

# Permitting decisions

## Variation

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We have decided to grant the variation for Himley Quarry Landfill Site operated by Enovert North Limited (formerly known as Cory Environmental (Central) Limited).

The variation number is EPR/BV7265IS/V010.

We have also carried out an Environment Agency initiated variation to the permit.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

## Purpose of this document

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

- highlights key issues in the determination;
- summarises the decision making process in the decision checklist to show how all relevant factors have been taken into account;
- explains why we have also made an Environment Agency initiated variation; and
- shows how we have considered the consultation responses.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit and the variation notice. The introductory note summarises what the variation covers.

## Key issues of the decision

This substantial permit variation is primarily for the addition of a Section 5.4 Part A(1)(a)(i) activity – a biological leachate treatment plant (LTP) with a capacity above 50 tonnes per day to treat on-site and imported non-hazardous leachates. Changes to the landfill leachate, gas, groundwater and surface water monitoring conditions were also requested as part of this application.

### Containment of the leachate treatment plant

#### Sequencing batch reactor tank (SBR)

Leachate will be treated on-site in a reinforced concrete SBR. We have accepted the operator's proposals not to install a full secondary containment system around the SBR at the Himley Quarry Landfill Site based on the following justification.

The SBR will be constructed upon concrete surfacing and a Geosynthetic Clay Liner (GCL) to prevent spillages from the tank from entering into land and groundwater. A geo-composite leak detection layer will also be placed below the SBR. Liquid present in the detection layer will drain towards a monitoring point and from here will be sampled monthly. Samples will be tested for ammonium nitrogen and chloride as indicator substances for leachate. We have added condition 3.5.4(c) to the permit to require the operator to prevent the ingress of surface water into the leak detection layer below and around the SBR. This is to ensure that any leaks from the SBR are detected and remedial actions promptly taken.

Through their responses to our Schedule 5 Notices dated 14/08/17 and 12/10/17, the operator has demonstrated a low risk of catastrophic tank failure which could result in environmental pollution. However, as a precautionary measure, we have added conditions 3.5.4(a) and 3.5.4 (b) to the permit to require the operator to periodically inspect the external and internal surfaces of the SBR. This is to ensure that the integrity of the SBR remains satisfactory.

### Waste acceptance reception

Leachate from the Himley Quarry Landfill Site will be transferred into the onsite storage tanks through fixed pipelines, whereas imported leachates will be transported via road tanker and discharged into the storage tanks. We do not have sufficient information to confirm whether the measures proposed to contain the waste acceptance area will meet the Best Available Techniques (BAT) for the sector, as described in the 'Integrated Pollution Prevention and Control Reference Document on Best Available Techniques for the Waste Treatment Industries' (August 2006) and the 'Sector Guidance Note IPPC S5.03 Guidance for the Treatment of Landfill Leachate' (February 2007).

As a result, we have set pre-operational measure 3 to ensure that prior to the operator importing leachate, the area in which spillages may occur during the acceptance of waste is reviewed by a qualified civil or structural engineer and approved in writing by the Environment Agency. This is to ensure that the physical condition of the structure and its suitability for providing containment for the loss of tanker contents is in line with our guidance.

### Emissions to sewer

As part of the operator's application to add an LTP with disposal to sewer, we required a H1 assessment of the impact of the discharge on the water quality of the receiving watercourse. The operator's risk assessment entitled 'Himley Landfill Permit Variation – H1 Assessment' dated 1 November 2017 predicted their process contribution to contain several hazardous pollutants which would exceed 10% of the relevant Environmental Quality Standards (EQS) for the River Stour. In accordance with our web guidance 'Surface water pollution risk assessment for your environmental permit' (1 February 2016), we undertook modelling to assess the impacts of these substances.

Assessment of the discharge was based upon the maximum volumes and concentrations permitted by the operator's Trade Effluent Consent (TEC) held with Severn Trent Water Limited on a precautionary basis. We have concluded that this discharge will not cause significant deterioration of the water quality in the River Stour. Consequently, we have removed all emission limit values (ELVs) in table S3.5 of the permit. However, we have set improvement programmes IP6 and IP7 to require the operator to undertake check monitoring of free cyanide and fluoranthene in the discharge of treated leachate. The operator is required to report on the results of the monitoring to validate the conclusions of our water quality modelling within 15 months of this variation.

Pre-operational measure 4 has also been added to the permit. This requires the operator to propose a method of monitoring the content of hazardous pollutants in the imported leachates. The operator did not identify the sources of imported non-hazardous leachates in their application and so they were unable to provide actual data of their contents. The content of imported leachates will be controlled in part by the operator's waste acceptance criteria.

