

Compliance Assessment Report CAR_NRW0036881

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: Site Inspection, Reason: Incident Response (Incident number 2004118).

On 11/06/2020 between 11:30 and 13:40.

Parts of permit assessed: EMS, Emissions

NRW Lead Officer: Geraint Harris.

Report sent to: Jonathan Barwick, Contracts Manager on 26/08/2020.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
C1 - General Management - Staff competency/training	C2 Significant	1.1.1(b)
C2 - General Management - Management system and operating procedures	C3 Minor	1.1.1(a)
E2 - Emissions - Land and groundwater	C3 Minor	3.1.1

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

Total number of non-compliances recorded	Total non-compliance score
3	39

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
C1	Improve training and environmental awareness	01/10/2020
C2	Check and improve procedures and training.	01/10/2020
E2	Remove contaminated land and improve infrastructure	01/10/2020

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.

You are non-compliant with your permit.

We are currently considering taking enforcement action against you for the non-compliance recorded above. We will contact you in due course.

4. Details of our assessment

Veolia Energy & Utility Services UK Plc

Permit EPR/BB3097ZS

Overview:

20% Sodium hydroxide solution is used as a pH builder to increase or maintain the total alkalinity within the steam boilers in accordance with the harmonised standard EN 12953-10 / Shell boilers – Requirements for boiler feed water and boiler water quality. The solution of sodium hydroxide, supplied by PB Leiners, is distributed around the site through a fully welded stainless steel pipeline with a spur that runs from the corner of the 'Blender Building' (Unit A21) out to the Veolia boiler house. This pipeline terminates in Veolia's 'Capsule No.4' building, where it is connected to a 500 litre bunded storage tank. There are two valves at the termination point;

- 1 x 1" stainless steel, socket weld connection, bolted body, lever operated ball valve mounted vertically above the tank; Separated by a DN25 PN16 flanged connection.
- 1x 1" stainless steel, screwed connection, bolted body, lever operated ball valve incorporating a 'deadman' mechanism mounted underneath and directly in line with the 1st valve.

There is a short length (600mm) of flexible hose coupling the tank to the last valve by means of camlock fittings at both ends. There are no open ends under normal circumstances. There are no automated level sensors and an assessment of the tanks 500 litre capacity is made by inspection by a trained operator.

The supply of sodium hydroxide starts with PB Leiner's 80,000 litre bulk storage tank. The chemical is delivered by road tanker at a concentration of 47% and is diluted by a mixing system installed on the intake delivery point to a concentration of 20%. In addition to the bulk storage tank there is an associated Day Tank. This tank is automatically replenished (9 tonne limit) by the bulk tank when it reaches 5 tonnes and supplies the PB Leiner site including the boilers operated by Veolia.

On the 10th and 11th June 2020, trending on the SCADA system at PB Leiners recorded the following events:

10/06/2020 11:20 – 23T in caustic bulk storage tank, started to transfer caustic to day tank.

10/06/2020 11:40 – Day tank topped up to 9T

10/06/2020 15:46 – 17T in caustic bulk storage tank, day tank depleted to 5T

10/06/2020 16:04 – Refilled day tank to 9T, leaving the bulk storage tank with 13T

10/06/2020 20:45 – Started refilling day tank again to 9T

10/06/2020 20:57 – Finished refilling day tank and bulk tank has 9.8T remaining

11/06/2020 01:00 – Started refilling day tank again to 9T

11/06/2020 01:30 – Finished refilling day tank and bulk tank has 5.3T remaining

11/06/2020 05:10 – Started refilling day tank again to 9T

11/06/2020 05:25 – Finished refilling day tank and bulk tank has 1.27T remaining

11/06/2020 08:40 – Day tank level stabilizes, this coincides with when we identified that there was an issue

and began searching for the problem. The day tank level would have stabilized when the valve was closed and no further caustic was being withdrawn from the day tank.

