

Natural Resources Wales Permitting Decisions

Castle Waste Services Ltd (Roath Dock Treatment and Recycling Centre)

Decision Document

Application for a Minor Technical Variation

The application number is: PAN-029564

The permit variation number is: EPR/LP3439HM/V005

The applicant / operator is: Castle Waste Services Ltd

The Installation is located at: Old Clipper Road, Roath Dock, Cardiff, CF10 4LX

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

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

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1. Executive summary

1.1. Application summary

This application has been made to expand the current methods of waste treatment to include neutralisation with liquefied carbon dioxide. The proposed technique will be an additional step to their current processes, and there are no new activities or waste types.

1.2. Our decision

We have decided to issue the variation for Roath Dock Treatment and Recycling Centre operated by Castle Waste Services Ltd.

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.

2. Receipt of the application

The application was received on 06/06/2025. In order for us to be able to consider the application duly made, we needed more information. We requested the following:

- An additional payment, as the fee was paid in accordance with the 2024/25 charging scheme, but subject to the current charging scheme (2025/26) as the payment was made after April 2025.

A letter requesting the supplemental fee was sent to the applicant on 02/02/2026. Upon receipt of the payment on 09/02/2026, we were able to consider the application duly made. This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

3. Confidential information

A claim for commercial or industrial confidentiality has been made. We have accepted the applicants claim for commercial confidentiality and the relevant information has been excluded from the public register. The decision was taken in accordance with our guidance on commercial confidentiality. A Notice confirming this was issued to the applicant on 27/02/2026 and is available on the public register to view.

4. Legislation

The variation will be issued, under Regulation 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 which also have to be addressed.

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that the decision on this application is consistent with its general purpose of pursuing the sustainable management of natural resources (SMNR) in relation to Wales and applying the principles of SMNR. In particular, NRW acknowledges that it is a principle of sustainable management to take action to prevent significant damage to ecosystems. We consider that, in issuing the variation a high level of protection will be delivered for the environment and human health through the operation of the Installation in accordance with the permit conditions. NRW is satisfied that this decision is compatible with its general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

As the EPR regulator for Part A1 installations in Wales, NRW are required to determine any duly made Part A1 permit applications. This means that we must decide either to grant, or to refuse the variation based upon an objective assessment of the proposals

against the detailed legal requirements of EPR. Our public participation statement¹ gives more information on what can, and cannot, be taken into account when making our permitting decision.

The application, and this decision document, only considers the permitting of the facility under EPR as described throughout the document. We only assess the installation and its impacts and cannot take into consideration indirect impacts which are not as a direct result of activity within the installation boundary.

Any proposed development and wider associated activities will be required to be compliant with all relevant and applicable law, for example, environmental law, health and safety law, planning law. This other legislation acts largely independently of EPR (although they may be inter-related). Such other matters are beyond both the scope of this document, and of our regulatory remit and expertise and are not relevant to our EPR permitting decision. Ensuring compliance with all other regulation and obtaining any required consents (such as planning permission) is the responsibility of those undertaking the development and is regulated by the relevant appropriate authority for each.

5. Consultation

No consultation has been carried out on this application because the proposed changes to the activity are not likely to have any impact on the environment or human health. This decision was made in accordance the Environment Permitting Regulations (EPR), our statutory Public Participation Statement² and our Regulatory Guidance.

6. Requests for information

¹ [Natural Resources Wales / Public participation: how you can take part in our permit and licence consultations](#)

² [Natural Resources Wales / Public participation: how you can take part in our permit and licence consultations](#)

Further information was requested during determination by way of a Schedule 5 Notice requiring the applicant to provide further information relating to the sourcing (source types, derivation processes, multiple or singular source), and composition (purity, and compositional data if mixed composition) of liquefied carbon dioxide. The Schedule 5 Notice was sent on 26/03/2026 with a deadline for response of 13/04/2026.

The applicant's response to the Schedule 5 Notice was provided on 08/04/2026. The additional information supplied satisfied the requirements of the Schedule 5 Notice. The operator confirmed that the liquefied carbon dioxide is a byproduct of Anaerobic Digestion and has a high purity. Any new suppliers of liquefied carbon dioxide in the future will undergo acceptance testing.