For hazardous pollutants in imported leachates which are not subject to the operator's TEC or waste acceptance criteria, the operator assessed their potential impacts using predicted maximum concentrations. These predictions assumed the same maximum concentrations of substances present in the Himley Quarry Landfill leachate. Although all predicted hazardous pollutants from off-site leachates have been assessed as environmentally insignificant, we have set pre-operational measure 4 to ensure that the content of hazardous substances do not exceed the predictions assessed in the H1 Assessment.

#### Landfill emissions

##### Landfill monitoring conditions - leachate

The operator applied in this variation to remove, replace and add leachate monitoring points in the permit. The Environment Agency had previously agreed with the operator for cells in SNRHW, 1, 2, 3 and 4 to contain only one extraction point and one monitoring point. Changes to this effect have been made in table S3.1 of the permit.

However, we had not previously agreed with the removal of the second monitoring point in cell 5 and we did not consider sufficient justification for this change had been provided in this application. We requested further information from the operator in our Schedule 5 Notice dated 14/08/17 but did not consider their response on 22/09/17 was sufficient to reduce the number of monitoring points required in cell 5. Consequently, we have not removed point HQMP5a from the permit. Improvement programme IP2 has been set to require an updated environmental monitoring plan, re-including HQMP5a, to be submitted to and approved by the Environment Agency.

IP2 also requires the operator to update their leachate management plan to reflect the changes to the way in which leachate is managed and monitored on site. IP2 is to be completed within 3 months of this variation

##### Landfill monitoring conditions – groundwater

This variation amends table S3.3 of the permit to recognise groundwater monitoring boreholes GW30, GW36 and GW48 as up-hydraulic-gradient of the landfill. Compliance limits have been removed from these points. However, the operator is to continue monitoring the existing parameters in samples from these boreholes to assess the data from down-hydraulic-gradient groundwater monitoring boreholes GW11F, GW20F, GW70A, GW60, GW64, GWUD SR8 and GWUD SR9.

The operator had also applied to vary the compliance limits for ammoniacal nitrogen-N and chloride for groundwater monitoring point GW60 (previously listed in the permit as GW61) and to vary the compliance limit for ammoniacal nitrogen-N for the groundwater underdrain. We did not consider sufficient justification had been provided to support these amendments and so we requested further information in our Schedule 5 Notice dated 14/08/17. We also requested the operator propose compliance limits for the new down-hydraulic-gradient groundwater monitoring boreholes. The operator declined to provide this information and requested an improvement programme to review and set limits for all down-hydraulic-gradient groundwater

boreholes. To prevent delays to the determination of the remainder of the application, we accepted this request and have set improvement programme IP3 as a result. IP3 is to be completed within 3 months of this variation.

#### New perimeter gas monitoring boreholes

This variation sought to add and replace numerous gas monitoring boreholes around the perimeter of the landfill. The operator proposed methane limits of 1% for some of the new boreholes but did not propose any compliance limits for others, including HQGMP 58a, HQGMP 63a, HQGMP 66Da and HQGMP 67Sa. The operator did not propose compliance limits for carbon dioxide for any of the new boreholes.

The landfill site is located in close proximity to many sensitive receptors, including residential and industrial properties. We reviewed the information provided by the operator and were not satisfied that this justified adding new perimeter gas boreholes without ELVs. We asked the operator to propose interim limits for all of the new perimeter gas boreholes using the data from the existing boreholes in nearby locations in our Schedule 5 Notice dated 14/08/17. The operator declined to propose interim limits in their response to the Notice on 22/09/17.

We did not agree with the operator's proposals not to include ELVs for emissions of methane from the new boreholes due to concerns about the potential for uncontrolled gas migration from the site. In the absence of satisfactory information regarding the background concentrations of methane at the site, we have set interim compliance limits of 1% for all new perimeter gas boreholes. This ELV has been derived from section 2.3.3 of our 'Guidance on the management of landfill gas' (LFTGN 03, September 2004). We have also set improvement programme IP5 for the operator to review and propose emission limits for methane and carbon dioxide for all perimeter gas boreholes within 18 months of this variation.

