

## Permitting Decisions - Variation

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We have decided to grant the variation for Dix Pit Landfill operated by Waste Recycling Group (Central) Limited.

**The variation numbers are [EPR/BV7214IR/V015](#) and [EPR/BV7214IR/V016](#).**

The variation is for:

- amend the ammoniacal nitrogen and chloride compliance limits in certain monitoring points;
- increase the annual tonnage from 120,000 to 180,000 tonnes per annum;
- include a corrected site plan in Schedule 7 of the permit;
- additional infilling of Phase 5 with inert wastes; and
- to add an additional discharge point into Dix Pit Lake.

The operator also requested the removal the ammoniacal nitrogen and chloride groundwater compliance limits for GBH 26. We have decided that there is insufficient information and evidence to justify the removal of the compliance limits. However, we have amended the limits to reflect the changes in the neighbouring boreholes.

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 considerations](#) section to show how the main relevant factors have been taken into account
- explains why we have also made an Environment Agency initiated variation
- 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.

## Key issues of the decision

### Background

Dix Pit Landfill is located at Linch Hill, Stanton Harcourt, Oxfordshire - National Grid Reference (NGR) SP 41240, 04930. The site is a non-hazardous landfill and has been operational since 1985, accepting a range of commercial, industrial and municipal wastes, and latterly in Phase 4 and over areas of Phases 2 and 3 the site has been infilled with inert waste. The Dix Pit landfill has been operated on a phased basis. Phases 1 to 3 are now capped and restored using a wide range of non-hazardous wastes.

The site is bounded to the immediate west by Dix Pit Lake with open agricultural land located to the east and south. The closest residential properties are Linch Hill Cottages, which lie adjacent to the eastern boundary and Stanton Harcourt which lies approximately 300m to the north of the site. There are industrial premises that are situated approximately 70m to the North-West and 250m to the south of the site.

The variation is to allow continued infilling of the Phase 5 area which is separated from Phase 4 by an existing bund and will be infilled with inert wastes that comply with inert waste acceptance criteria (WAC) limits. This phase will continue to be lined and the Oxford Clay provides an artificial geological barrier of at least 1 m with a hydraulic conductivity of  $<1 \times 10^{-7}$  m/s. The side wall liner will be constructed using Oxford Clay and be engineered to a hydraulic conductivity of less than or equal to  $5 \times 10^{-8}$  m/s and be keyed into the underlying clay.

Phase 5 is designed to be one continuous cell with a total void space about 298,062 m<sup>3</sup>. The annual throughput of waste at the site is increasing from 120,000 to 180,000 tonnes per year.

The variation includes an amendment to the approved final restoration contours of the landfill to reflect a revised profile that included Phase 5.

In-waste gas monitoring will be agreed for Phase 4 and 5 together via improvement conditions 7 and 8 in Table S1.3 of the permit. There are no amendments to the landfill gas compliance levels set by the previous permit variations.

### Leachate

The operator requested to reset leachate compliance levels within the site to reflect the long-term rebalancing of the external groundwater elevations with internal leachate heads.

The existing compliance regime permit the storage of up to 2m of leachate in Phases 1 and 2 while leachate heads in the more recent cells across phase 3 are managed to a maximum elevation (set at 64mAOD).

We concluded that insufficient technical assessment and understanding has been provided on the leachate management process at the site to support the proposed risk based change in leachate compliance elevation(s). We concluded that there is an associated potential increase in environmental risk at the site with regards to the volume of leachate stored in the waste mass – in particular the degree of control afforded by leachate extraction and monitoring systems across Phases 1 and 2. Therefore, we requested that the operator revise the leachate management plan (LMP) (Schedule 5 dated 30/01/23) to review and standardise the approach to leachate level compliance at the site.

The operator decided to withdraw the elements of the variation application associated with leachate level change and defer this to future discussions when the site is due to enter definitive closure (see EPR/BV7214IR/V015 Schedule 5 response, received on 06/04/23).

The site's 2021 leachate management plan (LMP) requires revision to remove references to the proposed leachate level changes sought that are currently referenced in the LMP, specifically texts in Section(s): 1.1, Section 2 (Leachate Levels), Section 4 and Section 6. Therefore, we have required the operator to revise these levels via improvement condition 10 in Table S1.3 of the permit.

We have decided that an advisory note will be provided to the operator to assist them as they revise the site's LMP ahead of compiling the closure report to allow them to progress the site towards definitive closure and better reflect the long-term aftercare conceptual site model (CSM) and which will include further detail on:

- how leachate level management and monitoring is to be sustained in pumped wells;
- the inspection and maintenance arrangements for the leachate infrastructure; and
- auditing arrangements etc along with calibration of the site's aftercare production rates against the assets / infrastructure in the site to manage the leachate volumes.