A copy of the information notice and e-mails requesting further information were placed on our public register.

7. The Installation

7.1. The permitted activities

The regulated facility is currently an installation which comprises the following activities listed in Part 2 of Schedule 1 to the Environmental Permitting Regulations:

- A1 – Aqueous hazardous Waste
- A2 – Aqueous non-hazardous waste
- A3 – Hazardous waste recycling process
- A4 – Non-hazardous waste recycling process
- A5 – Oil water process
- A6 – Waste storage and transfer
- A7 – Cement blending

An installation may also comprise “directly associated activities”, which at this installation will include:

- A8 – Discharge of trade effluent to sewer
- A9 – Bulk storage of liquid chemicals

Together, these listed and directly associated activities comprise the installation.

7.2. What the installation will do / changes to the installation

The applicant is proposing to use a new raw material in their current operational processes for waste treatment. They are proposing to utilise liquefied carbon dioxide to neutralise alkaline Air Pollution Control residues (APCRs). The operator is already permitted for the physico-chemical treatment of waste, and the proposed change maintains most of the current procedure, with some infrastructural changes. Liquefied carbon dioxide is employed in the additional treatment of slurry and would partially or fully replace the use of waste acids for neutralisation. There is no change to the permitted activities as a result of the proposed changes, nor a change in emission profile or waste types. The proposed changes are considered an improvement to the current processes, by eliminating the need for additional effluent treatment prior to sewer discharge.

8. Operation of the installation

8.1. Operator competence

The applicant is the sole operator of the Installation. We are satisfied that the applicant is the person who will have control over the operation of the Installation after the variation is issued; and that they will be able to operate the Installation so as to comply with the conditions included in the permit. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator³.

Relevant Convictions

The applicant has declared they have no relevant convictions.

NRW's COLINS Database has been checked to confirm there are no relevant convictions.

³ [RGN 1 Understanding the meaning of 'operator' \(naturalresources.wales\)](#)

No relevant convictions were found.

Financial Provision

The applicant has declared they have no current or past bankruptcy or insolvency proceeding against them.

There is no known reason to consider that the operator will not be financially able to comply with the permit. The decision was taken in accordance with RGN 5 on Operator Competence.

Technical competence

Technical competency is required for the proposed activities. The proposed activities are within the area of waste treatment, for which the operator has previously showed technical competence, with CIWM/WAMITAB accreditation. Ensuring the Operator maintains suitable operator competency will be part of the ongoing compliance activities undertaken by NRW.

The operator satisfies the criteria in RGN 5 on Operator Competence⁴.

8.2. Environmental Management System

The applicant has an Environmental Management System (EMS) in place which has ISO 14001:2015 accreditation and is audited by an independent 3rd party.

The applicant has submitted a summary of the EMS with their application.

We have reviewed the application and are satisfied that appropriate management systems and management structures will be in place for this Installation, and that sufficient resources are available to the Operator to ensure compliance with all the Permit conditions.

Accident management

⁴ [regulatory-guidance-note-5-operator-competence.pdf \(naturalresources.wales\)](#)

An Accident Management Plan has been submitted as part of this application. We have reviewed this and are satisfied that appropriate controls are in place to help reduce the occurrence and impact of any accident that occur.

In order to ensure that the management system proposed by the applicant sufficiently manages the residual risk of accidents, permit condition 1.1.1a requires the implementation of a written management system which addresses the pollution risks associated with, amongst other things, accidents.

Site security

Having considered the information submitted in the application, we are satisfied that appropriate infrastructure and procedures will be in place prior to start up to ensure that the site remains secure.