The operator also applied to remove perimeter gas monitoring points HQGMP 30, HQGMP 36, HQGMP 48, HQGMP 55, HQGMP 60, HQGMP 63, HQGMP 64, HQGMP 66D, HQGMP 66S, HQGMP 67D and HQGMP 67S from the permit. Some of these boreholes will be used to monitor groundwater only and others will be replaced by new boreholes. The operator has proposed to install HQGMP 30a, HQGMP 58a, HQGMP 59a, HQGMP 63a, HQGMP 64a, HQGMP 66Da, HQGMP 66Sa, HQGMP 67Da and HQGMP 67Sa. Improvement programme IP4 requires the operator to install these new boreholes and to update the monitoring locations on their site plan within 6 months of this variation.

#### Existing ELVs on perimeter gas monitoring boreholes

The operator had applied to vary the ELVs for methane at perimeter gas monitoring boreholes HQGMP 39 and HQGMP 40 and to remove the carbon dioxide ELVs for all perimeter gas boreholes from table S3.4 of the permit. We did not consider sufficient justification to have been provided for this variation and so we requested further information in our Schedule 5 Notice issued on 14/08/17. In their response to the Notice on 22/09/17, the operator withdrew this part of their application. We have therefore not amended the ELVs for methane and carbon dioxide on the existing boreholes as part of this variation.

During our review of the data provided by the operator, we identified some irregularities with the current ELVs and the monitoring data for methane and carbon dioxide emissions. The operator's explanation of this, using the site's conceptual site model, was unclear. As discussed above, we asked the operator to provide further information in a Schedule 5 Notice dated 14/08/17 but the operator declined to provide the information in their response on 22/09/17. We have therefore taken the decision to initiate a variation to the permit to require the operator to review their emission limits on all perimeter gas boreholes and to propose revised limits where necessary. This is combined into improvement programme IP5 for the setting and review of emission limits for all perimeter gas monitoring boreholes on site.

#### Ambient air monitoring

The operator applied to reduce the frequency of ambient air FID monitoring from monthly to annually. We did not consider sufficient justification to have been provided to support this proposal and so we requested

further information from the operator in our Schedule 5 Notice dated 14/08/17. The operator did not respond to our request and so we have not amended the monitoring frequency in table S3.11 of the permit.

# Decision checklist

Aspect considered	Decision
<b>Receipt of application</b>	
Confidential information	A claim for commercial or industrial confidentiality has not been made.
Identifying confidential information	We have not identified information provided as part of the application that we consider to be confidential.
<b>Consultation</b>	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>The application was publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <ul style="list-style-type: none"> <li>• Director of Public Health;</li> <li>• Public Health England;</li> <li>• Local Authority – Environmental Health; and</li> <li>• Local Authority – Planning</li> </ul> <p>The comments and our responses are summarised in the <a href="#">consultation section</a>.</p>
<b>The facility</b>	
The regulated facility	<p>We considered the extent and nature of the facility at the site in accordance with RGN 2 'Understanding the meaning of regulated facility', Appendix 1 of RGN 2 'Interpretation of Schedule 1' and Appendix 2 of RGN 2 'Defining the scope of the installation'.</p> <p>The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.</p>
<b>The site</b>	
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit.
Biodiversity, heritage, landscape and nature conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process.</p> <p>We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.</p>

Aspect considered	Decision
<b>Environmental risk assessment</b>	
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p> <p>The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment, all emissions may be categorised as environmentally insignificant.</p>
<b>Operating techniques</b>	
General operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.</p> <p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit. These are in accordance with the Reference Document on Best Available Techniques for Waste Treatment Industries (European Commission, August 2005).</p>
Operating techniques for emissions that screen out as insignificant	<p>Emissions to sewer of Ammoniacal-N, Chloride, Sulphate, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Nickel, Zinc, 1,2-Dichloroethane, Anthracene, Bentazone, Benzene, benzo(b)fluoranthene, bencon(ghi)perylene, benzo(k)fluoranthene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Linuron, Mecoprop, Nephthalene, Phenols, Styrene, Toluene, Cyanide and Tin have been screened out as insignificant, and so we agree that the applicant's proposed technique is BAT for the installation.</p> <p>Operating techniques for leachate acceptance and the control of treated effluent in the discharge to sewer are included in table S1.2 of the permit.</p>
<b>Permit conditions</b>	
Updating permit conditions during consolidation	We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permit.
Changes to the permit conditions due to an Environment Agency initiated variation	We have varied the permit as stated in the variation notice to require the operator to review the methane and carbon dioxide emission limits for all landfill perimeter gas boreholes (see <a href="#">key issues</a> above).
Use of conditions other than those from the template	<p>Based on the information in the application, we consider that we need to impose conditions other than those in our permit template.</p> <p>We have added condition 3.5.4 to the permit to require periodical internal and external inspections of the SBR tank and to prevent the ingress of water in leak detection layer of the SBR tank (see <a href="#">key issues</a> above).</p>
Waste types	We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.

