Compliance Assessment Report CAR_NRW0041828

Permit being assessed: BB3097ZS.
For: PB Gelatins, held by Veolia Energy & Utility Services UK PLC
At: P B Gelatins, Unit A6, Severn Road, Treforest Industrial Estate, Pontypridd, Rhondda Cynon Taf, CF37 5SQ.

Type of assessment carried out: Report/Data Review, Reason: Routine.
On 12/05/2023.
Parts of permit assessed: Ground investigation - in response to sodium hydroxide spill 2020.

NRW Lead Officer: Dale Padfield.
Report sent to: Andrew Brown, IWE Manger on 12/05/2023.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	Action only (X)	

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
G1	Please see action 1 within main body of report.	30/06/2023

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

Veolia Energy & Utility Service UK PLC

EPR/BB3097ZS

This Compliance assessment report (CAR) relates to the sodium hydroxide spillage incident that occurred on the 11th of June 2020. A brief summary of the timeline and correspondence is provided, and the comments and recommendations made by Naturals Resources Wales (NRW) geoscience team, based on a review of the intrusive ground investigation report (VEOL.01.02.GIR) received by NRW on the 21st of March 2023.

Brief Summary of timeline

On the 11th of June 2020 an incident occurred at the Veolia installation resulting in the loss of approximately 20 tonnes of liquid sodium hydroxide to un-made ground. An initial clean-up was conducted on the afternoon of the 11th, whereby a vacuum tanker was utilised to remove any remaining surface liquid, the area washed down, and the wash water also removed by the vacuum tanker.

An initial ground investigation found that the soil within the spill zone had been contaminated by the incident, with increased pH and elevated levels of sodium detected. An initial report (ECL.095.01.01.GIR) highlighted the need to excavate to a depth of approximately 1.6mbgl and dispose of the material to an appropriate licensed facility. A follow up report (ECL.095.01.01/L001) caveated this recommendation as subject to the inspection of a third-party civil engineer to assess the boiler house structures and provide an appraisal of their condition and stability and assess feasibility of deep excavations. This resulted in a recommendation to excavate to a maximum depth of 600mm and capping the area with compacted material and reinstating the existing levels using lean mix concrete. This recommendation was accepted by NRW via an email sent on the 4th of November 2020.

An update from Veolia was received on the 09th of April 2021 which stated there had been issues with the contract originally appointed to conduct the remediation works which resulted in having to find an alternative. There were also further complications due safety concerns due a crack in the bottom surface of the hotwell storage tank, posing a significant hazard to anyone conducting works in the area. It was further stated that the start date for the remediation works had been confirmed for the 10th of May 2021, and once complete, the borehole pumping, and monitoring would be commenced.

In an email dated the 23rd of September 2021, Veolia had stated that there had been further setbacks with the appointed contractor and the remediation works was due to commence in ‘week 46’ which would have been November 2021.

An email was received from Veolia on the 11th of April 2022 stating that the remediation project had commenced, which was anticipated to take 6 weeks until completion.

A further update was requested by NRW 6th of October 2022, a reply was received from Veolia on the 18th of October 2022 stating that further setbacks had occurred which had then pushed the proposed start date of the work to the end of May. This then suffered anther setback due to access and restriction issues, a result of a separate incident at the PB site.

Given the significant amount of time since the caustic spill incident, NRW stated that potentially some natural attenuation may have occurred. If Veolia were able to demonstrate that the contamination was being

attenuated and there had been insignificant impact down gradient of the spill zone, then NRW would review the need for the proposed works to go ahead.

The latest ground investigation report was received by NRW on the 21st of March 2023, which has since been reviewed by a senior specialist within NRW's geoscience team. The comments from this review are provided below.

Comments are recommendations made by NRW's geoscience team based on the ground investigation report – VEOL.01.02GIR

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1. P.10 of PDF (numbered P. 6): Table 3 under Location, WS202 and WS201 should be exchanged, with WS201 in the first row. WS201 is at the location of the spill and WS202 is down-gradient of the spill.

