

Compliance Assessment Report

Report ID:
CAR_NRW0033305

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

Site	Viridis 178 Swansea Power Plant	Permit Ref	AB3393CP			
Operator/Permit holder	Viridis 178 Ltd					
Regime	Installations					
Date of assessment	19/04/2018	Time in	10:00	Out	13:00	
Assessment type	Audit					
Parts of the permit assessed	See CAR					
Lead officer's name	Dunn, Karen					
Accompanied by						
Recipient's name/position	Paul Aujla / Environment Manager	Date issued	22/05/2018			

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
A1 - Specified by permit	A	
B1 - Infrastructure - Engineering for prevention and control of emissions	A	
B2 - Infrastructure - Closure and decommissioning	A	
B5 - Infrastructure - Plant and equipment	A	
C2 - General Management - Management system and operating procedures	A	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	A	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	A	

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

This was a pre-arranged visit and the company representatives present were:

Paul Aujla - Environment Manager Viridis 178 Ltd
Adrian Samuel – Site Engineer

The following agenda items were provided in advance:

Introductions and Site Overview
Site Contacts & NRW Contacts
Timelines - Commissioning / full operation
NRW expectations permit requirements / notifications
Improvement Programme Timescales
Condition 3.1.3
AOB – Proposed variation

Introduction

This was the first NRW routine visit of the Viridis178 Ltd installation in Waunarllywdd, Swansea since the issue of the environmental permit, dated January 2017. Since permitting the operator has completed the main infrastructure on site and discharged the pre-operational conditions. The visit took a broad approach with the main objective for the area officer to meet the operator at the installation following the permitting stage and establish the current operational status. The visit also sought to review some of the requirements of the environmental permit with the operator and outline the expectations of NRW.

Site Overview



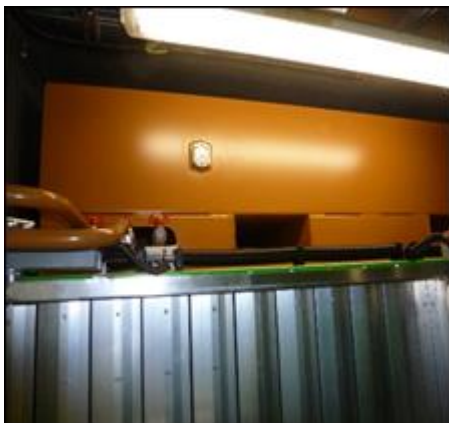
The visit began with introductions and a comprehensive health and safety induction conducted by the site engineer. The health and safety induction also facilitated in providing a good overview of this newly permitted site. At the time of the visit the site consisted of 14 operational GE Jenbacher 420 V20 engines with the remaining 13 of the permitted 27 engines yet to be installed.

The house keeping on site was very good and the engines in place were installed on new infrastructure. An acoustic sound barrier was in place surrounding the engines and providing a compound to prevent any off-site noise. On arrival of NRW the engines currently in

place were not running however they were brought on line half way through the visit to help with a network connection matter between the operator's operations based in Reading.

The photograph above shows 9 of the 14 GE Jenbacher engines to the NW of the compound housed within their individual containers. The spark ignition engines use the principle of 'lean-

burn' which aims to offer higher efficiency and reduced exhaust emissions, through a controlled combustion with a homogenous and 'lean mixture' of mains gas and air. For improved performance the engines also have a turbo charger and associated parts to enable a boost of air pressure in turn allowing more fuel for use and an increased power output. During the visit the site engineer opened the side of one of the containers engines and went through the engine components, control system and any associated fuels oils, coolants etc housed within it. The containers not only protect the engine but also aims to minimise noise and vibration. On top of each container could be seen the air blast cooler, silencer and stack. The site engineer explained how the site is controlled through an automated control system which closely monitors the installation. The photograph below left shows 4 of the 14 engines installed to the SW of the site. The central photograph shows one of the mains gas line which are present on each container and both the automated and manual shut off valves which are a key health and safety feature. The process alarms and interlocks built into the system allow for any abnormal operations to be detected and rectified quickly in the event of an incident. The photograph below right shows one of the new V20 engines used for the generation of electricity to feed into the grid at certain times with a maximum of 1500 hours / year in line with this type of facility in respect of the Industrial Emissions Directive (IED).



During the walk through of one of the engines the site engineer mentioned the types of fuels and fluids held within the containers for use in the engine namely oil and coolant. A photograph was taken of the reservoir of oil which forms part of the container housing the engine. The oil tank has a pressure gauge on it for visual inspection beneath which vents allow for hot air within the container to exit. The outside of the vents can be seen in the above photograph which are located on the end of each container below the silencer and stack. A brief discussion was held over the containment and pathway of any fuel oils in the event of a spill which would mainly remain in the container. However, spill kits with absorbent materials were readily

available on the site should they be required.