Aspect considered	Decision
	<p>We are satisfied that the operator can accept these wastes for the following reasons:</p> <ul style="list-style-type: none"> <li>• they are suitable for the proposed activities;</li> <li>• the proposed infrastructure is appropriate; and</li> <li>• the environmental risk assessment is acceptable.</li> </ul> <p>The LTP is permitted to accept leachate from both on-site and off-site sources.</p>
Pre-operational conditions	<p>Based on the information in the application, we consider that we need to impose pre-operational measures 3 and 4 to ensure that the waste acceptance reception area is adequately contained and a method for monitoring the content of hazardous pollutants in leachates is agreed prior to imports commencing (see <a href="#">key issues</a> above).</p>
Improvement programme	<p>Based on the information on the application, we consider that we need to impose improvement programmes.</p> <p>We have imposed improvement programmes IP2, IP3, IP4 and IP5 to ensure that emissions from the landfill are adequately monitored and controlled and to ensure that the site's leachate management plan is updated to incorporate the new operational methods. IP6 and IP7 have been set to require check monitoring of the new emission to foul sewer (see <a href="#">key issues</a> above).</p>
Emission limits	<p>Table S3.3 and all ELVs stated in this table were deleted for point source emissions to sewer.</p> <p>Other than toluene extractable matter, oils and grease, all parameters previously contained in table S3.3 are limited by the site's Trade Effluent Consent (TEC) held with Severn Trent Water Limited. We are satisfied that oils and grease will be controlled by the sewer undertaker prior to release into surface waters. The operator has assessed the impact of the maximum concentration of toluene extractable matter on the receiving surface water through their H1 and this has been screened out as environmentally insignificant.</p> <p>ELVs for up-hydraulic-gradient groundwater monitoring boreholes GW30, GW36 and GW48 have been deleted from table S3.3. These had been erroneously listed as being down-hydraulic-gradient. Improvement programme IP3 has been added for ELVs to be set for the down-hydraulic-gradient boreholes GW11F, GW20F GW70A, GW60, GW64, GWUD SR8 and GWUD SR9.</p> <p>ELVs of 1% for methane have been added for the new perimeter gas monitoring boreholes in table S3.4. Improvement programme IP5 has been added to require the operator to review and set ELVs for methane and carbon dioxide for all perimeter gas monitoring boreholes (see <a href="#">key issues</a> above).</p> <p>ELVs were deleted from table S3.5 for point source emissions to sewer for the following parameters:</p> <ul style="list-style-type: none"> <li>• Volume;</li> <li>• Flow rate;</li> </ul>



Aspect considered	Decision
	<ul style="list-style-type: none"> <li>• pH;</li> <li>• Suspended solids;</li> <li>• Chromium;</li> <li>• Copper;</li> <li>• Lead;</li> <li>• Nickel;</li> <li>• Zinc; and</li> <li>• Ammoniacal nitrogen.</li> </ul> <p>The site's TEC contains equivalent limits and all have been assessed as environmentally insignificant in the listed maximum volumes and concentrations. All other hazardous pollutants have also been screened out as environmentally insignificant and so no emission limits have been added to table S3.5.</p>
Monitoring	<p>We have decided to require interim monitoring of treated leachate in accordance with improvement programmes IP6 and IP7. These have been set to validate the conclusions of the H1 environmental risk assessment dated 01/11/2017 and our modelling report dated 04/12/2017.</p> <p>Table S3.3 and all monitoring requirements stated in this table were deleted for point source emissions to sewer. As discussed in the above row, we are satisfied that the parameters which were contained in table S3.3 are monitored through the operator's TEC and duplication in this environmental permit is not necessary. Furthermore, the operator's assessment of toluene extractable matter demonstrates that the risk from this substances is environmentally insignificant and so we are satisfied that monitoring is no longer required.</p> <p>We have also decided that monitoring should be deleted from table S3.5 for point source emissions to sewer for the following parameters:</p> <ul style="list-style-type: none"> <li>• Volume;</li> <li>• Flow rate;</li> <li>• pH;</li> <li>• Suspended solids;</li> <li>• Chromium;</li> <li>• Copper;</li> <li>• Lead;</li> <li>• Nickel;</li> <li>• Zinc; and</li> <li>• Ammoniacal nitrogen.</li> </ul> <p>As discussed in the above row, we are satisfied that these parameters are monitored in the site's compliance with its TEC without duplicating these in the environmental permit.</p>
<b>Operator competence</b>	
Management system	There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.
Technical competence	Technical competence is required for activities permitted.

