there have been two isolated exceedances of the borehole specific Qhg completion criteria of 0.7 l/hr, for methane are recorded in GMW11 and GMW10 on 26 September 2022, and for carbon dioxide in GMW12 on 26 September 2022, and 17 June 2022.

The value of 2 in-waste gas monitoring boreholes per hectare stated within the published guidance for monitoring the source was derived from guidance provided in Waste Management Paper number 26A Landfill Completion (1994)²⁴ and information on spacing of monitoring wells with a low gas hazard presented in the Ground Gas Handbook (Wilson, Card and Haines, 2009)²⁵. It was set as a minimum density as a precautionary measure based on the potential risks posed by the generation of landfill gas at inert landfill sites. Where an Operator wants to depart from this industry standard and precautionary approach, they need to produce a detailed risk based technical justification for this approach. The Operator has failed to provide any technical justification.

From the information provided in support of the surrender application that a “limited amount of biodegradable material would be present within the wastes” indicates that the waste accepted on site is not solely inert as defined in the Landfill Directive increasing the associated potential environmental risk.

Given there are no perimeter boreholes to the south of the site between the landfill and the receptors on The Street, a lack of evidence provided to demonstrate the wastes accepted were genuinely inert, and the past high levels of gas, indicates that there remains the potential for a risk from gas at the site.

²³ CAR report dated 7 December 2012 – In Annex 1

²⁴ Waste Management Paper number 26A Landfill Completion (1994)

²⁵ Ground Gas Handbook (Wilson, Card and Haines, 2009)

Since there is a lack of evidence provided to demonstrate the wastes accepted were genuinely inert, there also remains a potential for a risk to groundwater beneath the site because of the acceptance of non-compliant waste.

B) Relevant Environmental Monitoring

Due to the sensitive location of the site which is situated in a Source Protection Zone for the Principal Folkestone Formation and Hythe Beds aquifers, having set quality compliance limits within the permit, groundwater monitoring is required with downgradient boreholes installed in the Folkestone Formation.

Boreholes WMW02, WMW02A and WMW03A as the down-gradient monitoring points have not been monitored since 2014. The surrender application states this is because they are dry, but information provided in the revised groundwater risk assessment²⁶ and the 2023 monitoring data, shows that WMW02 and WMW02A are marked as damaged and blocked, while WMW03A is marked as no access. The Surrender Report²⁷ suggests that the reduction in water levels in the Folkestone Beds is due to faulting at the site that has led to a mixing of groundwater between the Folkestone and Hythe Beds through a breach in the Sandgate formation. No consideration has been given to possible reductions in groundwater levels in the Folkestone Formation due to:

- Damage to borehole installations, including silting up which has been highlighted in the data presented.
 - The removal of the site surface water lagoon that was shown to be influencing groundwater levels in the ESID contours produced in 2004²⁸ which were the only groundwater contours provided.
- Or,
- The influence on infiltration and flow from the lower permeability waste placed in the site.

The Environment Agency accepted the Operator's conceptual site model for two down-gradient boreholes (WMW03 and WMW06) to be installed in the Hythe Beds aquifer for the reduction in water levels in the Folkestone Beds. However, due to a fault with the installation at the site, this has led to a mixing of the groundwater between the units. The Operator accepted that the Hythe Beds were a secondary groundwater receptor. The only information provided by the Operator in relation to groundwater levels referred to in the revised groundwater risk assessment, was in response to the Schedule 5 Notice, namely that:

“close correlation of groundwater levels in the upgradient boreholes WMW01 (in the Folkestone Beds) and WMW05 (in the Hythe Beds) are consistent with a breach in the Sandgate beds enabling hydraulic continuity between the strata.”

²⁶ Groundwater Quality Review and Risk Assessment dated June 2024 – provided 1 July 2024

²⁷ Surrender Application Support Document dated June 2024 – provided 1 July 2024

²⁸ ESID contours produced in 2004 – provided 1 July 2024

In October 2019, borehole WMW06 was noted by the Agency as being damaged/blocked, but the Operator's reason for not repairing or replacing this borehole is that the mudstone within the Sandgate Beds above is operating as an aquiclude. This is a contradictory argument to that presented elsewhere in the supporting documentation that faulting is connecting the two Principal aquifers.

Groundwater quality data from the down-gradient boreholes installed in the Hythe Beds has been presented that shows a geochemical influence from the oxidation of pyrite, which has led to increased sulphate, arsenic, nickel and iron concentrations as well as acidic conditions resulting in a low pH. This is a recognised influence in the Lower Greensand aquifers in the area. In the 2016 report²⁹ prepared for the site stated that the oxidation, which was observed in borehole WMW03 at the time, is likely to have resulted from borehole installation and sampling techniques affecting the redox conditions. The increasing pattern was seen in borehole WMW06 until it was damaged but not in the up-gradient borehole. Due to the loss of down gradient borehole WMW06 there is no recent data to show if it follows the same pattern of declining concentrations in WMW03 that has occurred following the pyrite oxidation.

The 2016 report recommended monitoring dissolved oxygen and hydrogen sulphide concentrations. While dissolved oxygen concentrations are only referred to in the Annual Monitoring Report in 2022,³⁰ there is no interpretation for how the data supports the argument of the geochemical influence. Hydrogen sulphide gas data is only provided for the gas monitoring wells, not the groundwater monitoring wells.