On the morning of 11th June 2020 at 09:13am the Veolia contract manager, Jonathan Barwick received a phone call from PB Leiner's Reliability Engineer. He explained that a large leak of sodium hydroxide solution had been discovered within Veolia's area of operation on site, and that the source of the leak appeared to be the sodium hydroxide dosing tank overflowing. He further advised that a valve had been found open on the filling pipework and that they had closed this valve.

Jonathan Barwick arranged for the nearest engineer, Matthew Young to attend the site to investigate. Matthew arrived on site within 5 minutes of the call and was met by representatives of PB Leiners. PB Leiner H&S Manager, Julie Campbell met Jonathan on site to explain the situation. The estimated volume of the spill was given as 20 tonnes. Julie further stated that a tanker had been ordered from 'Qualitech' to start the surface clean up but that this would be a single man. Jonathan requested that this was stood down as Veolia would manage the response. Veolia were asked to investigate the incident and send their findings to Natural Resources Wales at the earliest opportunity.

Incident Response:

After consultation with Veolia Industrial Services, Egan Waste Services Ltd. were appointed as the contractor best placed to respond to the incident. They attended the site at 13:45 to start the clean-up which was completed by 15:30. All waste was disposed of through the client's on-site effluent treatment plant. The surface liquid was removed by vacuum tanker, by the contractor Egan Waste Services Limited (images attached). The area was washed down and the resulting washings were again removed by vacuum tanker. All waste was disposed of through our PB Leiners on-site trade effluent treatment plant. The waste consignment note was forwarded to NRW.

Remediation of the contaminated land was planned with the assistance of Environmental Compliance Limited (ECL) and the method statement approved by NRW.

Jonathan Barwick provided NRW with the following documents:

- Schedule 5 notification
- Current Drainage Plan H60075_DP_310317
- Waste Transfer Note
- H60075TS002 Filling Water Treatment Tanks Risk assessment
- Environmental Risk Assessment – Aspects and Impacts
- H60075/10 Chemical Delivery Procedure REV C
- Training Matrix
- Caustic System Overview
- PB Leiner Valve Assets List
- Daily Operations Method Statement H60075_20 (work in progress)
- H60075_ORA002 Filling Chemical Dosing Tanks(1)
- Investigation Internal Report

Veolia's Investigation:

The response received as part of your investigation detailed that a member of staff, when filling the Sodium Hydroxide tank left the valve in the open position and continued to undertake other work. They then forgot

about the open valve and left site to go to the next job.

“Immediate Cause A deadman valve, installed in the filling pipework for the caustic soda dosing tank, had failed to close when the handle was released.”

“An experienced engineer failed to spot the significance of a failed return spring on the self-closing valve, and he continued to perform the operation on a regular basis with some diligence.”

Veolia’s investigation into the incident has identified the following underlying causes:

“a) A mechanical failure of the spring leading to a failure of the deadman valve to operate. The root cause is suspected metal fatigue or quality failure.

b) Valve failure allowed the engineer to leave the tank filling to go unsupervised. The engineer was not aware that he was operating a defective system.

c) The valve failure had gone unreported. The root cause of this was the engineer’s confidence in his knowledge of the process, and their awareness of the need to stay with the tank, irrespective of whether the valve was functioning properly.

d) There was no formal inspection regime in place for the valve and associated pipework. “

Relevant Permit conditions:

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1.

Non Compliances:

Non compliance: *A non compliance (CCS2) is being applied for failure in relation to staff competency and training with regards to the unauthorised release of sodium hydroxide on 11th June. 2020, in respect of permit conditions 1.1.1(b). Failure to comply with an environmental permit is an offence under regulation 38(2) of the Environmental Permitting Regulations (consolidated) 2016.*

As per the information provided in your own investigation, it is clear that there was an awareness of the issue with the self-closing valve, and that this incident happened as a consequence of a failure of the reporting

system

“An experienced engineer failed to spot the significance of a failed return spring on the self-closing valve, and he continued to perform the operation on a regular basis with some diligence.”

