

Compliance Assessment Report CAR_NRW0042780

Permit being assessed: AP3990LR.

For: St Modwen Developments Ltd, held by St Modwen Developments Limited

At: Llancoed House, Llandarcy, N P T, SA10 6HJ.

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

On 06/11/2023.

Parts of permit assessed: Restoration Implementation Plan & Risk Assessments

NRW Lead Officer: Sally Wakeford.

Report sent to: Elise Coalter, Regional Director - Wales on 10/11/2023.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
A1 - Specified by permit	Action only (X)	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	C3 Minor	4.2.2

Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
1	4

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
A1	Provide an initial Hydrogeological Risk Assessment in line with NRW's comments, for compliance with IP1.	10/05/2024
G1	Provide Annual Monitoring Report 2022 within 1 month of this CAR Form	10/12/2023

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

This Compliance Report has been compiled as an NRW response to the Restoration Implementation Plan (RIP) Report Ref: R1870/23/5260 – Draft, August 2023, along with the formal reply to NRW CAR Form CAR_NRW0041970 and the presentation provided during the meeting on 21 June 2023.

Boundary:

Permit Condition 2.2.1 – “the activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.”

At present the site boundary is located on the top of the ash bund, rather than running further to the North and East. It was not picked up during the determination of the partial surrender in 2017 that the area was not included in the new plan provided by the Operator, and no documentation had been provided that allowed this part of the permit to be assessed for surrender. It was subsequently removed from the permit.

At present the NAPL collection and skimming, which is an activity associated with the landfill, is operating outside of the permit boundary. This means that polluting matter is escaping the permit boundary, however due to the error with the permit boundary this area should be within it.

NRW will be rectifying this to ensure the boundary is placed back to the location it was previously, leaving out only those parts which were satisfactorily surrendered.

If the Operator is not in approval of this boundary change, then all operations, including pollution prevention measures will have to be completed within the permit boundary, and any NAPL found in the trenches outside of the permit boundary could be seen as a permit breach and marked as a non-compliance.

A new site plan will be sent to the Operator prior to the required paperwork being submitted to the NRW Permitting Team.

With regards to the response to the boundary change in an email from Andrew Bates (Englobe) on 26/09/2023, the boundary it appears will be directly in line with the boundary of the Crymlyn Bog SSSI. The implications and practicalities on the presented restoration plan are that you must ensure no leachate/NAPL escapes the permit boundary.

Conceptual Site Model (CSM) and the Hydrogeological Risk Assessment (HRA):

Geoscience previously made a number of comments relating to the hydrogeological considerations within the Conceptual Site Model (CSM) and the Hydrogeological Risk Assessment (HRA), including the Detailed Quantitative Risk Assessment (DQRA) modelling that has been undertaken. EnGlobe have since submitted the Restoration Implementation Plan (RIP) (Report Ref: R1870/23/5260 – Draft, August 2023), which aimed to provide greater detail on the proposed oil containment wall, NAPL recovery and the full human health risk assessment. We have reviewed the information presented within the RIP. We note that the report provides a summary of the HRA, which is also presented as Appendix E. We note that the majority of comments previously raised by NRW in response to the submission of HRA standalone documentation have not been addressed, nor has narrative as to why they have not been addressed been included. Our previous

comments therefore remain and have been included below for reference (some minor amendments have been included).

A main point of discussion during the June 2023 face to face meeting, and an action on Geoscience to take away to consider, was in relation to the compliance requirements at the downgradient boundary of the Site, at the point at which the Site meets the Crymlyn Bog. The assessment of compliance requires the consideration of a number of factors, including groundwater protection legislation, habitats regulation and the protection of designated features. We recognise that there does also need to be consideration of the pollution, both historical and current, which has occurred at the site and resulted in the contamination of the Crymlyn Bog at and beyond the boundary of the Site. As such, we have undertaken a multidisciplinary assessment of this and have consulted internally with specialists in these areas to ensure an appropriate, protective and proportionate approach is agreed as a way forward. Our approach to regulating sites with historical contamination and on-going residual impact is to assess the risk profile of the site, and the significance of any risk on identified receptors. There is a known and established source-pathway-receptor linkage at the Site. The primary receptor, the Crymlyn Bog, is designated as a Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC), with the designation boundary running directly alongside the landfill tip boundary. The protected features have been identified to encompass all of the wetland habitat throughout Crymlyn Bog, including adjacent to the landfill Site. Ecological impacts from contamination (both historical, as well as any ongoing hydrocarbon migration) on all the habitats features is principally nutrient enrichment, which can negatively affect and alter the plant communities.