In addition, at the time that the application (EPR/BV7214IR/V015) was made (Aug 2021), further guidance has just been published by the Environment Agency to address issues associated with the Pumping of Leachate from Monitoring Wells (LIT 56478). Therefore, the advisory note will cover these elements also.

From assessment of both the current hydrogeological risk assessment (HRA) and LMP provided in support of the variation application, we have concluded there is a need for wider spatial coverage of the monitoring of leachate levels across Phases 1 and 2. This may be achieved through the resumption of formal monitoring of

leachate levels in the following wells in Phases 1 and 2 – although no compliance limits are associated with these wells:

LE1, LE2, LE3, LE4, LC4, GL1.3, GL2.4, GL3.4, GL4.1 and GL4.6 and/or (as referenced on Drawing 401M190K: LC1, LC2, LC9 and LC10.

The advisory note will suggest that the monitoring of these wells should be considered.

This is to ensure that sufficient remote leachate level data is obtained within Phases 1 and 2 beyond the 4 points of pumped monitoring from LC1R – LC4R.

From the information provided in the LMP 2021, 12 of the 19 monitoring wells across the site are pumped, with 7 wells across Phase 3 being representative of unpumped levels within the site.

There is only limited monitoring of leachate levels around the following site boundaries: Western boundary (Cell 3B and Cell 3C) and Phase 1 / 2 (eastern boundary).

Confirmation of the hard dip to base in each leachate well monitored across Phases 1 – 3 shall be reported to the Environment Agency every year.

### **Groundwater compliance limit changes**

The operator requested the amendment of groundwater compliance limits for the parameters of ammoniacal nitrogen and chloride (see Emission limits section).

We requested that the operator provide additional information and analysis (Schedule 5 dated 30/01/23) for the compliance limits in all the groundwater boreholes around Phase 1 to 3. Additionally, we requested that they submit action limits for these parameters.

We are satisfied that the statement to support the revision of compliance limits for ammoniacal nitrogen and chloride as provided is sufficient to allow the compliance levels to be amended (see Emission limits section).

However, no accompanying action limits were provided in the response to the Schedule 5 – therefore, we have required that these are set as borehole / well specific action limits, via improvement condition 9 in Table S1.3 of the permit, as well as requiring confirmation of the actions to be taken in exceedance of either an action or a compliance limit.

The operator also requested the removal the ammoniacal nitrogen and chloride groundwater compliance limits for GBH 26 due to upgradient influences from the north-western site boundary (GBH 27). We have not accepted this proposal as the proposed flow pathways around the site boundary – confirmed as being from GBH 29 to GBH 28 to GBH 27 to GBH 26 before groundwater flows eastwards from GBH26 into the wider groundwater environment. All of the wells around the site

boundary of Phases 1 – 3 are potentially down-gradient of leachate in the site should leachate levels be allowed to accumulate above the current compliance limits. This is not currently reflected in the site's HRA and will be addressed via the advisory note suggesting the HRA and LMP be updated ahead of definitive closure to support the long-term management of leachate (and associated protection of the receiving groundwater environment) through the site's aftercare period.

Therefore, we have decided that there is insufficient information and evidence to justify the removal of the compliance limits. However, we have amended the limits to reflect the changes in the neighbouring boreholes.

## **Decision considerations**

### **Confidential information**

A claim for commercial or industrial confidentiality has not been made.

### **Identifying confidential information**

We have identified information provided as part of the application that we consider to be confidential.

We have excluded part of the accident management plan from the public register as it contains personal information. A replacement document has been submitted that excludes the personal information.

The decision was taken in accordance with our guidance on confidentiality.

### **Consultation**

For variation application EPR/BV7214IR/V016 only, the consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The comments and our responses are summarised in the [consultation responses](#) section.

The application (EPR/BV7214IR/V016) was publicised on the GOV.UK website.

We consulted the following organisations:

- Food Standards Agency
- Health and Safety Executive
- Local Authority – West Oxfordshire Council and Oxfordshire County Council
- UK Health Security Agency
- Director of Public Health

The comments and our responses are summarised in the [consultation responses](#) section.

## **The regulated facility**

We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN2 'Defining the scope of the installation' and Appendix 1 of RGN 2 'Interpretation of Schedule 1'.

## **The site**

The operator has provided a plan which we consider to be satisfactory. The plan is included in the permit.

## **Nature conservation, landscape, heritage and protected species and habitat designations**

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have not consulted Natural England or other relevant Statutory Nature Conservation Body.

We have not formally consulted on the application because we have considered that the risks associated with the infilling of Phase 5 are not likely to be higher than the existing risks at the site due to the inert nature of the wastes now deposited in Phase 4 and proposed to be deposited in Phase 5.