“An apprentice engineer who is otherwise competent and familiar with the operation of a steam boilerhouse, was able to perform this operation, with no knowledge that the equipment he was operating was defective. This coupled with a lack of concentration led to the incident.”

The overarching management at an installation is to ensure that it is being operated by staff who are appropriately trained and supervised. The operator’s organisational structure should be sufficient to ensure that permit conditions can be met. A failure in the lack of training and or awareness on the use and significance of the deadmans valve is evident here and is ultimately a significant aspect of the root cause. Veolia’s investigation says the apprentice had “no knowledge that the equipment he was operating was defective.” This implies that there is a significant deficiency within Veolia’s training material. Had the apprentice known the significance of the deadman’s valve he may have not left it unattended. Furthermore, Chemical Delivery Procedure (H60075/10, Revision C) and the Environmental Risk Assessment – Aspects and Impacts (Supply/Use of chemicals) both make reference to the need to monitor chemical deliveries. According to the training matrix these have been signed off by all site personnel. Since the operator left the valve open and continued with other work it suggests a strong argument for negligence on behalf of the operator or that the training and procedures were insufficient in addressing the importance of monitoring environmentally critical processes.

The incorporation of processes and infrastructure to mitigate the risk of environmental incidents is an essential part of operating compliantly with an environmental permit. Consequently, training for operators working within such permitted premises should reflect this. Upon reviewing the training matrix, provided by Veolia, there is a clear lack of environment awareness training for the operators.

Non compliance: *A non compliance (CCS3) is being applied for the management system failure in relation to the unauthorised release of sodium hydroxide on 11th June. 2020, in respect of permit conditions 1.1.1(a).*

Having an effective and fully integrated environmental management system is fundamental when operating a compliant permitted site. An EMS is a mechanism for defining environmental responsibilities for all staff, helping them to understand the environmental impact of their activities and individual actions. Additionally, it ensures that all operations have procedures that minimise their impacts. Historically the root cause for spills of hazardous materials have usually been the result of a substandard EMS. Following the incident on the 11th June a request for information from NRW was submitted to Veolia after the initial site visit. Veolia willingly provided the list of documents mentioned earlier.

A significant part of an effective EMS is the incorporation of a maintenance program on environmentally critical equipment. Accordioning to Veolia the following processes are incorporated within the EMS:

“Veolia actively encourages and expects its staff to report faulty equipment and provides its engineering teams with two routes for such reporting; the first being the engineers’ ability to raise reactive tasks on our Concept asset management system; the second being the reporting through our web based reporting tool. This is formalised within our certified environmental management system through the procedure for ‘Reporting accidents, incidents, near misses, close calls and enforcement authority communications (SYS/2/037)’. The former also provides the scheduled maintenance system for assets that are under Veolia’s complete control.”

In their own internal investigation they state that “no formal inspection regime in place for the valve and associated pipework”. Also, Veolia conclude that “An experienced engineer failed to spot the significance of a failed return spring on the self-closing valve, and he continued to perform the operation on a regular basis with some diligence.” These clearly demonstrate short comings with the management system. Had these systems been effective, the faulty deadman’s valve which had been used on a regular basis would have been captured and recorded within the web based tool system. It could also be suggested that the importance of identifying and recording faulty equipment is not emphasised within the EMS. This further supports the inadequacy of the training mentioned earlier, since operators should have been informed of the significance of such a vital piece of equipment and told to report it within their web-based tool.

Having an EMS is essential when operating a permitted site, however it is not enough to just have one in place. An EMS is a live system which needs constant attention and modification to ensure its suitability for the systems in place on the site. A series of internal audits and improvements should be undertaken periodically to ensure any inconsistencies are captured and mitigated. The maintenance of the valve should have been identified within an internal audit.

