

Compliance Assessment Report

Report ID:
CAR_NRW0026771

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

Site	PB Gelatins EPR/DP3030ZC	Permit Ref	DP3030ZC		
Operator/Permit holder	PB Gelatins UK Limited				
Regime	Installations				
Date of assessment	21/09/2016	Time in	N/A	Out	N/A
Assessment type	Report/Data Review				
Parts of the permit assessed	EMS				
Lead officer's name	Willey, David				
Accompanied by					
Recipient's name/position	Alan Fitzpatrick/ Safety Officer	Date issued	15/12/2016		

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). 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	CCS Category	Condition(s) breached
C2 - General Management - Management system and operating procedures	C2	1.1.1
E3 - Emissions - Surface water	C3	3.1.1

KEY: See Section 5 for breach categories, suspended scores will be indicated as such.

A = Assessed or assessed in part (no evidence of non-compliance), **X** = Action only,

O = Ongoing non-compliance, not scored.

Number of breaches recorded	2	Total compliance score (see section 5 for scoring scheme)	35
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If the Number of breaches recorded is greater than zero, please see Section 3 for 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 (eg. 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 advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

PB Gelatins CAR Form – December 2016

This CAR Form has been issued following the pollution incident on the 21st September 2016 as well as consolidating the actions from the previous CAR Forms.

Previous actions carried forward.

ACTION: PB Gelatins to investigate and propose techniques to ensure that foam is not generated as it enters the Welsh Water chamber.

ACTION: PB Gelatins to update their drainage plan in light of the recent event and undertake an investigation of other potential historic drains on their land.

ACTION: PB Gelatins to provide the results of the drain survey to NRW to ensure that all drains have been identified in that area of the site.

ACTION: PB Gelatins to ensure all IBCs / barrels containing chemicals and raw materials are stored in appropriately bunded areas.

ACTION: PB Gelatins to confirm when the sludge tank was last cleaned and confirm the procedures in place for the cleaning of the sludge tank.

ACTION: PB Gelatins to confirm the inspection / maintenance procedures in place for the filter associated with the sludge tank. (White filter located next to sludge tank.)

ACTION: PB Gelatins to investigate this release and the associated increase in temperature of the effluent and in the odour release.

ACTION: PB Gelatins to clean the pipework that feed the effluent discharge. Cleaning of the pipework should be replicated to other areas of the Old Farm as part of good housekeeping and to ensure clear running of the effluent. This should also form part of the sites EMS.

ACTION: PB Gelatins to ensure the rotary screen is washed down regularly to avoid the build-up of sludge on the screen and the potential to generate odour.

Pollution incident on 21st September 2016

On the 21st September 2016 there was an unauthorised release of effluent from PB Gelatins to the River Taff via Welsh Waters storm drain. The impact of the release on the River Taff is being investigated by the Natural Resources Management Team in NRW.

This CAR Form identifies the breaches of the permit and provides associated actions where there are improvements to be made. **The discharge to the River Taff was an unauthorised discharge and**

considered a category 3 breach of permit condition 3.1.1 of the permit EPR/DP3030ZC where there was a minimal effect on water quality.

The pumping station has a sump that receives waste water from the Gelatin processing areas and the liming facility. There are two pumps in the sump that pump the effluent to the balancing tank. The level of the effluent varies during the day according to the activities on site. The pumps are set to start when the level of effluent reaches 1.43 metres in pump number 1 and when the sump level get to 1.5 metres pump number 2 is activated. If both pumps fail then there is a high level alarm that is triggered at 4 metres with an overflow pipe in place that feeds directly to the main Welsh Water sewer line that would be used at 4.2 metres. At this point the level in the sump may rise over the overflow pipe but the pipe should be allowing the effluent to pass through.

Environmental Management System (EMS) overview

The site has an Environmental Management System (EMS) that was submitted as part of the application in 2013 with various updates and submissions submitted to NRW. These are set out below.

Document ref	Name	Version	Date
EMS-MAN	EMS overview	1	08/04/2013
EMS 002	Environmental Aspect Assessment	tbc	tbc
EMS 003	Legal and other requirements	tbc	tbc
EMS 004	tbc	tbc	tbc
EMS 005	Training awareness and competence	tbc	tbc
EMS 006	Communications	tbc	tbc
EMS 007	Document control	tbc	tbc
EMS 008	Emergency Preparedness and Response	tbc	tbc
EMS 009	Monitoring and measurement	tbc	tbc
EMS 010	Incidents, non-conformity and corrective and preventative action	tbc	tbc
EMS 11	Records	tbc	tbc
EMS 12	EMS audit	tbc	tbc
Plans/assessments			
-	EMS Site maintenance plan / Preventative maintenance plan	1	02/07/15
-	Chemical management plan	1	28/11/14
-	Odour management plan	2	21/10/14
-	Principle Equipment and environmental Safe Guards	-	January 2015
BAT W1	BAT assessment – Waste Water Treatment	1	17/02/14
BAT W2	BAT assessment – Gelatin Extraction Process from Ossein	2	20/02/14
Procedures			
-	EMS monitoring and measurement procedure	-	10/11/14

ACTION: PB Gelatins to provide copies, and any associated updates, to NRW for the above EMS

documents.