In line with [groundwater protection principles](#), the prevent and limit requirement applies; that is to prevent the input of hazardous substances and limit the input of non-hazardous pollutants. In line with relevant guidance linked throughout this response, the risk assessment and subsequent remedial targets should seek to prevent or limit the continued input of pollutants into groundwater and not take any account of historical groundwater contamination unless this is overridden by sustainability considerations. Where existing groundwater contamination is present, the aim of the risk assessment and subsequent remedial targets is to avoid groundwater contamination causing harm to human or ecological users of the water. Contaminants of concern relevant to the Site should be considered within the risk assessment based on the results of monitoring at the site; we recommend this also includes ammoniacal nitrogen due to the nature of the receptor. Further comments relating specifically to the hydrogeological risk assessment are included below.

Our position previously stated, encompassing the specialist comments, remains; we will assess this application and follow all proper procedures as required for any other SSSI/SAC site, irrespective of the historical contamination. Our advice, therefore, is that the focus at the Site should be to prevent or minimise any further migration of contamination (both surface leakage and sub-surface migration) from the landfill tip into the Crymlyn Bog at the downgradient boundary. In line with this, please also take into account specific comments made previously and re-iterated below relating to the permit boundary.

Controlled Waters Risk Assessment / Hydrogeological Risk Assessment

We note an updated version of the Controlled Waters DQRA (March 2023) has been prepared and is presented in Appendix E of the Restoration Implementation Plan. Whilst some further information has been included, previous NRW comments relating to

fundamental aspects of the DQRA have not yet been addressed. As such, the current Controlled Water Risk assessment proposed as part of the Hydrogeological Risk Assessment is not accepted by NRW.

Some high levels comments on the reasoning behind this are included below:

- **Compliance point:** It is noted that the current compliance point has been set 10m and 50m beyond the boundary of the site, into the Crymlyn Bog. For the protection of the receptor, we advise that the point of compliance should be set at the down-gradient boundary where the landfill meets the Crymlyn Bog to prevent the entry of further contamination into the Bog.
- **Relevant guidance:** [Land contamination groundwater compliance points: quantitative risk assessments - GOV.UK \(www.gov.uk\)](http://www.gov.uk); *this covers the leaching of contaminants from soils into groundwater and the assessment of risk where there is existing groundwater contamination.*
 - We note from the HRA the following statement: *“Along the northern boundary with the key receptor the distance between permit boundary and receptor is approximately 15 to 30 m and attenuation in this zone has been ignored in the derivation of assessment criteria, which is conservative”*. We refer to our previous response where it was set out clearly by NRW that the permit boundary had, at some point, been moved on the plans provided. Our previous comments included the following statement: *“At present the perimeter trench which lies to the North of the site, and beyond the ash bund, is actively being used as a pollution prevention method to reduce the amount of oil entering the bog. This is outside the current permit boundary, as such the site is actively allowing visible polluting matter from this landfill to escape outside the permit boundary. This would be considered a significant breach of permit and require the site to take essential measures to prevent the pollution escaping site and NRW having to take enforcement action. However, it is our understanding that this perimeter trench is located within the pre-surrender permit boundary to the North of the site”*.
- **Permit Boundary:** As outlined in our previous response, it is the intention of NRW to reinstate the permit boundary to its original location and therefore the permit boundary will be adjacent to the boundary of the SSSI. The current HRA submitted does not reflect this change.
- **Model Selection:** When considering the risk assessment, the most appropriate modelling tool should be used to most accurately represent site conditions, with due consideration given to the variability of the input parameters.
- **Material modelled:** It is noted that the current RTM models the Crymlyn Bog as the source is assumed as the downgradient boundary and the compliance point is within the Bog itself. Based on our above position re: the compliance point, the material to be modelled would be the waste mass itself as opposed to the Bog
- **NAPL:** We note NAPL is still being recovered from the perimeter trench. Where NAPL remains present, you must minimise further entry of hazardous substances from the overlying unsaturated zone and minimise the expansion of the plume to

prevent further pollution. In line with guidance, you need to manage the contamination to ensure you

- Remove or control NAPL where its migration could present an unacceptable risk;
- Remove or control residual NAPL where its dissolution or volatilisation could present an unacceptable risk; and/or
- Remediate dissolved phase or vapour phase hydrocarbons where they could cause an unacceptable risk.

In order to deliver the above, NAPL migration via surface leakage or sub-surface migration should be prevented beyond the boundary of the Site.

- As a further note, when considering the risk assessment, a Level 4 RTM assessment (allowing for dilution in the receptor) would not be deemed acceptable in this case in line with [relevant guidance](#).

