# AN APPLICATION TO VARY ENVIRONMENTAL PERMIT NUMBER EPR/CB3738AC FOR THE DEPOSIT OF WASTE ON LAND AS A RECOVERY ACTIVITY TO DEVELOP THE HARESHILL FARM SITE FOR HIGHWAY AND EMPLOYMENT USE AS PART OF THE WIDER SOUTH HEYWOOD DEVELOPMENT, ROCHDALE

## GAS RISK ASSESSMENT REPORT

Report reference: PCE/HA/AKM/5640/01/GRA
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## 1. Introduction

**1.1** MJCA is commissioned by P Casey Enviro Limited (PCE) to prepare and submit an application to vary Environmental Permit number EPR/CB3738AC (the permit) for the deposit of waste on land as a recovery activity to develop the Hareshill Farm Site for highway and employment use as part of the wider South Heywood development in Rochdale, Lancashire.

**1.2** The permit was issued to PCE on 8 March 2012 for the creation of a platform for the construction of an equestrian facility. Prior to the issue of the permit the site was the subject of exemptions from the need for an Environmental Permit which were in place at the time. It is understood that the deposition of waste at the site commenced in 2009 and had substantially ceased by mid-2015.

**1.3** On 31 March 2020 planning permission reference 16/01399/HYBR[1] was granted by Rochdale Borough Council for inter alia:-

> *'…the development of land at South Heywood…for the construction of a new link road between Junction 19 of the M62 and Pilsworth Road…a major mixed-use development comprising… employment uses…together with associated landscaping…drainage…cycleway and footpath linkages, infrastructure and other works ancillary thereto…'*

**1.4** To facilitate the construction of the components of the development the subject of the planning permission within the boundary of the site it is necessary to vary the permit to provide for the revisions to the ground levels compared with those currently the subject of the permit. It is also necessary to extend the permit boundary to provide for the deposition of waste materials in adjacent areas of the development site to the north west and south east of the area currently the subject of the permit. These areas are referred to as the north west and south east repositories. The waste which will be deposited in the north west and south east repositories will be placed on top of waste which was deposited historically under the exemptions from the need for an Environmental Permit. Whilst it is necessary to vary the permit to include the north west and south east repositories it is proposed only to permit the newly deposited

[1] Planning permission reference 16/01399/HYBR is the subject of a non-material amendment reference 20/00454/ANM which was issued by Rochdale Borough Council on 27 July 2020. Both the planning permission and the non-material amendment are presented at Appendix ESSD A to the ESSD report.

waste and not the underlying waste. It is estimated that it will be necessary to deposit approximately 195,600m$^3$ of inert waste materials in the repositories.

**1.5** As explained in the Application Report the ground levels in the area currently the subject of the permit exceed those the subject of the permit and generally exceed the proposed ground levels which will be developed pursuant to the planning permission[2] and some of the waste materials deposited are inconsistent with the waste types which were authorised for deposit. Extensive site investigation works have been carried out at the site and remedial measures have been proposed. In the area of the new link road where it encroaches on the eastern part of the existing permit area the waste materials have been excavated and removed from site consistent with an Operational Management Plan[3] which was agreed with the Environment Agency (EA). An application will be submitted to partially surrender the permit for the area of the link road.

**1.6** The implementation of the remedial measures for the remaining waste in the area of the site which is the subject of the permit will be the subject of Action Plans and subsequent Operational Management Plans which will be agreed with the EA. In addition to delivering ground levels pursuant to the development at the site the subject of the planning permission, the remedial measures which will be the subject of the Action Plans will remediate the remaining waste at the site such that it is consistent with the definition of inert waste specified in Section 2.1.2 of the Annex to the Council Decision of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC[4]. The remediation of the waste at the site will be the subject of a mobile plant Environmental Permit. It is anticipated that it will not be feasible to remediate all of the waste to the appropriate standard and some waste will be removed from site for management at a suitably authorised facility without being treated under the mobile plant Environmental Permit.

**1.7** It is proposed that the materials which will be deposited in the north west and south east repositories will comprise waste materials excavated from elsewhere on site.

