



## EPR Compliance Assessment Report

Report ID: BU0800IZ/0187282

**This form will report compliance with your permit as determined by an NRW officer**

|                                        |                                         |               |              |             |            |                 |       |
|----------------------------------------|-----------------------------------------|---------------|--------------|-------------|------------|-----------------|-------|
| Site                                   | LLANDDULAS LANDFILL SITE                |               |              | Permit Ref  | BU0800IZ   |                 |       |
| Operator/ Permit holder                | 3C Waste Limited                        |               |              |             |            |                 |       |
| Date                                   | 23 & 24/07/2013                         |               |              | Time in     | 09:30      | Out             | 17:00 |
| What parts of the permit were assessed | Landfill Gas Collection Infrastructure. |               |              |             |            |                 |       |
| Assessment                             | Audit                                   | EPR Activity: | Installation | X           | Waste Op   | Water Discharge |       |
| Recipient's name/position              | Peter Taberner / Unit Manager           |               |              |             |            |                 |       |
| Officer's name                         | Aled Zachary, Tony Roberts, Tyrone Ward |               |              | Date issued | 19/08/2013 |                 |       |

### Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

#### Permit Conditions and Compliance Summary

#### Condition(s) breached

|                                                      |                                                      |    |        |
|------------------------------------------------------|------------------------------------------------------|----|--------|
| a) Permitted activities                              | 1. Specified by permit                               | A  |        |
| b) Infrastructure                                    | 1. Engineering for prevention & control of pollution | C3 | 3.3.1; |
|                                                      | 2. Closure & decommissioning                         | N  |        |
|                                                      | 3. Site drainage engineering (clean & foul)          | N  |        |
|                                                      | 4. Containment of stored materials                   | A  |        |
|                                                      | 5. Plant and equipment                               | A  |        |
| c) General management                                | 1. Staff competency/ training                        | A  |        |
|                                                      | 2. Management system & operating procedures          | A  |        |
|                                                      | 3. Materials acceptance                              | A  |        |
|                                                      | 4. Storage handling, labelling, segregation          | A  |        |
| d) Incident management                               | 1. Site security                                     | A  |        |
|                                                      | 2. Accident, emergency & incident planning           | N  |        |
| e) Emissions                                         | 1. Air                                               | C3 | 3.3.5; |
|                                                      | 2. Land & Groundwater                                | N  |        |
|                                                      | 3. Surface water                                     | N  |        |
|                                                      | 4. Sewer                                             | N  |        |
|                                                      | 5. Waste                                             | N  |        |
| f) Amenity                                           | 1. Odour                                             | A  |        |
|                                                      | 2. Noise                                             | A  |        |
|                                                      | 3. Dust/fibres/particulates                          | A  |        |
|                                                      | 4. Pests, birds & scavengers                         | A  |        |
|                                                      | 5. Deposits on road                                  | A  |        |
| g) Monitoring and records, maintenance and reporting | 1. Monitoring of emissions & environment             | A  |        |
|                                                      | 2. Records of activity, site diary, journal & events | A  |        |
|                                                      | 3. Maintenance records                               | A  |        |
|                                                      | 4. Reporting & notification                          | A  |        |
| h) Resource efficiency                               | 1. Efficient use of raw materials                    | N  |        |
|                                                      | 2. Energy                                            | N  |        |

**KEY: C1, C2, C3, C4 = CCS breach category ( \* suspended scores are marked with an asterisk),  
A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable**

|                             |   |                                                              |   |
|-----------------------------|---|--------------------------------------------------------------|---|
| Number of breaches recorded | 2 | Total compliance score<br>(see section 5 for scoring scheme) | 8 |
|-----------------------------|---|--------------------------------------------------------------|---|

If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

## Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and completed within 14 days of an assessment.

This report should be viewed in conjunction with the Landfill Gas Review Report issued to site on **25th July 2013**.

### Gas Extraction System:

**Requirements** - Condition 3.3.1 states fugitive emissions of substances shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures have been taken to prevent or where that is not practicable to minimise those emissions.

**Findings** - A large amount of improvement work has been carried out to the gas extraction system and controls for the prevention of emissions since the previous audit in March, these improvements include:

- The majority of gas wells on site have received replacement bentonite seals; wells in the operational area have also received Fernco couplers and Flexseal formers that have increased the effectiveness and longevity of the seals.
- The operational area has received a number of new pin wells in and around the tipping face to prevent fugitive emissions and improve gas control.
- 13 new permanent gas wells have been installed on Phase 3A North.
- Permanent capping to the Northern flank of Phase 3A north has been completed.
- Gas carrier pipe work has been upgraded and relocated.
- 8 pumps have been installed in wells in the operational area to reduce perched leachate levels and improve gas collection efficacy.

This work has resulted in a significant reduction in the amount of fugitive emissions identified during the audit and a general uplift in the volume of gas being extracted from the site.

However, some significant areas of fugitive emissions remain, some of which correspond to areas of the site that in-situ monitoring demonstrated gas well efficacy to be compromised by perched leachate levels. Emissions found on the crest of Phase 3A south corresponded with no apparent flow in adjacent wells **D225, D227, D228 & D233**. Well **D185** was found to be exhibiting positive gas pressure and signs of methane enrichment in the well head space, an indication of landfill gas trapped under perched liquid (although no fugitive emission were found in the immediate vicinity). Evidence of similar issues on Phases 2 & 3 was also present. **A total of 7 wells** on the operational area have no apparent flow due to perched leachate levels, specific detail on all the wells sampled during the audit is contained within the LFG Review report issued on the 25/07/13.