Non compliance: *A non compliance (CCS3) is being applied for the unauthorised release of sodium hydroxide onto land on the 11th June. 2020, in respect of permit conditions 3.1.1.*

Permit BB3097ZS does not authorise any discharges to ground, the spill has led to a breach in permit condition 3.1.1. All non-compliances (except for those relating to amenity) are categorised on their reasonably foreseeable impact on the environment and not their actual impact. Incident Categorisation Guidance Note 102 states ‘We will categorise our response to any incident according to the actual or potential impacts upon the people, communities, environment of Wales and any effect to our own organisation’. NRW consider the leaking of caustic a breach of permit condition 3.1.1 and 3.2.3 and have awarded a Category 3 for the incident. However, should the investigation determine significant contamination of the underlying soil and groundwater, this may be escalated to a category 2 incident.

Under the Water resources Act 1991, we are authorised to recover the cost of investigating and dealing with these incidents from the person(s) responsible. This is known as the ‘Polluter Pays’ principle. Natural Resources Wales can still recover costs when an incident does not result in pollution of water and when an offence has not been committed. As such, we will be in touch regarding the initial costs of attending and investigating the incident.

Veolia’s Immediate measures:

- The caustic pipeline has been isolated at source in PB Leiners factory as well as locked off at the delivery point to Veolia.
- Veolia requested that the PB Leiners removes the caustic supply line at their earliest opportunity.
- All Veolia staff involved in our onsite operation have been instructed that no further use is to be made of the client’s caustic supply.
- An approved vendor has been appointed to make all future deliveries of caustic soda solution via a pump over delivery from IBC with a maximum delivery volume of 500 litres.

Geoenvironmental Ground Investigation Assessment at PB Leiners (PB Gelatins), Cardiff.

Environmental Compliance Limited (ECL) were appointed by Veolia to undertake a geo-environmental assessment at PB Gelatins (PB Leiners) following the incident on the 11th June 2020. Following the work conducted on the 14th July 2020, NRW have agreed (via email) to the concluding remarks and subsequent remedial actions proposed within the report. Furthermore, NRW request that continual monitoring of the

groundwater in borehole 3 is undertaken to ensure any slow migrating pollution is captured.

Actions:

Action1: Review Environmental and Safety critical equipment on site. Ensure that all aspects identified are captured within the sites EMS and maintenance programs.

Action2: Review and improve the current Environmental Management System. There is a lot of information and guidance available on producing a suitable and working EMS for the site. During this review an assessment of the site against the Large Combustion Plant BREF and subsequent BAT conclusions should be undertaken. Although the boilers don't strictly meet the criteria for Large Combustion Plants, there is enough relevant sections that are applicable to your installation.

Some of the more pertinent things to think about include: Hazardous awareness, training, accident management plans, emergency response drills, proactive risk assessments, implementation and monitoring of controls, hazard communication, emergency preplanning, audits and inspections, performance monitoring, incident and audit findings, corrective actions, risk registry, process automation, environmental objectives and targets and written procedures for environmentally sensitive equipment and processes. Provide evidence that this was completed by the **1st October**.

Action3: Review and improve the sites current practices and procedures against the pollution prevention guidelines within the link. Provide evidence that this was completed by the **1st October**.

<https://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/>

The more pertinent sections to review include:

PPG 1: Understanding your environmental responsibilities - good environmental practices

GPP 21: Pollution incident response planning

GPP 22: Dealing with spills

GPP 26 Safe storage - drums and intermediate bulk containers

Action4: Provide NRW with a timeline for the excavation of contaminated soils as mentioned in the report by ECL.

Action5: Undertake the immediate actions mentioned in Veolia's Investigation report. Furthermore, when installing a new system for chemical handling and storage please take into account CIRIA 736. It is vital that future containment of hazardous chemicals is robust and that no repeated spills occur. Provide evidence that this is completed.

End.

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.