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[2] Note that the general cut and fill balance at the site is cut within the area the subject of the current permit and fill within the repositories outside the current permit. There are areas of the site where this is not the case to ensure the delivery of the levels shown on Figure ESSD 4A. In these areas the cut and fill balance is the opposite.

[3] Hareshill Waste Recovery Site Permit – EPR/CB3738AC Operational Management Plan for the Excavation and Export off Site of excavated waste material from within the Link Road Area. Final rev2- 19th March 2021. Approved by the Environment Agency on 22 March 2021.

[4] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32003D0033&from=EN

The waste materials will be subject to rigorous Waste Deposition Procedures (WDP) to ensure that only inert waste materials are deposited. The waste materials have, in effect, already been accepted at the site although they will be subject, as necessary, to remediation such that they are inert. Accordingly, no changes to the waste codes listed in Schedule 2, Table 2.1 of the permit are proposed. In the unlikely event that it is necessary to import additional waste materials to the repositories or the currently permitted site to facilitate construction of the development platform the imported wastes will also comprise inert waste materials only and will be subject to the WDP.

**1.8** This document comprises the Gas Risk Assessment (GRA) relevant to the waste which will be deposited in the currently permitted area post-remediation and the waste which will be deposited within the north west and south east repositories. As explained above the waste which will be deposited in the north west and south east repositories will be placed on top of waste which was deposited historically under the exemptions from the need for an Environmental Permit. In addition to the waste which will be deposited in the currently permitted area post-remediation, this risk assessment is relevant only to the waste which is newly deposited as part of the development within the 3D permit boundary of the north west and south east repositories and is not relevant to the waste underlying the repositories which will lie outside the permit boundary.

**1.9** The structure of the GRA is based on the template produced by the EA entitled “Landfill Risk Assessment Report Version 1” dated March 2010. As inert waste materials only will be present at the site post remediation and as the site comprises a deposit for recovery site there are sections of the template which are not relevant although the general structure has been followed.

## 2. Gas risk assessment

**2.1** Since the gas generating potential of the inert waste deposited after remediation in the currently permitted area and within the repositories will be negligible a simple qualitative gas risk assessment methodology has been used. The assessment of risk is based on the source-pathway-receptor methodology. There will be a potential risk only if there is a source of contamination, a pathway for migration and a receptor. Details of the environmental setting of the site, the geology, the hydrogeology, the history of the site, potential contaminant migration pathways and receptors are presented in the Environmental Setting and Site Design report (ESSD) presented at Appendix B to the Application Report.

**2.2** As explained above the waste materials deposited within the currently permitted area will be remediated in accordance with Action Plans such that the waste which will remain within the currently permitted area comprises inert waste. The materials which will be deposited within the repositories will comprise inert waste. Detailed WDP will be in place to minimise the risk that unacceptable waste materials will be deposited within the site. A copy of the WDP is presented at Appendix L to the Application Report. The principle that inert waste materials may be deposited at the site has been accepted as demonstrated by the registration of exemptions from the need for an Environmental Permit and the issue of the permit.

**2.3** As only negligible quantities of potentially biodegradable waste materials which could be degraded to generate gas will be deposited after remediation within the currently permitted area or within the repositories, a source of potential gaseous contamination will not be present. As there will be no source present there is no exposure pathway and therefore no significant risk from gas.

## 3. Requisite surveillance

**3.1** Although not specified in the permit gas monitoring is currently carried out at the site on a monthly basis in a series of boreholes both within and external to the waste as detailed in Table ESSD 1 of the ESSD. The monitoring locations are shown on Figure ESSD 7[5] of the ESSD. In addition to the monthly gas monitoring carried out at the site, gas monitoring has been undertaken as part of the extensive site investigation works at the site, the results of which are given in the report on the summary of the ground conditions at the site presented at Appendix E to the ESSD and the report of a site investigation carried out by Vertase FLI in January 2021 presented at Appendix G to the ESSD.