Findings during the audit are further corroborated by the pumping trial data that has been submitted. Pumping of wells identified with high liquid levels has resulted in a decrease in the differential pressure usually corresponding to an increase in gas flow within individual wells.

As a result these findings have been scored a **CCS category 3** score at present due to lack of appropriate measure to minimise emissions. This is subject to review if the present level of improvement in the gas extraction system is not maintained.

**Action(s)** - As listed overleaf.

### **Fugitive Emissions:**

**Requirements** - Condition 3.3.5 states the limits for landfill gas arising from the installation shall not exceed the limits set in table S.4.11. Flame Ionisation Detector (FID) surveys are required to be conducted monthly at the site boundary and in the immediate vicinity of gas and leachate well heads and monitoring points.

**Findings** - Fugitive emissions around landfill gas and leachate infrastructure were assessed using a Gazomat portable methane detector. The following fugitive landfill gas emissions were recorded:

- Around 3000ppm and significant odour from the anchor trench of the capping at the top of the western flank of Phase 3A North.
- Around 4000ppm from LMP3/2 detected from the bentonite seal around the concrete ring.
- Around 4000ppm detected at the crest of Phase 3A South adjacent to wells D228, D227 & D225 where the anchor trench of the permanent and temporary capping meet.
- Leachate Extraction point LCF1 around 1200ppm detected from a patch seal on the concrete ring.
- Leachate Extraction point LF2 around 1200ppm detected from a hole in the concrete ring.
- Tear in temporary capping near C135 on flank adjacent to the LTP, 39% gas by volume detected.

FCC have engaged contractors JSR to conduct weekly FID checks and remediation as a result of recommendations from the March audit. Weekly survey results are validated by a further monthly site-wide FID survey. This together with other improvement works has yielded a significant reduction in the levels of fugitive emissions recorded on site.

Emissions detected on the flank of Phase 3 (opposite the leachate treatment plant) are indicative of lack of gas extraction in this area. Installing additional gas collection infrastructure in this area was discussed with Mike Bennett of Infinis and is not viewed as problematic.

Fugitive emissions from leachate infrastructure on Phase 2 allied with the gas readings from leachate extraction points LMPO4 and LMPO5, indicates there is good quality gas at depth on this phase that requires investigation and extraction.

The fugitive emissions identified during the audit have been scored a **category 3 CCS** score at present, subject to future review if emissions increase or are not addressed in a timely manner.

**Action(s)** - As listed overleaf.

|                                                                                                                                                             |                                         |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------------------|
|  <b>Cyfoeth<br/>Naturiol<br/>Cymru<br/>Natural<br/>Resources<br/>Wales</b> | <b>EPR Compliance Assessment Report</b> | Report ID: BU0800IZ/0187282 |
| <b>This form will report compliance with your permit as determined by an NRW officer</b>                                                                    |                                         |                             |
| Site                                                                                                                                                        | LLANDDULAS LANDFILL SITE                | Permit BU0800IZ             |
| Operator/ Permit                                                                                                                                            | 3C Waste Limited                        | Date 23/07/2013             |

|                                                                                                                                                                                                                                                                                                                                                        |  |                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------|
| <b>Section 3- Enforcement Response</b>                                                                                                                                                                                                                                                                                                                 |  | <b>Only one of the boxes below should be ticked</b> |
| <p>You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.</p> |  |                                                     |
| Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.                                                   |  |                                                     |
| In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.                                                                   |  | X                                                   |
| We will now consider what enforcement action is appropriate and notify you, referencing this form.                                                                                                                                                                                                                                                     |  |                                                     |

| <b>Section 4- Action(s)</b>                                                                                                                                                                                              |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done. |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |
| Criteria Ref.                                                                                                                                                                                                            | CCS Category | Action Required/Advised                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Due Date |
| See Section 1 above                                                                                                                                                                                                      |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |
| B1                                                                                                                                                                                                                       | C3           | <p>1. Leachate pumping should be extended to further gas wells in the operational area to provide greater gas control. Wells identified as containing high liquid levels should be prioritised. Additional pumps are required to be able to address all wells of concern.</p> <p>2. Phase 2 should be investigated for increasing gas extraction at depth. Please provide a plan for delivering this work with timescales for implementation.</p> <p>3. Further gas extraction infrastructure is required on the flank of Phase 3 opposite the LTP. Please provide a plan with timescales for the provision of this infrastructure.</p> | 30/09/13 |
| E1                                                                                                                                                                                                                       | C3           | 4. Improved gas extraction on leachate infrastructure LMP3/2, LCF1 & LF2 and further sealing work is required to prevent fugitive emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30/09/13 |

## Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you.

● We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.

● Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

**See our Enforcement and Civil Sanctions guidance for further information**

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

### Non-compliance scores and categories

| CCS category | Description                                                                 | Score |
|--------------|-----------------------------------------------------------------------------|-------|
| C1           | A non-compliance which could have a <b>major</b> environmental effect       | 60    |
| C2           | A non-compliance which could have a <b>significant</b> environmental effect | 31    |
| C3           | A non-compliance which could have a <b>minor</b> environmental effect       | 4     |
| C4           | A non-compliance which has <b>no</b> potential environmental effect         | 0.1   |

**Operational Risk Appraisal (Opra)** - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

## Section 6 – General Information

### Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

### Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

### Customer charter

#### What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line managers. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00–18.00) and ask for the Customer Contact team or send an email to [enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk). If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.

