

Compliance Assessment Report

Report ID:
CAR_NRW0035175

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

Site	Bryn Power AD Facility	Permit Ref	AB3092ZE		
Operator/Permit holder	Bryn Power Limited				
Regime	Installations				
Date of assessment	08/05/2019	Time in	10:30	Out	15:00
Assessment type	Audit				
Parts of the permit assessed	All				
Lead officer's name	Richards, Gareth (Rivers House)				
Accompanied by					
Recipient's name/position	Jen Price/ Environment Manager	Date issued	31/05/2019		

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. 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
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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	0	Total compliance score (see section 5 for scoring scheme)	0
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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

The site visit was arranged as part of NRW's routine audit schedule for EPR Part A(1) listed activities.

Weather conditions were showery, there had been recent heavy rain.

Site inspection

A site tour was hosted by Jen Price, Environment Manager. The reception area was being well managed. The roller shutter door was functional. There was slight damage to the bottom of the door, however, repair of this had already been actioned and it was not affecting functionality. The reception area was clean and there was no residual waste in the tipping area. The macerator had been in recent use. The macerator residue was collected and retained in a corner of the building pending transfer for incineration. There was a slight waste odour within the building, but this was not significant. No odour was detectable outside the building. The shutter doors only remain open for a short period of time whilst vehicles move in/out of the building.

Both gas engines were operating, there were no visible emissions from either stack. The acoustic housing for one of the engines was entered. The general condition of the area was clean and tidy. There were waste oil containers external to the housing. The oil in such engines is replaced on a frequent basis, it was the responsibility of the company contracted to complete the work to remove the waste material. It was noted that to improve the dispersion from the engine stacks, there were plans to increase their height to the same as that of the surrounding buildings. There was a detailed maintenance log for each engine that was being completed by the maintenance contractor. There had been recent issues regarding the fire alarm on one engine that was thought to be associated with dust accumulation. The spill kit by one engine could not be opened as it was sealed with a cable tie. There were no process specific odours in the vicinity of the gas engines.

Action (1): Spill kits need to be readily accessible, the cable tie needs to be removed.

The digester tanks were inspected visually. Additional insulation had been installed on the outside of the digester tank to improve temperature control especially during the winter months. The heat exchanger pipework had now been cleaned to improve performance, all struvite (a phosphatic based internal coating that reduces heat transfer) had been removed. It was likely that a similar coating had formed on the inside of the discharge pipe to the lagoon. It was the intention to clean this in sections as this could be done in a manner that would not interrupt normal operation. There was no odour near the digester tanks at ground level. In view that the digester operates as a sealed system odour was not expected.

The boiler room was inspected. This is used to provide heat for the AD process and uses the same gas that is used by the gas engines (i.e. AD gas). The area was being well maintained. There is a known issue with the efficiency of the heating system which necessitates greater use of the heat exchanger to maintain the digester tank at optimum temperature. It will most likely necessitate major work at some stage in the future (4 to 10 yrs estimated).

The control room was visited. This was being cooled by an A/C unit and fire extinguishers were present (in

summer months the ambient temperature can increase significantly due to the electronic equipment). The current operational status of the plant was described: digester temperature 35°C (ideal temperature is 38°C), both engines were producing at 500Kw, CH₄ in the AD gas was @ 53.7% and H₂S was 181ppm. It was queried what records there were of an alarm conditions. These were currently notified to JP's mobile phone to ensure prompt response. There was no readily available alarm log, although the data would be stored by the Scada control system. **Action(2):** Bryn to ensure a monthly alarm log record sheet is available.

The records for salmonella and E. coli testing were examined. One test result had indicated the presence of a very small amount of Salmonella, but the threshold for failure had not been passed. It was possible this was caused by contamination on a sampling tap. This was now cleaned routinely.

The records for flare operation were poor as the 'time counter' was not functioning correctly. This needs to be rectified and NRW advised when completed. **Action (3).**

Bryn should be able to demonstrate the operational time for the flare as in the event it exceeds 10% monitoring is necessary. The most recent flare operation was on 29/4 for a 30-minute period following a trip of both engines.

