

Compliance Assessment Report CAR_NRW0039044

Permit being assessed: GP3830BG.

For: Chirk Landfill Site EPR/GP3830BG, held by FCC Waste Services (UK) Limited

At: Pen-y-Bont Works , Chirk, WREXHAM, Clwyd, LL14 5AR.

Type of assessment carried out: Report/Data Review, Reason: Routine.

On 15/12/2021.

Parts of permit assessed: Hydrological Risk Assessment

NRW Lead Officer: Paul Challender.

Report sent to: Leon Terrace, Compliance Advisor, & Colin Shaw, Site Business Manager
on 17/12/2021.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
B2 - Infrastructure - Closure and decommissioning	Action only (X)	
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Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
B2	Investigate increases in groundwater levels at BH9 & BH14 and assess if elevated levels will affect slope stability outside of the landfill's engineered area.	31/03/2022
B2	Investigate causes of poor groundwater quality detected at boreholes BH09 & BH12.	31/03/2022
B2	In future HRAR reports all the monitored parameters required by Tables S3.4 & S3.8 should be extracted from the raw data and presented more clearly in the report or relevant appendix and trends discussed in the main body of the report. Presented data should comprehensively cover the relevant timeframe and identify any re-drilled wells. The data should be presented against the identification number of the well	31/05/2027

Criteria	Action needed	Complete by
	when the monitoring was conducted.	

Action criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

A Hydrological Risk Assessment Review (HRAR) was submitted to Natural Resources Wales (NRW) in late August 2021. Permit Condition 3.1.6 of GP3830BG variation 8 requires the submission of a reviewed Hydrological Risk Assessment (HRA), *(a) between nine and six months prior to the sixth anniversary of the granting of the permit, and (b) between nine and six months prior to every subsequent six years after the sixth anniversary of granting the permit.*

The original HRA was submitted in 2004 during permit application with the permit being issued in 2005. The first HRAR was submitted in 2009 and the second in 2015 (as amended and finalised in early 2016). The recent HRAR was submitted in August 2021 as per the requirement of Permit Condition 3.1.6(b). This HRAR has been prepared six years after the last review in 2015/2016. The temporal scope of the document is 2016 – 2021.

Surface Water

There have been no discharges of surface water during the data review period. Monitoring points WP4 and WP5 are only required to be monitored when the surface water discharge is operational. Therefore, WP4 & WP5 have not been monitored during the HRAR timeframe.

Monitoring has taken place at all three surface water lagoons and no exceedances of emission limits values (elvs) were detected.

Leachate Levels

Leachate levels during this timeframe were broadly compliant until issues and exceedances arose 2020. Regulatory and remediation work has been conducted by the regulator and operator respectively since the breaches of levels started to occur. Breaches of limits were reported to NRW via Schedule 5 documents. In addition, due to the ongoing work to remediate the issue, weekly leachate head reading have been submitted. An overhaul of the pumping system to bring the site back into compliance has been conducted with only the deepest well at the site, LC01D remaining an issue. Although there is an improvement of recorded leachate levels at LC01D, desilting of the well has been arranged with a third party contractor to allow the new pump to achieve a more effective. Compliance issues in regard to this ongoing issue have been the subject of earlier Compliance Assessment Reports (CAR).

Groundwater Levels

Groundwater level increases were observed in BH9 from 2018 onwards, rising to above 60m AOD from 2020. Groundwater level increases were also recorded in BH14 in 2019 and have risen to over 60m AOD. The reason for these increases are unknown. These changes do not impact upon the conceptual site model as the site is operated under the principles of hydraulic containment (groundwater levels higher than leachate levels).

BH9 and BH14 are at opposite sides of the site to each other, on or in close proximity to sloped land. The operator should consider whether the increase in groundwater levels has the potential to impact on slope stability outside of the landfill's engineered area. Also consideration should be given to if the elevated groundwater levels have a potential influence on leachate head levels, see action below.