The decision was taken in accordance with our guidance.

## **Environmental risk**

The operator's risk assessment is satisfactory.

## **General operating techniques**

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.

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

## **National Air Pollution Control Programme**

We have considered the National Air Pollution Control Programme as required by the National Emissions Ceilings Regulations 2018. By setting emission limit values in line with technical guidance we are minimising emissions to air. This will aid the delivery of national air quality targets. We do not consider that we need to include any additional conditions in this permit.

## **Changes to the permit conditions due to an Environment Agency initiated variation**

We have varied the permit as stated in the variation notice.

## **Waste types**

We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.

We are satisfied that the operator can accept these wastes for the following reasons:

- they are suitable for the proposed activities
- the proposed infrastructure is appropriate; and
- the environmental risk assessment is acceptable.

We made these decisions with respect to waste types in accordance with Guidance on the classification and assessment of waste – Technical Guidance WM3, specific guidance on GOV.uk and the requirements of the Landfill Directive.

## **Improvement programme**

Based on the information on the application, we consider that we need to include an improvement programme (also see Key information section above).

We have included an improvement programme to ensure that:

- in waste landfill gas wells are installed once the Phase 4 and Phase 5 are completed respectively (IC 7 and 8);
- appropriate and borehole specific action levels for ammoniacal nitrogen and chloride for all the boreholes (a) with compliance levels and (b) utilised for groundwater monitoring around Phases 1-3 as well as an updated action plan to be taken in exceedance of either an action or a compliance limit (IC 9); and
- A revised leachate management plan that incorporates the above action limits and plan. Also that the LMP references the correct leachate levels as the operator has withdrawn the request to amend these (IC 10).

We think the improvement programme is needed and it will achieve:

- a) The necessary number of monitoring points, in the best position to allow in-waste landfill gas monitoring to be undertaken. (For Phase 4 this requirement was previously in Table S3.8 (EPR/BV7214IR/V014), it was felt that the requirement was not very visible so in collaboration with the operator we moved it to Table S1.3 as an improvement condition).
- b) A necessary additional layer of protection to flag if we are starting to see lateral egress of leachate from the site given the changing groundwater flow patterns particularly on the eastern boundary of the site and well as an updated action plan to mitigate a rise in emissions to groundwater.

We are satisfied and consider that this improvement programme will lead to a higher level of protection to the groundwater environment and help minimise emissions of landfill gas to air.

## Emission limits

In Table S3.4, Emission Limit Values (ELVs) and equivalent parameters or technical measures have been added for the following substances:

- Ammoniacal nitrogen (AmmN), and
- Chloride (Cl)

Dix Pit Groundwater Compliance Limits				
Well	AmmN (mg/l)		Cl (mg/l)	
	Previous	Amended	Previous	Amended
A7	0.9	2	38	125
GBH 10	0.4	2	27	125



Dix Pit Groundwater Compliance Limits				
Well	AmmN (mg/l)		Cl (mg/l)	
	Previous	Amended	Previous	Amended
GBH 20	5.41	--	34	125
GBH 26	1.67	4	54	125
GBH 38	0.38	2	65	125
GBH 40	0.55	2	59.92	125
GBH 41	0.39	2	31.54	125
GBH 42	0.39	2	58.84	125

See [key issues section](#).

In table S3.2 Emissions limits have been added as a result of this variation. It is considered that the descriptive and numeric limits described below will prevent significant deterioration of receiving waters.

- Suspended Solids
- Oil and Grease
- Ammoniacal Nitrogen
- Chloride

We are satisfied that the addition of a second discharge into Dix Pit from the site with the same parameters and limits will prevent significant deterioration of receiving waters.

## Monitoring

We have decided that monitoring should be added for the following parameters, using the methods detailed and to the frequencies specified:

- a) SW2 surface water discharge point
  - Suspended Solids
  - Oil and Grease
  - Ammoniacal Nitrogen
  - Chloride
- b) Phase 5
  - Methane
  - Carbon dioxide

- Oxygen
- Carbon Monoxide
- Differential pressure
- Atmospheric pressure

We made these decisions in accordance with LFTGN 02 and LFTGN 03.

Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.

## **Management system**

We are not aware of any reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.

The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.

## **Financial competence**

There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.

## **Financial provision**

We are satisfied that the operator has made the necessary financial provision.

## **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 110 of that Act in deciding whether to grant this permit variation.

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.

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.

## **Consultation Responses**

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**

Response received from UK Health Security Agency.

Brief summary of issues raised: No significant concerns were raised providing takes all appropriate measures.

Summary of actions taken: No additional actions needed.