Limited information from the quality of groundwater monitored in the down gradient Folkestone Beds from WMW02 in 2013 and 2014³¹ illustrates one exceedance of the sulphate and nickel trigger levels in July 2013, and nickel in July 2014. Despite there being no associated change in pH, the surrender document links this change to the pyrite influence seen in the Hythe beds. No more recent data for the Folkestone beds is available.

The Annual Monitoring Report for 2022, referred to by the Operator as evidence in support of the surrender application, states that additional groundwater monitoring data is being gathered across the site with a view to gain a better understanding of the hydrogeological processes in play at the site. No additional monitoring data is provided to show that the hydrogeological processes have been clarified, and the conflicting arguments given in relation to the groundwater receptors shows the conceptual model is not well defined.

²⁹ Assessment of Groundwater Quality, ESG stated as 2016 – provided 1 July 2024

³⁰ Annual Environmental Monitoring Report January to December 2022, Socotec dated January 2023 – provided 26 June 2023

³¹ Monitoring for WMW02 in 2013 and 2014 provided 1 July 2024

Surface Water Monitoring is required by the permit at three points (SWA as the lowest pond collection point on the site, SW2 and SW3). Discussion of the quality data collected within the surrender application is limited and statements are unjustified, with only one set of monitoring data from SWA in 2022 provided in the schedule 5 response.

The information provided has not demonstrated that the surrender test requirements have been met, due to a lack of waste characterisation and evidence to satisfy us that the landfilled wastes do not pose a continued hazard to the 'Principal Groundwater Aquifers'.

Other relevant issues

A future surrender application will need to satisfy the Environment Agency that appropriate characterisation of the waste mass is provided such that there is no pollutant risk arising from the waste source, or, that all necessary measures have been put in place to avoid the risk of pollution. Whilst it is a matter for the Operator to decide what evidence they wish to present to the Agency the submission of the following evidence would be beneficial:

i. Waste sampling and In-waste gas monitoring data

The collection of waste samples for analysis and additional in-waste gas monitoring data could provide evidence that the waste mass does not pose a pollution risk to groundwater and the residential properties within 100 m of the southern boundary of the site. We would expect the spatial distribution of boreholes and depth of samples to gather data representative of the waste accepted, this could be targeted towards areas where it is unclear if the wastes were genuinely inert, if the Operator has records of when and where waste was placed that was non-compliant. The site is around 10 hectares in size.

The monitoring should be representative of the area and depth of waste within the site to satisfy the Environment Agency that the waste source does not pose a risk. In-waste gas monitoring could be collected using continuous gas monitoring over a period of 6 months covering the environmental conditions presented in the published guidance.

The collection of continuous gas monitoring could also provide support to the arguments made that the recording of high positive and negative gas flows that frequently exceed the meter limits are sporadic and due to the presence of faulting on site leading to water displacing soil gas as groundwater flows between the two. It is currently unclear why this should occur where in-waste boreholes terminate above groundwater levels.

It is recommended that waste acceptance leachability testing of waste samples is carried out upon the drilling of additional in-waste boreholes to provide waste characterisation. This should include measurement of Total Organic Carbon testing ("TOC") as a line of evidence for a low gassing potential.

ii. **Groundwater and surface water monitoring data**

At present there is insufficient characterisation of the down-gradient groundwater quality in the 'Principal Aquifers'. The necessary requirements will depend on the waste characterisation, but this may require the reinstallation and monitoring of:

- Two down-gradient boreholes installed at the base of the Folkestone Formation.
- Replacement of the down-gradient borehole WMW06 installed within the Hythe Beds.

Full presentation of all surface water monitoring data collected at the site to justify the position made in the surrender application that there have been no trends of concern in the concentrations recorded.

iii. **Perimeter Gas monitoring data**

The installation of a minimum of one perimeter gas monitoring borehole located on the southern boundary between the site and residential properties on "The Street" would allow data to be collected to demonstrate that the non-compliant waste acceptance does not pose a risk to the neighbouring residential properties. The number of boreholes required on the southern boundary will depend on the additional in-waste gas monitoring undertaken under item i.

Decision considerations

Section 108 Deregulation Act 2015 - Growth Duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 100 of that Act in deciding whether to accept the surrender of this permit.

Paragraph 1.3 of the guidance says:

"The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation."

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of

necessary protections. This also promotes growth amongst legitimate Operators because the standards applied to the Operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Contents of Annex 1.

Reference	Title
2	CAR form dated 25 February 2014
3	CAR form dated 7 December 2022
4	CAR form dated 23 February 2023
9	CAR form dated 9 February 2006
10	Letter dated 10 August 2006
11	CAR form dated 22 July 2007
12	CAR form dated 28 July 2007
13	CAR form dated 14 August 2007
14	CAR form dated 17 August 2007
15	CAR form dated 15 September 2007
16	CAR form dated 24 July 2008
17	CAR form dated 1 October 2008
18	CAR form dated 11 September 2009
19	CAR form dated 12 April 2010
20	CAR report dated 11 May 2010
21	CAR report dated 18 May 2010
22	CAR report dated 19 May 2010
23	CAR report dated 7 December 2012