**3.2** Gas monitoring in the boreholes will continue in accordance with Table ESSD 1 during the remediation of the site for as long as the monitoring boreholes remain in place prior to their removal as part of the construction of the development the subject of the planning permission. The removal and decommissioning of boreholes will, as necessary, be the subject of Construction Quality Assurance (CQA) which will be agreed with the EA through the submission of a CQA Plan(s) and CQA Verification Report(s).

**3.3** It is stated in the Environment Agency Waste Recovery Guidance[6] (the Recovery Guidance) that:

> *'Where your risk assessment suggests there is a risk of gas and you plan to deposit waste more than 2 metres below the surrounding ground surface, you must monitor your waste for:*
>
> - *Methane*
> - *carbon dioxide*
> - *oxygen*
>
> *You must install the appropriate number of monitoring boreholes per hectare as indicated by your risk assessment. The boreholes must extend to the full depth of the waste.*

[5] Monitoring is no longer carried out and will not be carried out in the area of the link road as the has been excavated and removed.

[6] www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/waste-recovery-plans-and-deposit-for-recovery-permits

*You can rely on searcher bar (also called spike test) monitoring where the total depth of the waste is less than 4 metres, or before the deposit is complete. You must record the atmospheric pressure when you take gas readings.'*

**3.4** As explained in Section 1 the waste materials deposited within the currently permitted area will be remediated in accordance with Action Plans such that the waste which will remain within the currently permitted area[7] will comprise inert waste. The materials which will be deposited within the repositories will comprise inert waste. As only negligible quantities of potentially biodegradable waste materials which could be degraded to generate gas will be deposited after remediation within the currently permitted area and within the repositories, a source of gaseous contamination will not be present. As there will be no source present there is no exposure pathway and therefore no significant risk from gas.

**3.5** It is proposed that a programme of confirmatory gas monitoring is carried out in the currently permitted area to confirm the effectiveness of the remedial works and to provide data for use in a subsequent application to surrender the permit for this area of the site. It is proposed that confirmatory gas monitoring of the waste is carried out both during the remediation (the operational phase) and for a period following the completion of the remediation of the waste (the post closure phase).

**3.6** In the operational phase it is proposed that the confirmatory gas monitoring will be carried out using the searcher bar technique as detailed in Table ESSD 1. The searcher bar technique is a monitoring technique which, in accordance with the EA guidance, can be used to collect monitoring data during the operational phase in all three dimensions such that data is collected progressively through the full thickness of the waste mass as the remediation and deposition of waste progresses.

**3.7** The post-closure monitoring will be discussed with the EA prior to the closure of the site as part of pre-application discussions regarding the application(s) to partially surrender/surrender the Environmental Permit. It is anticipated that the total depth of waste which will remain after the remediation in the currently permitted area will generally be less than 4m. On this basis and in accordance with the EA guidance it is anticipated that post closure monitoring in the currently permitted area will comprise

[7] And areas of the currently permitted area where the cut and fill balance is such that the deposition of waste materials will be necessary to ensure the delivery of the development platform levels.

the searcher bar technique which may be supplemented by boreholes in areas where the waste depth may exceed 4m.

**3.8** Given the inert nature of the waste that will be deposited in the north west and south east repositories and the strict WDP which will be implemented during their deposition the potential for landfill gas generation is negligible. On this basis it is considered that gas monitoring in the areas of the repositories is unnecessary. It is anticipated that application(s) to partially surrender/surrender the Environmental Permit for the north west and south east repositories will be based on the records for the waste inputs which will be used to demonstrate that inert waste materials only have been deposited in the repositories.

## 4. Conclusions

As only negligible quantities of potentially biodegradable waste materials which could be degraded to generate gas will be deposited after remediation within the currently permitted area and within the repositories, a source of gaseous contamination will not be present. As there will be no source present there is no exposure pathway and therefore no significant risk from gas. The deposit of inert waste in the currently permitted area and in the north west and south east repositories is consistent with the principles of the deposition of waste materials at the site pursuant to the registration of exemptions from the need for an Environmental Permit and the issue of the permit for the site.