

COMPLEX BESPOKE PERMIT APPLICATION: NON-TECHNICAL SUMMARY

Aberdare Power Station, C1 Trade Park, Aberamen Park Industrial Estate,
Aberdare CF44 6DA



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1. Introduction

This Non-Technical Summary (NTS) has been prepared by UK Power Reserve Limited (UKPR) in support of a complex bespoke Medium Combustion Plant (MCP) and Specified Generator (SG) application for a small natural gas-fired electricity generating plant at Aberdare Power Station, C1 Trade Park, Aberamen Park Industrial Estate, Aberdare CF44 6DA, hereafter known as “the Site”.

In addition to this NTS, the following documents are included with this environmental permit application:

- Application forms: Part A, B2, B3 and F1
- Appendix A: Location Plan (Aberdare)
- Appendix B: Site Plan (Aberdare)
- Appendix C1: Air Quality Assessment 01.0024.051 v3 (Aberdare)
- Appendix C2: AQ Model Data (Aberdare)
- Appendix D1: Natura 2000 Sites Within 5km (Aberdare)
- Appendix D2: SSSI and MNR Within 2km (Aberdare)
- Appendix E: UKPR Directors (Aberdare)
- Appendix F: MCP SG Checklist (Aberdare)
- Appendix G: SG TB Screening Tool v2.1 (Aberdare)

2. Regulated Facility

The Site’s location is given in Appendix A and is centred on grid reference SO 02220 00805. The Site is approximately 3.2 km south east of Aberdare within Aberamen Park Industrial Estate accessed from the B4275.

The industrial estate is located within the Cynon Valley River Park and the settlement development limits as defined in the Local Development Plan. The wider estate contains a number of different size and styles of industrial premises including larger single use buildings and smaller ‘starter’ type units.

A permit for the Site is being sought due to the Environmental Permitting (England and Wales) (Amendment) Regulations 2018. The aggregated net rated thermal input of the site is 38.7 MWth and therefore qualifies as a “Medium Combustion Plant” (MCP) under Schedule 25A and a “Specified Generator” under Schedule 25B.

The Site layout is shown in Appendix B and is comprised of 5 x 6.7 MWth and 1 x 5.1 MWth gas fuelled generators with emissions less than 500mg/Nm³. The main building includes 4 generators with individual 15m stacks and there are 2 generators in another smaller extension building with individual 12m stacks. They are expected to operate more than 50 hours per year under a capacity market or balancing services agreement signed after 31st October 2017 which remains in place after December 2018. It is therefore considered that the Site is comprised of Tranche B SGs with a permitting and compliance ELV date of 1st January 2019.

For the reasons set out above, the Site will require an MCP permit by 1st January 2024 and an SG permit by 1st January 2019, since extended to 30th June 2019 by Natural Resources Wales’s regulatory decision. As such, this application is for an environmental permit that will satisfy the requirements of both Schedule 25A and 25B.

3. Environmental Risk Assessment

3.1. Amenity and Accident Risk

Amenity and accident risks and their mitigation are managed by UK Power Reserve’s ISO 14001:2015 accredited Environmental Management System (EMS).

3.2. Air Quality Assessment

The Tranche B Screening Tool (Appendix G) indicated that a detailed Air Quality Assessment would be required for the permit application. An Air Quality Assessment has been undertaken by Isopleth, dated April 2019,, and is

provided in Appendix C along with the model files. The assessment makes reference to any human or ecological receptors, as identified in Appendix D, with existing air quality in the area, national air quality legislation, policy and guidance.

Detailed air quality modelling using the AERMOD 8 dispersion model has been undertaken to predict the impacts associated with stack emissions from the gas engines at the Site. Emissions from the stacks have been assumed to occur for the full year when comparing against short term and long term air quality limits.

Although impacts are high immediately adjacent to the site, all impacts (human and ecological) are predicted to be below limit values at locations where the Air Quality Directive states that they must be applied.

3.3. Habitats Assessment

The online MAGIC maps tool from DEFRA has been checked to identify any protected areas within screening distances that would require a habitats assessment. This includes Special Protection Areas, Special Areas of Conservation and Ramsar sites within 5km and Sites of Special Scientific Interest and Marine Conservation Zones within 2km. The results are presented in Appendix D1 and D2, respectively, and have identified:

- Within 5km: There are no Special Protection Areas, Special Areas of Conservation, or Ramsar sites.
- Within 2km: There is 1 Site of Special Scientific Interest. There are no Marine Nature Reserves.

A habitats assessment will therefore be required.

4. Energy Efficiency Directive

Schedule 24 of the Environmental Permitting Regulations does not apply in this case as the environmental permit is not being sought for a new operation. UKPR acquired the site in 2012 as an operational site. UKPR have been the legal operators since then. Therefore, it is classed as an "existing" MCP and as such the requirements of the Schedule 24 should not apply.

5. Key Technical Standards

The key technical standards have been used to design and operate the plant:

- NRW (2014) Environmental Management Toolkit: General Version Industry
- NRW/EA (2018) MCPD Guidance
- NRW/EA (2018) Specified Generators Modelling Guidance
- NRW/EA (2018) M5 Monitoring Requirements for the MCPD Specified Generators
- NRW/EA (2019) Specified Generator Guidance

6. Key Control Measures

The key control measures that are used to operate the plant are as follows:

- Operated in accordance with an ISO 14001:2015 accredited EMS.
- Engine control system allows UKPR to:
 - Monitor engine performance
 - Control air-fuel ratio
 - Actively and reactively control load
 - Meter power
 - Manage engine speed
 - Control voltage
 - Remotely control the system
- A preventative maintenance schedule will be implemented.

- Potentially polluting substances will be stored within tanks benefitting from secondary containment.
- Waste will be managed in accordance with the waste hierarchy and only sent to appropriately licensed facilities.
- Emissions to air will be monitored periodically to ensure compliance with limits are achieved.
- Gas engines will be stored within sound mitigating containers.

7. Conclusion

This information summarised within this report finds that Aberdare Power Station is not predicted to significantly impact local receptors or the environment.