The records of digester feed rates were examined. Normal feed remained at 50:50 slurry: food waste. There was no current intention to revert to maize addition.

The inside of the digestion tank was viewed through dedicated viewing ports located on the top of the tank. Movement of the digestate liquor and ongoing release of gas could be seen, it also served to confirm the tank levels.

The surface water collection sump in the corner of the site was inspected. Residual water level was low despite recent significant rain. This is discharged to soakaway after testing for ammonia and oil (visual sheen). It was stated that occasionally raised ammonia had been detected and the water is then recycled through the facility.

The digestate lagoon was visited. The current level was estimated to be approx. 6m below the surrounding ground level. The membrane appeared to be in good condition, although the seal surrounding the extraction pipework had failed and needed to be repaired. **Action (4):** Bryn. It should be noted the lagoon is not a sealed system. There are five vent pipes in the centre that ensure the membrane is not pressurised. It is not possible to reach these pipes from the edge of the lagoon without suitable equipment.

There was no significant odour in the vicinity of the lagoon. Due to the gap around the extraction pipe JP's personal gas monitor was held in this, the CO₂ level alarmed quickly and the recorded level was 13%. No other readings were obtained. The spreading of digestate had been suspended due to recent heavy rain and it was therefore not possible to witness the loading of tankers. This would be arranged for a different date. **Action(5):** Bryn/NRW.

Review of Actions and Recommendations from CAR_NRW0033853

A(1): Variation application had been submitted to NRW on the day previous to the planned audit. Complete.

A(2): Requirement noted. Complete.

R(1): Mobile A/C unit was now in use.

R(2): Bryn consider the security measures are adequate.

R(3): No changes made to access to date but this remains under review

General update

JP gave a summary update of existing operation and plans. To maintain current production levels additional food waste would need to be sourced later in the year. It was known that AD facilities in England were taking Welsh food waste so it should be possible to set up new contracts. There are no plans to increase capacity as this would necessitate a significant step change. The availability of slurry is also not predicted to change. Research work with South Wales University continues and there may also be involvement with the production of educational videos. The feasibility of providing electricity direct to local users is being investigated.

Audit topics

Site diary and documentation of waste receipts

Food waste can be received by the site on any day between the hours of 0700 to 1700h (1600h on Sunday) on any day including Bank Holidays, only Christmas day and New Year's Day are the exception. This is the restriction imposed by Planning Conditions. The EPR permit does not restrict operational periods. These restrictions are defined in the Method Statements for individual contracts. The exact times and date of any received waste is recorded on weight bridge tickets. The appropriate waste coding is confirmed upon receipt of the waste. Most receipts fall under a small number of commonly used codes e.g. Kitchen waste 20 01 08. Any different receipts are coded by reference to the European Waste Catalogue Codes. All loads are visually checked upon tipping in the receiving hall – this is recorded on a Daily Check Sheet.

A sample Producer Declaration Form was checked. These include limits on contamination for the food waste, they also contain commercial information.

There is a documented procedure for the testing of new waste streams that is completed prior to full load acceptance. The testing includes laboratory gas production tests over 5 or 30 days. A toxin screen may be completed and experience from other AD plants may be checked. There have been examples of specific waste streams that have been refused, paper work was available for two rejected loads during 2018. It is always the intention to avoid receipt of waste streams that may be problematic in the digester.

Records for the removal of macerator reject material from site were inspected. These were consigned under EWC Code 19 12 12. This was typically weekly, load quantities were normally less than 10 tonnes. This was sent to Viridor for incineration.

Monitoring results for bund sump and storm water inspection chamber

Records of the analysis completed on the bund sump samples (liquid is fed back to the AD) and the storm water sump (discharged to soakaway after ammonia analysis and visual check for oil sheen) were not immediately available. The information would be provided by Email. **Action (6)**. It was noted that Bryn want to identify a suitable alternative to the current laboratory analysis, so ammonia levels can be screened more easily prior to discharge.