Additional comments:

- The RTM sheets appended to the DQRA report are an output from a bespoke tool. Whilst the inclusion of these is not a problem, it is standard practice to also include the Environment Agency RTM workbooks for one or more contaminant(s) for full visibility of input parameters and the show a QA/Qc that the bespoke sheet is calibrated correctly.
- We acknowledge the receipt of the monthly monitoring datasets collected in 2022. However, we still have yet to receive the 2022 Annual Monitoring Report summarising this dataset and putting it within the context of the site and the historical datasets. This should also include information on groundwater monitoring results and any NAPL observations (LNAPL and DNAPL).
- Sampling for emerging contaminants is suggested as part of the Closure and Aftercare Monitoring Plan; it would seem prudent to commence this monitoring now to start collecting the dataset prior to the commencement of the Closure and Aftercare Monitoring (noting we are not in a position currently to progress to this phase of monitoring)

Comments on Surrender:

Crymlyn Tip is in closure. It is continually requested that NRW confirm that the methods laid out in the documents supplied will allow the operator to be on the “path to surrender”. Whilst we can (and have) provided guidance on surrender, we cannot pre-determine the surrender of a site permit.

Improvement Programme Requirements:

In 2010 the Operator was issued with a permit variation requiring some improvements which need to be made.

IP1 states: “*Review of Hydrogeological Risk Assessment, Stability Risk Assessment and Gas Risk Assessment reports shall be undertaken by the operator at key stages of the development of the landfill as agreed with [Natural Resources Wales] and shall be submitted to [Natural Resources Wales] for written approval.*”

NRW has approved the initial Stability Risk Assessment and Gas Risk Assessment provided in 2023. These will need revision at key stages of the development of the landfill.

As yet the Operator has failed to provide an initial Hydrogeological Risk Assessment which meets the approval of NRW. To ensure initial compliance with IP1, the Operator must provide an appropriate initial Hydrogeological Risk Assessment for approval to NRW. We would consider 6 months an appropriate time frame to complete this report.

If you are lacking information to complete this, please contact us to arrange a different time frame providing details of how long each step of the process will take.

IP2 states: *"The operator shall submit a closure and aftercare management plan to [Natural Resources Wales] for written approval"* with a time frame of "as agreed in writing with [Natural Resources Wales]."

Until such time as the Hydrogeological Risk Assessment has been approved, we would not consider you to be able to comply with IP2.

Annual Monitoring Returns:

G1 – Monitoring of emissions and the environment – Cat 3 – Permit condition 4.2.2.

You have been given a category 3 breach under the above condition because you have failed to submit, by 31 January 2023 the Annual Monitoring Report of 2022.

Permit condition 4.2.2 states: *"A report or reports on the performance of the activities over the previous year shall be submitted to [Natural Resources Wales] by 31 January (or other date agreed in writing by [Natural Resources Wales]) each year. (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this site and any agreed amendments thereto;"*

NRW have previously requested the Annual Monitoring Report 2022 in CAR_NRW0041970 dated 13/06/2023. It is noted that the data for the 2022 annual monitoring returns was included in the Appendices for the RIP however the assessments have not been carried out and provided to NRW.

ACTION: Please provide Annual Monitoring Report 2022 within 1 month of this CAR Form.

Summary of Operator Actions:

- Provide Hydrogeological Risk Assessment, which takes into account all the comments made in this CAR form, within 6 months of the date of this report, or as otherwise agreed in writing with NRW.
- Provide 2022 Annual Monitoring Report within 1 month of this CAR form.

Further comments on RIP

CQA Plan proposals:

1. Robust justification for the proposal of a permeable cap would be required once an acceptable HRA has been completed.
2. Further design considerations relating to the bentonite/cement cut of wall and the proposed depth need to be provided following completion of an acceptable HRA.
3. The proposed technique to form the wall is to excavate the trench with a long reach excavator using slurry to support the trench walls. Considering the inherent excavation instability of the ash bund material and the proximity to the bog there needs to be specific mitigation measures agreed to protect slurry contamination of the bog, which have not been submitted yet.
4. Glasstech material: The new proposal for this granular material is to fill in the 'Santander drainage trench' and then cover with the restoration soils. This may form a buried drainage channel within the tip. NRW is concerned there may be a risk it will collect and form a groundwater pathway for pollutants towards the Bog.

END

Any compliance criteria not highlighted in the above summary should be considered as not assessed.

In this document 'Natural Resources Wales' means the Natural Resources Body for Wales established by Article 3 of the Natural Resource Body for Wales (Establishment) Order 2012.

You should note that the Natural Resources Body for Wales has been formed by bringing together the Countryside Council for Wales, Forestry Commission Wales and Environment Agency Wales. The Natural Resources Body for Wales has been empowered to exercise Welsh devolved functions since 1st April 2013 and has, generally, taken over the responsibilities of the Countryside Council for Wales, the Forestry Commissioners and the Environment Agency for Wales.

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.