Proposed Variation

A discussion was also held on site regarding a proposed environmental permit variation associated with the engines yet to be installed. At this stage NRW is unclear of the detail of the variation and whether the proposal involves proposed changes to the permitted emission limit values (ELV's). The operator mentioned that the change would involve an increase from the permitted thermal input, combining stacks and the inclusion of a bunded area for oily rags and fuel oils used during the maintenance of the engines.



The photograph opposite shows the infrastructure in place to the east of the site ready for the delivery of the remaining engines.

KD enquired about the timeline for the proposed variation as there is a statutory 3 months associated with the determination process, however this is also dependant on the precision of the supporting documentation submitted with the application. Timeframes need to be considered in any management of change involving the environmental permit. The operator advised that the remaining engines are

due to be delivered on site in mid-August with the view to begin commissioning in October 2018. It was advised that based on the timeframe the operator is working to a variation application will need to be submitted as soon as possible. KD advised that following the visit she would speak to the NRW combustion permitting lead (Anna Lewis) to give them a 'heads up' concerning a proposed permit variation as well as the combustion sector lead (Tony Leakey).

Further information to apply for a variation for an environmental permit with NRW can be found on our website via the following link:

<http://naturalresources.wales/permits-and-permissions/water-discharges/discharges-to-surface-water-and-groundwater/change-vary-an-existing-permit/?lang=en>

NRW Expectations & Permit requirements / notifications

A discussion was held with the operator over the regulator of the environmental permit in Wales which is Natural Resources Wales (NRW). In 2013 NRW was formed and brought together Countryside Council for Wales, Forest Commission Wales, Environment Agency Wales and some roles and responsibilities previously undertaken by Welsh Government.

NRW has a purpose to ensure that the environment and natural resources of Wales are sustainable maintained, enhanced and used now and in the future. The NRW approach to sustainability is driven by the following pieces of legislation:

Well Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016



The Environment (Wales) 2016 act became law in Wales on 21 March 2016.

Purpose: The act puts in place the legislation needed to plan and manage Wales' natural resources in a more proactive, sustainable and joined-up way.

Benefits Include: Clarity on legislation i.e. land drainage consents, marine licensing and the ability to better manage our resources.

The Well-being of Future Generations (Wales) Act is about improving the social, economic, environmental and cultural well-being of Wales. Further information on these key pieces of legislation for NRW can be found on the Welsh Government website.

An overview of the NRW south Wales industry regulation team was also provided and how permitted installations are regulated by officers based in 3 teams in SE, SW and North Wales.

The inspecting officer encouraged the operator to familiarise themselves with the NRW permit and a useful exercise would be to go through table S1.2 and collate all the agreed operating techniques which sit alongside the permit document.

NRW guidance documents can be found on our website some of which are located via the following links:

<http://naturalresources.wales/about-us/what-we-do/how-we-regulate-you/?lang=en>

<http://naturalresources.wales/permits-and-permissions/environmental-permits/guidance-to-help-you-comply-with-your-environmental-permit/?lang=en>

Notifications

Any notifications in respect of the environmental permit was discussed with the operator. KD advised the NRW SW Industry Regulation team has an e-mail address:

industryregulation.swwales@cyfoethnaturiolcymru.gov.uk

It was also advised that this e-mail address should be copied into any notifications in respect of the permit conditions under 4.3. Outside office hours the 24-hour hotline should be contacted using the following NRW contact details below:

To report an environmental incident:

- call 0300 065 3000
- select 1 for Welsh language or 2 for English language service
- press 1 for the 24 hour incident reporting line

<http://naturalresources.wales/about-us/contact-us/report-an-incident/?lang=en>

Improvement Programme Requirements

The timeline for the completion of the improvement programme requirements were discussed with the operator. For ease of reference the improvement programme linked to permit condition 2.5 are replicated below:

Table S1.4 Improvement programme requirements		
Reference	Requirement	Date
IC 1	The operator shall submit a written report to Natural Resources Wales which will determine whether after 3 years of operation the use of secondary abatement can be considered BAT based on the frequency and duration of engine operation. The report shall: • Outline the number of annual operational hours, the number of annual operational requests from National Grid, and the length of each run over the last 3 years; • Include a cost benefit analysis to determine, based on the hours and duration of operation, whether the investment in secondary abatement is viable; and • Include an assessment of the impact of actual emissions of carbon monoxide, unburnt hydrocarbon and formaldehyde.	Within 3 years of the completion of commissioning of the installation.
IC 2	Following successful commissioning of the installation, the Operator shall undertake noise monitoring at the sensitive receptor monitoring location referred to in the application report 'BS4142 Noise Assessment Report No: 3291-R1 Titanium Road, Swansea, SA5 4SF' in order to validate the report's conclusions. This monitoring and assessment shall include: • A full noise monitoring survey and assessment meeting the BS4142:2014 standard; and • 1/3rd octave and narrow band (FFT) measurements to identify any tonal elements or low frequency noise. Upon completion of the monitoring, a written report shall be submitted to Natural Resources Wales. The report shall make reference to the findings detailed within application report 'BS4142 Noise Assessment Report No: 3291-R1 Titanium Road, Swansea, SA5 4SF' and include a detailed review of the acoustic barrier sizing and design. Should rating levels associated with the installation be detected (or calculated) at levels which are likely to cause adverse impact at sensitive receptors, the report shall include an assessment of the most suitable abatement techniques, an estimate of the cost and a proposed timetable for their installation.	Within 6 months of the completion of commissioning of the installation.