The parts of the EMS that set out procedures for the maintenance of the pumps are the EMS Site maintenance plan / Preventative maintenance plan, Monitoring and measurement and the BAT assessment – Waste water Treatment and the document Principle Equipment and Environmental Safe Guards.

The BAT assessment identified gaps in the detection (paragraph 3.1.2) that there was limited control in place for monitoring the status of underground pipework and drainage systems, this was recognised with the preventative maintenance inspection and monitoring system put in place. The BAT assessment sets out the monitoring at site in regard to the weekly and daily inspections / maintenance.

The EMS Site maintenance plan / Preventative maintenance plan sets out the preventative maintenance regime for each critical item of equipment located on the sites 'K' drive. In addition there are maintenance work instructions that are saved within the sites Quality Management System, also on the 'K' drive. Paragraph 4.4 for monitoring and inspections and Section 5 for effluent system inspection set out the checks in place for the visual inspection procedures. Section 9 refers to training and competence with paragraph 9.2 identifying the operation, maintenance or repair of monitoring critical equipment.

The document EMS Monitoring and measurement procedure identifies a weekly visual integrity inspection of the pump house containment with an annual camera survey of the effluent discharge drainage system.

An additional requirement of the permit through the improvement programme was for the Operator to provide a report detailing contingency measures to prevent accidental discharges from the effluent treatment plant. This was received in January 2015 referenced, 'Principle Equipment and Environmental Safe Guards'. This document describes in detail the effluent treatment system, the pumping station as well as the other aspects of the trade effluent system. The document states that the sump level is monitored using a hydrostatic pressure sensor with the pumps controlled via the PLC (Programmable Logic Controllers) that are monitored by the SCADA system (Supervisory Control and Data Acquisition System).

Pump 1 failure

Pumps 1 and 2 were installed in 2015. The reason for pump 1 failing was due to it tripping as a result of low voltage at 12:35am. When there is a trip a warning light is lit on the electrical panel in the pumping station (unmanned). These pumps do not automatically reset after tripping.

Since the incident PB Gelatins have installed self-resets on the pumps that will reset itself if it is a result of fluctuating electricity supply to the pump. This will also trigger an alarm to the supervisor's office and to the Old Farm if the self-reset does not work after three attempts.

Pump 2 failure

On reaching 1.5 metres pump number 2 should be activated but did not begin due to cavitation caused by air entering the pipework due to the non-return valve seal being subject to wear. Previous inspections had indicated that both pumps were cavitating, this led to an alteration being made to the set point at which the pumps stop pumping was made to avoid the pumps taking in air.

Since the incident PB Gelatins have replaced the effluent pumps non return valve seals with harder rubber seals. PB Gelatin have also ordered / installed self-priming devices in both pumps to prevent corrosion and avoid cavitation.

ACTION: PB Gelatins to review the checks / inspection in place for the pumps.

Overflow

The site has an overflow non return valve to Welsh Waters main sewer line. The overflow is used when levels reach 4.2 metres. This valve was not working correctly and did not allow for a good flow to sewer. This has now been changed for a larger non return valve. Up until 4.2 metres there are sufficient contingency measures in place albeit in not satisfactory working order.

Since the incident PB Gelatins have changed the overflow non return to allow maximum flow in the event of high effluent levels.

ACTION: PB Gelatins to provide a SOP for the inspection of the non-return valve to ensure it is in good working order.

High level alarm

On reaching the 4 metre level in the sump the high level alarm is triggered on the SCADA display in the production supervisor's office.

This high level alarm is critical in its function to raise awareness of failures of the pumps and the overflow. The alarm should have alerted the production supervisor but after investigation by PB Gelatins it was discovered that the "lock alarm" had been activated. This creates an alarm but does not display on the SCADA system.

Considered a category 2 breach of permit condition 1.1.1 of the EMS where a lack of understanding of the functionality of the SCADA system led to the rising levels in the sump allowing the effluent to rise without detection. Had the integrity of the pipes been water tight then there would have been no leaks to the storm overflow but without detection the levels in the sump could continue to rise and cause an overflow to the surface water drains. In addition, had Welsh Water not discovered the discharge, PB Gelatins would not be aware of the pollution. The criteria for a category 2 incident is to have a significant effect on water quality. This could be low dissolved oxygen levels up to a couple of hundred metres in a large water body. Without detection this scenario would be possible.