8.3. Operating techniques

Installation activities and assessment of Best Available Techniques

As carbon dioxide is not regulated as an air pollutant under Environmental Permitting (England and Wales) Regulations 2016, the main considerations of this application were the integrity of storage vessels and associated pipework, and the assessing risk of loss of containment. The applicant has confirmed that the storage of liquefied carbon dioxide is in accordance with Code of Practice (CP) 26, which is an industry standard published by the British Compressed Gases Association (BCGA). It provides guidance on the safe installation, operation, and maintenance of bulk liquid carbon dioxide storage. No directly applicable Best Available Techniques conclusions (BATc) were identified, however the most relevant guidance found was 'BAT Reference (BREF) – Emissions from Storage', which covers storage, handling, and transfer of liquids, liquefied gases, and solids to minimise emissions to air, soil, and water, but does not reference liquefied carbon dioxide, but it was felt that there was suitable cross-over between CP 26 and BAT. The pipework was confirmed to be compliant with EN ISO 15494:2015 standards.

We have reviewed the techniques proposed and consider them in line with them to represent best practice at this installation.

We have specified that the applicant must operate the permit in accordance with descriptions in the application. See section 10.1 of this document for more information on how we have incorporated the variation into the permit and how emission limit values have been set.

9. The site

9.1. Site Plan

The applicant has provided a site plan which we consider is satisfactory, showing the extent of the site of the facility and locations of storage tanks.

The site plan is already included in the permit, and the operator will be required to carry on the permitted activities within the site boundary.

9.2. Site Condition Report

The proposal does not include the addition of any land therefore a Site Condition Report was not required to support this application.

9.3. Site protection: potentially polluting substances and prevention measures

The operator has a duty to ensure that soil and groundwater are protected in order to meet the requirements of Articles 14 (1)(b), 14(1)(e) and 16(2) of the IED.

Based upon the information in the application we are satisfied appropriate measures will be in place to protect the site and its surroundings from polluting substances.

10. Environmental Risk Assessment

Regulated activities can present different types of risk to the environment, these include odour, noise and vibration; accidents, fugitive emissions to air and water; as well as point source releases to air, water, sewer and discharges to ground or groundwater, global warming potential and generation of waste. All these factors have been considered during the determination.

In line with our guidance, the applicant has provided an environmental risk assessment with the application which identifies and the sources of key risks from the variation, possible pathways and receptors. This risk assessment and further assessments provided by the applicant and/or completed by NRW will be discussed in further detail below.

This proposal has no additional impact to emissions, and as a result we have concluded that there are no anticipated environmental or human impacts. The proposed changes are likely to be an improvement in terms of environmental impact, as the end-product of the proposed changes will have reduced concentrations of soluble metal ions.

10.1. Incorporating the variation

We have specified that the applicant must operate the permit in accordance with descriptions in the application.

These descriptions have been specified in the updated Operating Techniques table (Table S1.1) in the permit. The Directly Associated Activities (Table S1.2) and Raw materials and fuels (Table S2.1) tables have also been updated to include activities and raw materials associated with the proposed changes.

10.2. Raw Materials

As liquefied carbon dioxide is being introduced as a raw material through this proposal, we have specified limits within the permit on what type of liquefied carbon dioxide can be used as a raw material. This was based on the operator's application and is specified within the permit in the Raw materials and fuels table (Table S2.1) to ensure

no additional risks are introduced to the process through the use of contaminated or low purity liquefied carbon dioxide. We based our assessment on the liquefied carbon dioxide being clean, uncontaminated and of high purity as outlined in the operator's application and information supplied through the Schedule 5 Notice.

11. Operator review

Several minor permit changes have been proposed by the operator after their review to bring the permit up to date and correcting minor errors as explained below.

Improvement condition (IC) 3 was replaced by Pre-operational measure 4 in Table S1.4 Pre-operational measures for future development. IC4 - 10 in Table S1.3 Improvement programme requirements, were marked as completed. Pre-operational measures 1 and 2 in Table S1.4, were also marked as completed.

Monitoring frequencies in Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements, were changed for Adsorbable Organically Bound Halogens (AOX) and Hydrocarbon Oil Index (HOI) to monthly.

The limit for Hexavalent Chromium (Cr(VI)) in Table S3.3 was changed to 0.1mg/l, as it was deemed to be an error on the previous permit. In accordance with BAT 20 of the Waste Treatment BReF, the limit for Nickel was reduced to 0.5mg/l. This change was not a part of operator review but noticed at this stage.

12. OPRA

The OPRA score has not been changed as a result of this variation and remains as 232. This will form the basis for ongoing subsistence fees.