Leachate Quality

As the HRAR was submitted in August 2021 the leachate quality data for the second half of 2021, normally collected in November has not been included as this is normally presented in the Annual Report which, is yet to be submitted.

Most priority substances are remaining largely consistent however, concentrations of nickel and mecoprop are showing a trend of increasing in concentration. The HRAR states that mecoprop data is skewed by some recent high results. The highest concentrations were found in LC4B and LC5B however, only reviewing monitoring data going forward will identify if this is a transient, localised spike or an increasing trend. In addition, there is a potential increasing trend in Zinc concentrations.

Although referred to in Section 2.2.12 of the HRAR, no monitoring data for pH, electrical conductivity, COD, BOD, temperature, ToC or ToN is included in the report with only unprocessed raw data provided in the relevant appendix. No time series graphs for the above parameters are presented in the appendix as stated by Section 2.2.12. An action has been raised due to this omission which applies to both leachate and groundwater quality data, see below.

Groundwater Quality

Manganese has been identified as exceeding elvs in BH07, BH12, BH14 and TR13. Manganese concentrations at BH14 exceed the elv in every sample. The time series graph does not show any clear temporal trends. Section 2.4.7 of the HRAR states that noncompliance of manganese in BH12 and BH14 is not related to the landfill. This statement is justified in the HRAR as the detection of manganese in the leachate is of a lower concentration. As coal mining is often associated with manganese, it is considered reasonable that offsite sources of manganese are due to the proximity of historic coal mine workings.

Zinc, mecoprop, lead, ammoniacal nitrogen are all recorded as having some exceedances in various locations. Zinc was in exceedance in BH09, BH012 and BH14 however these appear to be isolated incidents rather than a trend. BH12 & BH14 have consistently poorer quality than the other models. The operator should consider the causes for this and report back to NRW, an action is given below.

As with leachate quality, certain parameters are not clearly presented in the report or relevant appendix. For groundwater, the required parameters (temperature, PH, electrical conductivity, dissolved oxygen, COD, BOD, suspended solids, total oxidised nitrogen, or total organic carbon, calcium, TPH, toluene, or orthophosphate) are only supplied as raw data.

Monitoring data for manganese at T13 is presented. The report lists the compliance limit as N/A however, the permitted elv for T13 is 2.1mg/L. There are clear exceedances of the elv at each monitoring event with results of 5.686, 5.192, 5.227, 3.900, 4.890 mg/l.

Summary data is provided for phenol, copper, mercury, and iron in Table HRAR8. This table also provides summary data for other substances detected in groundwater. In addition, Section 2.4.18 states: *Most substances detected are major or trace substances typically found in groundwater. The presence of phenols and cresols is most likely due to the presence of coal seams and colliery spoil at the site.* No raw data or trend analysis is provided to assess whether there is any change in concentrations. The operator should monitor these parameters going forward to assess if there is an impact arising from the landfill, particularly if non-naturally occurring substances start to be detected.

Conclusion

NRW concurs with the HRAR's conclusion that the permitted site continues to pose a possible hazard to groundwater quality and therefore remains in scope of Schedule 22 of the Environmental Permitting Regulations 2016, as amended.

NRW recommends that monitoring of leachate and groundwater quality continues according to the parameters and elvs defined by the permit. The gathered data should be used to identify any changes in risk to groundwater quality and report significant environmental effects.

Actions

Action 1: Investigate increases in groundwater levels at BH9 & BH14 and assess if elevated levels will affect slope stability outside of the landfill's engineered area.

Action 2: Investigate causes of poor groundwater quality detected at boreholes BH09 & BH12.

Action 3: In future HRAR reports all the monitored parameters required by Tables S3.4 & S3.8 should be extracted from the raw data and presented more clearly in the report or relevant appendix and trends discussed in the main body of the report. Presented data should comprehensively cover the relevant timeframe and identify any re-drilled wells. The data should be presented against the identification number of the well when the monitoring was conducted.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

What are suspended scores?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry and Waste action criteria (used in section 1 and 2):

A: Permitted activities

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or 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
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.