ACTION: PB Gelatins to ensure staff are fully trained on the requirements of the sites EMS (and associated procedures), the requirements of the EPR permit and to appreciate the significance of their roles in complying with the conditions of the EPR permit.

ACTION: PB Gelatins to evaluate setting a constant or zero flow rate alarm if values remains constant (protection if level control fail making pump non-operational).

PB Gelatins are now looking to achieve the ISO 14001 standard for the sites EMS.

The high level alarm has now been set to 3 metres with the installation of an audio/visual alarm in the A18 building. The pump settings have been adjusted to maintain the sump level below 3 metres with pump 1 set to begin pumping at 1.42 metres and pump 2 set to 1.62 metres. Pumps will continue to pump until the levels are reduced to 0.78 metres.

In addition to the high level alarm a CCTV camera has been installed to provide a visual inspection at the unmanned pumping station providing an additional level of supervision.

ACTION: PB Gelatins identified the possibility of receiving SCADA alarms on pager / phone. NRW see this as an important step to ensuring immediate response to rising sump levels and ensuring operational control.

Daily checks (Monday to Friday) are undertaken at the site typically between 08:00 and 09:00. On this particular day the daily check had not been carried out due to a callout late the previous night.

On the day of the incident the production supervisor was informed of the discharge at 12:30pm by Welsh Water who had witnessed the discharge to the River Taff at the North Outfall.

On receiving the call from Welsh Water the shift supervisor immediately contacted the maintenance department and the production manager. On visiting the pumping station the liming vessels were stopped from draining to the pumping station.

On attendance at the pumping station the maintenance technician discovered that the pumps were not operational with the sump level high. The technician was able to manually restart the pumps bringing the levels of the sump down.

Had the alarm been displayed clearly on the SCADA system the actions undertaken subsequently would have brought the level of the sump down sooner and avoided rising levels.

ACTION: PB Gelatins to update the sites emergency preparedness and response plan / accident management plan with a company alarm strategy that includes a clearer definition and purpose for the sites alarms with associated training and reviews. This will include formal audits and reviews to ensure tighter quality control.

The post incident inspection noted cracks in the concrete between the two effluent pipes in the E12 chamber. E12 had a substantial rebuild in 2013 following a previous incident. As a result of the effluent in the sump reaching 3.2 metres and above it has been discovered there are leaks from the PB effluent line entering the storm water overflow pipe.

PB Gelatins have since repaired the damage to E12 with a protective coating applied over the concrete fabric of the chamber.

ACTION: PB Gelatins to undertake integrity testing of the effluent pumping station investigating worst case scenarios and implementing associated procedures within the EMS.

Culvert

Work on the culvert following the incident in June has now been completed with the culvert showing no visible signs of pollution from the event.

Odour

Following previous investigations PB Gelatins have cleaned out the effluent line from the DAF Plant to the sewer discharge and have identified a change in the height of the channel of approximately 300mm. This has impacted the flow as the flowing effluent hits the raised channel and slows the flow down potentially leading to a build-up of sediment and a slower flow before discharging to sewer. This will be repaired by PB Gelatins allowing for a constant flow from the DAF plant to sewer.

PB Gelatins have also begun dosing of the effluent being discharged to sewer to remove the odours as the travelling effluent can be detected at chambers during its route to the pumping station where there is also a noticeable odour. During a site visit on the 29th November 2016 there was no odour detected along the route of the pipe to the Taffs Mead pumping station.

In addition to the dosing the balance tank has been cleaned as this was a potential source of odour from the site.

ACTION: PB Gelatins to incorporate regular cleaning of the balance tank into the sites EMS to avoid the potential for odorous releases from the balance tank. PB Gelatins to continue to actively contact local business when carrying out these cleaning activities.

END

EPR Compliance Assessment Report

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Site	PB Gelatins EPR/DP3030ZC	Permit Ref	DP3030ZC
Operator/Permit holder	PB Gelatins UK Limited	Date	21/09/2016

Section 3 – Enforcement Response

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.

Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

Criteria Ref.	CCS Category	Action required/advised	Due Date
See Section 1 above			
E3	C3	EMS improvements	31/03/2017
C2	C2	See associated CAR Form	31/03/2017

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 verbally or 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 that could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no 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 fulfil 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 (eg. 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 its service
- Freedom of Information Act/Environmental 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 reports 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 officer's line managers using the informal appeals procedure. 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. 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.

Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.