COMPLEX BESPOKE PERMIT APPLICATION: NON-TECHNICAL SUMMARY

Traston Road Power Station, Traston Road, Newport, NP19 4PW

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Date: April 2019

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1. Introduction

This Non-Technical Summary (NTS) has been prepared by UK Capacity Reserve Limited (UKCR) 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 Traston Road Power Station, Traston Road, Newport, NP19 4PW 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 (Traston Road)
- Appendix B: Site Plan (Traston Road)
- Appendix C1: Air Quality Assessment 443371-AQ-03(00) (Traston Road)
- Appendix C2: AQ Model Data (Traston Road)
- Appendix D1: Natura 2000 Sites Within 5km (Traston Road)
- Appendix D2: SSSI and MNR Within 2km (Traston Road)
- Appendix E: UKCR Directors (Traston Road)
- Appendix F: MCP SG Checklist (Traston Road)
- Appendix G: SG TB Screening Tool v2.1 (Traston Road)

2. Regulated Facility

The Site's location is given in Appendix A and is centred on grid reference ST 33076 85700. The Site is approximately 2.8km south east of Newport on land off Traston Road.

The wider estate predominantly consists of Solutia Chemical Plant but there are also a number of large, single-use industrial 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 49 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 10 x 4.9 MWth gas fuelled generators with emissions less than 500mg/Nm3. Each generator is within an acoustically insulated container with an exhaust stack of 8 m. 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 A generator which becomes a Tranche B generator" 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 on the relevant dates.

3. Environmental Risk Assessment

3.1. Amenity and Accident Risk

Amenity and accident risks and their mitigation are managed by UK Capacity 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 RSK, 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.

The potential impact of the gas-fired plant on local air quality has been assessed using AERMOD, an advanced dispersion model developed for regulatory purposes, and used meteorological data measured between 2016 and 2018 at the Rhoose (Cardiff) weather station. Buildings/structures to account for downwash effects have been included in the air dispersion model. Concentrations of the key air pollutants (NO2, NOx and CO) have been predicted at existing sensitive human receptors (such as residences) and ecological receptors and hypothetical gridded receptors at a regular spacing of 50m covering the modelled domain of size 4km x 4km and 250m covering 20km x 20km approximately centred over the electricity generating plant. Background concentrations were used in combination with the predicted PC from the operation of the plant in order to determine the total PEC for each pollutant and relevant averaging period. It is understood that the plant is operated in accordance with the emissions parameters specified in Section 5.1.2 of this report.

The results have been compared to screening criteria from the Defra and EA guidance, with some exceedances of this criteria predicted; however the guidance notes this criteria should be used to determine whether detailed dispersion modelling is required (which has already been undertaken within this report) and goes on to recommend the PEC results are compared to relevant environmental standards.

The highest predicted impacts at any of the modelled off-site discrete receptor locations representative of relevant exposure in any of the three modelled meteorological years have been reported and compared to the relevant AQSs or EALs (i.e. annual and hourly mean NO2 concentrations, annual and 24-hourly mean NOx concentrations and 8-hourly mean CO concentrations) under two scenarios.

For scenario 1, considering the development alone, there were no predicted exceedances of the annual and hourly mean NO2 or 8-hourly CO AQSs at any of the relevant modelled discrete human receptor locations in any of the modelled meteorological years. Receptor E13 was predicted to exceed the annual mean NOx AQS, however the background concentration demonstrates that this location already exceeds the AQS, and the PC is insignificant at 0.19%. Receptors E06-E09 and relevant locations within the grid were predicted to exceed the 24-hourly mean NOx AQS. However, it should be noted that the modelling undertaken has assumed that the plant would be operating continuously throughout the year. In reality, the plant will run for a significantly lower proportion of the year (up to 1,500 hours), and the predicted daily average NOx concentrations are considered to be an overestimation. No significant impact on nitrogen or acid deposition on ecosystems in the surrounding area is expected.

For scenario 2, considering the cumulative impact scenario of the operation of the development and the adjacent UKPR Solutia site, there were no predicted exceedances of the annual and hourly mean NO2 or 8-hourly CO AQSs at any of the relevant modelled discrete receptor locations in any of the modelled meteorological years. Again, receptor E13 was predicted to exceed the annual mean NOx AQS, however again this was due to the existing background concentration, and the cumulative PC is still insignificant at 0.31% of the AQS. Receptors E06-E10 and relevant locations within the grid were predicted to exceed the 24-hourly mean NOx AQS. However, as explained above, the predicted daily average NOx concentration is likely to be an overestimation. No significant impact on nitrogen or acid deposition on ecosystems in the surrounding area is expected.

With consideration of the highly conservative approach to the assessment for short-term standards, and noting that the 24-hourly mean NOx AQS is only a target value, it is determined that the operational phase impacts on local air quality are not significant. Additional mitigation measures have not been recommended and the residual impacts are considered likely to be acceptable.

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 is 1 Special Protection Area, Special Areas of Conservation, or Ramsar sites.
- Within 2km: There are 4 Sites of Special Scientific Interest and Marine Conservation Areas.

A habitats assessment will therefore be required.

4. Energy Efficiency Directive

Schedule 24 of the Environmental Permitting Regulations does not apply as the permit is being sought for 1,500 operating hours per annum as a rolling average over a period of 5 years. In addition, the environmental permit is not being sought for a new operation. UKCR built the site which was brought into operation in March 2017. 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 UKCR 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 Traston Road Power Station is not predicted to significantly impact local receptors or the environment.