Only 14 of the permitted 27 engines currently make up the installation. It was considered therefore that it would be appropriate to complete improvement conditions (IC1& 2) following the completion of the installation and once the remaining engines are also in place and operational. If the

operator is considering varying the permit for the remaining engines it would be prudent for NRW to consider the deadlines of these improvement conditions during the determination of the variation. The subsequent reports required by the programme would then be representative of the operations of the whole site to compare it to the original assessment reports that were carried out at the application stage and prior to construction.

Action: NRW to consider the deadlines of the improvement programme requirements during the determination of the proposed variation for the remaining 13 engines at the Viridis 178 Ltd site.

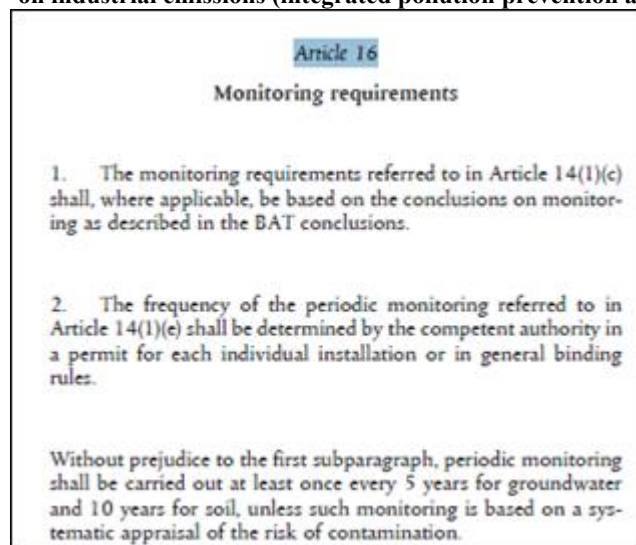
Condition 3.1.3 - Emissions and Monitoring

Advice and guidance was provided in respect of permit condition 3.1.3, it was explained that this environmental permit condition is transposed directly from the Industrial Emissions Directive (Article 16). Directive 2010/75/EU

DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 24 November 2010

on industrial emissions (integrated pollution prevention and control)



Currently there is no NRW guidance in respect of the condition but European Union (EU) Guidance which outlines an 8-staged approach for a systematic appraisal of the risk of contamination. A hard copy of the guidance was provided to the operator to help fulfil the requirements of this condition. It is understood that the installation is built on a green field site with no exploratory boreholes the operator will therefore need to consider the supporting information made at the environmental permit application stage and any associated documents such as the sites accident management plan. Article 16 allows for a risk-based approach to be taken and this is what will be considered by the operator to meet environmental

permit condition 3.1.3. The deadline for this condition is 10 January 2022

An electronic copy of the associated EU guidance can also be found via the following link:

[http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0506\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0506(01)&from=EN)

AOB

A brief discussion was held over the proposed MCERTS training that the site engineer is due to undertake. KD advised that it is usual for the regulator to undertake an Operator Monitoring Assessment (OMA) on a new facility within the first year of operation. It is also a requirement of the NRW combustion sector. It is proposed therefore that the next planned routine visit (Q4 financial year January to March 2019) will be an OMA to air visit. More information can be found via the following link and discussions had closer to the time:

<https://www.gov.uk/government/collections/monitoring-emissions-to-air-land-and-water-mcerts>

Guidance for Pollution prevention

Please note that a review for pollution prevent guidance (PPG) is currently being undertaken and a number of replacements entitled "Guidance for Pollution Prevent (GPPs). The new series aims to provide environmental good practice for the whole of the UK and environmental regulatory guidance directly to Northern Ireland, Scotland and Wales. For business in England, regulatory guidance is available from GOV.UK.

<http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and->

Conclusion

This was the first visit of the installation since the issue of the environmental permit. It was most beneficial to meet up with the operator on site and see the newly installed GE Jenbacher 420 engines and associated infrastructure. The operator has completed and discharged the pre-operational conditions within the environmental permit and just over half the site engines are now up and running. Currently the operator is in the process of installing the remaining engines that will make up the permitted installation. The operator informed NRW during this visit of the intention to apply to vary the environmental permit which will impact on the remaining engines yet to be installed. Based on the timeline the operator is currently working to for the commissioning of the remaining engines it is important that due consideration is given for the time needed to vary the environmental permit. Relevant advice and guidance in respect of the environmental permit was provided during this site visit and outlined in brief on this compliance assessment report form (CAR). There were no breaches of the environmental permit identified as part of this visit.

[End]

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0033305**

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

Site	Viridis 178 Swansea Power Plant	Permit Ref	AB3393CP
Operator/Permit holder	Viridis 178 Ltd	Date	19/04/2018

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.