2. P.18 of PDF: Table 6, not all results are in ug/L; SO4, Cl, and NO3 as N (not nitrite (NO2) this was not analysed), are in mg/L, the report should be corrected to show which analytes are in ug/L and which in mg/L (per the lab results).

3. Ammonium can be released from soils with the addition of NaOH and is a known method of assessing the nitrogen content of soils. It appears that the ammonium is a result of the NaOH release. Ammonium exceeds the various WFD standards (as ammonia as N). (The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 (legislation.gov.uk) and the Drinking Water Standard of 0.5 mg/L at all monitoring points, including down-gradient points BH03 and WS202. Ammonium does attenuate in soils and groundwater (ion exchange and oxidation) and may be dealt with by Monitored Natural Attenuation (MNA) at these concentrations, but this will require ongoing monitoring in down-gradient boreholes to ascertain this is occurring.

4. Manganese also exceeds the standard listed in Table 6 and should be monitored along with ammonium. I suggest also monitoring for dissolved oxygen, electrical conductivity and ORP, along with pH. There are no concerns with regards to the sodium, iron or nickel at present.

5. To enable confirmation of groundwater gradient (flow direction) groundwater elevations will be needed to enable a groundwater elevation contour map to be drawn. This requires that the top of the borehole casings be surveyed for xyz coordinates, with a better than 5 mm accuracy for elevation. Once groundwater flow direction is confirmed then the monitoring network can be assessed for suitability for MNA. At least one of the down-gradient boreholes should be located directly down-gradient of the centre of the plume; if this is not the case a new borehole will be required.

6. To successfully apply MNA as a remedial method will also require an improved understanding of the pathways, so monitoring boreholes must cover the depth / depths of potential pathways. It's noted from the borehole logs the gravels at depth, and drill rig refusal (to go any deeper) at 3.2 to 4.7 mbgl. Confirmation is required that the vertical extent of the plume is delineated or at least the highest concentrations of potential constituents of concern (COC) are within the monitored depths.

7. The presents of gravels indicate the potential for rapid movement of COC offsite to the river. Although the COC are likely not significant with respect to impact to the river this needs to be confirmed with at least a simple source-pathway-receptor model. For this, the groundwater gradient and estimated hydraulic conductivity is required (from a short term pumping test in one or more boreholes).

8. The proper application of MNA at this site should be neither difficult nor costly, but does require experience in MNA.

9. Finally, in Sections 4 and 5 of the report neither ammonium nor manganese are considered to be a result of the NaOH spill, and the focus is on sodium. Both ammonium and manganese in groundwater (in solution) are likely the result of the NaOH spill through mechanisms of cation exchange, increases in pH and other chemical effects.

In summary, it is recommended that the proper application of MNA supported by a source-pathway-receptor model to assess risk to controlled waters is conducted. An additional option would be to remove some of residual sodium, ammonium, manganese etc. from the source zone by abstracting groundwater until COC concentrations reduced below their respective water quality standards in the abstracted groundwater and nearby sampled boreholes. Regardless of which actions are taken, the down-gradient boreholes should continue to be monitored regularly.

There has been a significant amount of time since the incident occurred and Veolia have failed to implement the proposed remediation measures. It is appreciated that some of the circumstances surrounding these failures have been outside the control of Veolia. However, the delays have now resulted in migration of the sodium hydroxide, with the potential of additional impacts due to the mobilisation of other various contaminates from the soil. The original proposal to remove the soil from the spill impacted area is no longer required, as the contaminants have migrated from this area. However, Veolia will now need to implement, as a minimum, a programme of monitored natural attenuation.

Action 1 – Veolia 12th of May 2023: Using the comments and recommendations made by NRW's geoscience team, Veolia are to submit for approval by NRW, a plan and schedule detailing how they intend to progress. **Due 30th of June 2023.**

END.

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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.