Aspect considered	Decision
	<p>The operator is a member of an agreed scheme.</p> <p>We are satisfied that the operator is technically competent.</p>
Relevant convictions	<p>The Case Management System has been checked to ensure that all relevant convictions have been declared.</p> <p>No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.</p>
Financial competence	<p>There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.</p>
<b>Growth Duty</b>	
Section 108 Deregulation Act 2015 – Growth duty	<p>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 110 of that Act in deciding whether to grant this permit.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“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.”</p> <p>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.</p> <p>We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. 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.</p>

# Consultation

The following summarises the responses to consultation with other organisations and the way in which we have considered these in the determination process.

## Responses from organisations listed in the consultation section

<b>Response received from</b>
Local Authority Environmental Safety and Health (ESH) – Dudley Metropolitan Borough Council
<b>Brief summary of issues raised</b>
ESH raised significant concerns about the potential for odour pollution from operation of the leachate treatment plant and the process of delivering and unloading leachate at the site.
<b>Summary of actions taken or show how this has been covered</b>
<p>In accordance with our Sector Guidance Note IPPC S5.03 (February 2007), we have accepted that the risk of odour pollution arising from the leachate treatment plant is low. There should be no detectable odour at a well-designed and operated leachate treatment installation.</p> <p>Contingency measures were proposed by the operator in response to our Schedule 5 Notices (dated 14/08/17 and 12/10/17), including routine maintenance of the SBR aeration equipment, dosing the leachate with an odour-neutralising agent and installing a vented roof and biofilters.</p> <p>Condition 3.3.1 of the permit requires emissions from the activity to be free from odour at levels likely to cause pollution outside the site. Should the activity give rise to odour pollution, a full management plan may be required from the operator to identify and further minimise the risk of odour pollution.</p>

<b>Response received from</b>
Public Health England (PHE)
<b>Brief summary of issues raised</b>
<p>PHE recommended that any environmental permit issued for this site contains conditions to prevent noise, particulate and dust emissions from impacting upon public health.</p> <p>Based on the information contained in the application provided, PHE had no significant concerns regarding the risk to health of the local population from this proposed activity providing that the applicant takes all appropriate measures to prevent or control pollution in accordance with the relevant sector technical guidance or industry best practice.</p>
<b>Summary of actions taken or show how this has been covered</b>
<p>As the activity applied for is to treat liquid waste, we consider the risk of dust and particulate emissions to be low. Condition 3.2.2 in the permit enables us to require an emissions management plan to identify and minimise the risks of pollution from emissions of substances not controlled by emission limits should these become an issue.</p> <p>We have accepted that the risk of noise pollution arising from the activity is low. Condition 3.4.1 of the permit requires emissions from the activities to be free from noise and vibration at levels likely to cause pollution outside the site. Should the activity give rise to noise pollution, a full management plan may be required from the operator to identify and minimise the risk of noise pollution.</p>

<b>Response received from</b>
Director of Public Health (DPH)
<b>Brief summary of issues raised</b>
<p>DPH recommended appropriate mitigations to be in place following industry best practice or technical guidance to ensure there is no impact to public health and wellbeing from noise, odours, dust and particulate emissions.</p> <p>DPH recommended that the results of any ongoing monitoring and audits of water use be openly published, that site operatives make use of appropriate protective equipment at all times when handling waste and that the site has a no smoking policy in place.</p>
<b>Summary of actions taken or show how this has been covered</b>
<p>We have accepted that there is a low risk of the leachate treatment plant causing noise or odour pollution outside of the installation boundary. As stated above, conditions 3.3.1 and 3.4.1 of the permit prohibit the activity from causing odour or noise pollution and will enable us to require odour and noise management plans in the event that pollution does arise.</p> <p>As the activity applied for is to treat liquid waste, we consider the risk of dust and particulates emissions to be low. Condition 3.2.2 in the permit enables us to require an emissions management plan to identify and minimise the risks of pollution from emissions of substances not controlled by emission limits.</p> <p>Condition 1.4.1 of the permit requires the operator to record water usage and to review the data every four years to identify opportunities to improve.</p>

<b>Response received from</b>
Local Planning Authority – Dudley Metropolitan Borough Council
<b>Brief summary of issues raised</b>
No comments
<b>Summary of actions taken or show how this has been covered</b>
None required