Plant Maintenance

The gas engines are maintained under an O&M contract, copy provided. This covers all aspects of operation from routine maintenance to emergency call outs. There are different regimes in place for the two individual engines (Edina and Clark). Reports are provided to Bryn that include, monthly reports of engine performance (example copy provided to NRW), these include downtime logs. The total downtime for the Edina engine during December 2018 was approx. 30 hours. One of the most regular service requirement is the oil change. Following routine services, reports are provided together with oil analysis results.

It was noted on consecutive weekly reports (3/12/18 and 10/12/18) that the same comment had been added – 'Exhaust stack port bolts were loose – no apparent exhaust gasses escaping'. It was not clear if this issue was covered by the O&M contract, if not then Bryn need to ensure such comments are acted upon without unnecessary delay. **Action (7).**

Overall evidence was provided that the gas engines were subject to a comprehensive maintenance regime that should ensure ongoing efficient operation.

The pasteurisation process needs to be operated at a set temperature, therefore accurate temperature measurement is critical. Bryn provided evidence of calibration of the measurement probes and that they were working to an accuracy of at least 0.1°C. A complete set of spare probes for the three measurement positions were retained on site.

The issue of struvite formation was discussed, see additional comments under 'Site Inspection'. Ceasing the use of maize as an AD feedstock should reduce the problems caused by struvite build up in pipework. It was now the intention to carry out an annual clean of the heat exchanger.

The calibration certificate for the weigh bridge was displayed in the office, last calibration date was 15/3/2019.

All tanks installed on the facility had been the subject of a recent detailed inspection completed by the original installer. A copy of the report was provided to NRW. This had not included internal inspections as this would necessitate the plant being taken out of service. Bryn's current view is that this is not an issue as the facility was only constructed in 2015 and a 20 year lifetime is expected.

As part of the inspection minor repairs had been carried out on Tank 5 to replace corroded bolts and splice plates.

There was the following comment in the report 'Pressure relief valves should be regularly tested and operating pressures confirmed to ensure tanks aren't under excessive pressure. **Action (8)** Bryn need to ensure they adhere to relevant advice regarding the checking of pressure relief valves.

Odour Management

A review of possible odour sources from the facility had recently been completed, all the areas included were those identified in the current version of the Odour Management Plan Issue 02. The review document detailed 'Finding' and 'Actions' for individual areas. All identified actions had been completed.

Overall during the audit no odours had been detected external to any of the operational buildings that were considered to have originated from the AD facility.

PAS 110 Compliance

Digestate from the AD facility is a non-waste product if the requirements of PAS 110 are satisfied. In addition to the process control for the pasteurisation stage there are routine samples taken on a monthly basis (E coli and Salmonella testing) and quarterly (nutrient/heavy metal/contamination testing). Copies of the most recent quarterly test results (27/03/2019) were provided for Whole digestate, Separated liquor and Separated fibre. In all cases PAS 110 Limits were not exceeded.

For comments on E coli and Salmonella test results see under 'Site Inspection'. Records for the pasteurisation stage were retained on the control system for two years.

Reporting

The permit includes two conditions that need to be reported against in 2020:

Energy efficiency 1.2.1 (b) Due 20/1/20

Waste 1.4.2 Due 20/1/20

AOB

During the office discussions there had been multiple deliveries to the facility (although not all were for the AD). As the waste receiving area was empty during the site inspection it was decided to revisit. The tipping of a council food waste collection was witnessed. The roller shutter doors were only opened to allow vehicle access. Tipping was well controlled and there was evidence of relevant documentation being completed. The tipping did not lead to a noticeable odour. No issues were identified.

END.

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0035175**

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Site	Bryn Power AD Facility	Permit Ref	AB3092ZE
Operator/Permit holder	Bryn Power Limited	Date	08/05/2019

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			

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 report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within fifteen 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.