



**APPLICATION FOR A COMPLEX BESPOKE
ENVIRONMENTAL PERMIT UNDER THE
ENVIRONMENTAL PERMITTING (ENGLAND AND
WALES) (AMENDMENT) REGULATIONS 2018**

NON-TECHNICAL SUMMARY



NEWCASTLE UPON TYNE, NE1 7RU

**ECL Ref: NCLU.01.01/NTS
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ACRONYMS/TERMS USED IN THE TEXT

AQMA	Air Quality Management Area
CHP	Combined Heat and Power
ECL	Environmental Compliance Limited
EMS	Environmental Management System
EnMS	Energy Management System
EP	Environmental Permit
GLC	Ground Level Concentration
K-EnPIs	Key Energy Performance Indicators
LNR	Local Nature Reserve
LTHW	Low Temperature Hot Water
LWS	Local Wildlife Site
MCP	Medium Combustion Plant
MCPD	Medium Combustion Plant Directive
Newcastle University	University of Newcastle upon Tyne
NGR	National Grid Reference
NNR	Natural Nature Reserve
NO₂	Nitrogen Dioxide
NO_x	Oxides of Nitrogen
NTS	Non-Technical Summary
OS	Ordnance Survey
PC	Process Contribution
Ramsar	Ramsar Wetlands of International Importance
SAC	Special Areas of Conservation
SG	Specified Generator
SO₂	Sulphur Dioxide
SPA	Special Protection Areas
SSSI	Site of Special Scientific Interest
The Installation	Merz Court Energy Centre

1. INTRODUCTION

1.1. Project Overview

- 1.1.1. This Application (and its associated supporting documentation) has been prepared on behalf of the University of Newcastle upon Tyne (“Newcastle University”) by Environmental Compliance Limited (“ECL”) and relates to the application for a complex bespoke Environmental Permit (“EP”) to permit Newcastle University to operate a new Medium Combustion Plant (“MCP”) and Specified Generator (“SG”) at Merz Court Energy Centre (“the Installation”).
- 1.1.2. The new Combined Heat and Power (“CHP”) plant will be fuelled by liquid biofuel with a maximum thermal input of 1.963MWth. The CHP is identified as follows:
- CHP 1 – Manufacturer: Siemens, Model: SLE-48ST, Unique Identifier: 86B3E01.
- 1.1.3. In addition to this Non-Technical Summary (“NTS”) the following reports have been submitted to support the permit application:
- completion of the EA’s application forms (Part A, Part B2.5 and Part F1);
 - preparation of an Air Dispersion Modelling Study - NCLU.01.01/ADM;
 - completion of the specified generator screening tool; and
 - completion of the MCP generator list.

1.2. Company Details

- 1.2.1. The MCP is to be located on impermeable surfacing (concrete hardstanding) within the existing Merz Court Energy Centre, which also comprises five existing natural gas fuelled boilers (put into operation in 2009) and two new natural gas fuelled boilers (commissioned in November 2022 but have not been in operational use). The boilers all possess rated thermal inputs between 1 MW and 1.5 MW.
- 1.2.2. The Installation will be operated and managed by Newcastle University and will support the university site via the provision of Low Temperature Hot Water (“LTHW”) and electricity.
- 1.2.3. Newcastle University is a public body - education. The Vice Chancellor and President is Professor Chris Day. The registered address is:
Newcastle University,
Newcastle upon Tyne
NE1 7RU.
- 1.2.4. The site address is:
Newcastle University,
Merz Court,
Newcastle upon Tyne
NE1 7RU.

- 1.2.5. The contact details for the application are:
- Name: Mr Tim Heard
 - Address: Environmental Compliance Limited, Unit G1, The Willowford, Treforest Industrial Estate, Rhondda Cynon Taff, CF37 5BF
 - Tel: 01443 801215
 - Fax: n/a
 - Mobile: 07976182544
 - Email: t.heard@ecl.world.
- 1.2.6. The contact details for billing and invoicing are:
- Name: Newcastle University
 - Address: PO BOX 268, Sheffield, S98 1QY
 - Tel: n/a
 - Fax: n/a
 - Mobile: n/a
 - Email: nu-invoices@parseq.com
- 1.2.7. The contact details for site operations are:
- Name: Hannah Owens
 - Address: Estates and Facilities, 1st Floor Agriculture Building, Newcastle University, Newcastle upon Tyne, NE1 7RU
 - Tel: n/a
 - Fax: n/a
 - Mobile: 07971334874
 - Email: hannah.owens@newcastle.ac.uk

2. ABOUT THE INSTALLATION

2.1. Installation Activities

2.1.1. The proposed activity is covered by Schedule 25A (Medium Combustion Plants (MCP) Medium Combustion Plant Directive (“MCPD”)) and Schedule 25B (Specified Generators (SG)) of the Environmental Permitting (England and Wales) (Amendment) Regulations 2018: Operation of a Medium Combustion Plant and Specified Generator.

2.2. MCP/SG Location

2.2.1. The Installation is located within the Newcastle University Merz Court site. The full site address is: Newcastle University, Merz Court, Newcastle Upon Tyne, NE1 7RU.

2.2.2. Figure 1 below provides an indicative site location. The site is centred on Ordnance Survey (“OS”) National Grid Reference (“NGR”) NZ 24637 65219.

Figure 1: Indicative Site Location



2.2.3. The Installation is located within Newcastle City Council.

2.3. Directly Associated Activities

2.3.1. There are no directly associated activities proposed as part of this application.

3. MANAGEMENT SYSTEM

3.1. Overview of the Environmental Management System Arrangements

- 3.1.1. Newcastle University currently operate an Environmental Management System (“EMS”) externally certified to international ISO 14001 Standard. The ISO 14001 Certificate is provided in Appendix I.
- 3.1.2. Newcastle University also operates an Energy Management System (“EnMS”) which is externally certified to international 50001 Standard. The ISO 50001 Certificate is provided in Appendix II. As part of the EnMS, key energy performance indicators (“K-EnPIs”) are set and energy reviews are undertaken annually to plan and monitor performance against objectives and targets in order to achieve continual environmental improvement.
- 3.1.3. The EMS and EnMS form a combined all-encompassing integrated management system. The scope of which will be expanded to incorporate the new CHP.

3.2. Fuel Storage

- 3.2.1. The fuel is stored on site in an appropriately bunded 85,000 litre fuel tank. The fuel is heated and filtered from the tank to a smaller bunded tank adjacent to the CHP plant. The fuel tank and CHP are interconnected with the control office which provides direct link to manage the fuel levels.
- 3.2.2. Fuel is automatically loaded for delivery when the site tank level indicates a delivery is required. The tank is protected by a low-level alarm that is triggered at 6 days run time. This is a safety feature to ensure the system never runs out of fuel.
- 3.2.3. As part of the EMS, site walkabouts will be undertaken including inspection of all site infrastructure including bunded tanks and spill kit contents and to allow for the identification of any spills. The bunded tanks and pipework will be subject to routine planned preventative maintenance to ensure no deterioration. All fuel deliveries will be supervised, and all relevant personnel are trained in emergency spill response and will follow the EMS procedure to ensure any spill is contained and dealt with appropriately.

4. SENSITIVE RECEPTORS

4.1. Environmental Receptors

- 4.1.1. There are no Ramsar Wetlands of International Importance (“Ramsar”), Special Areas of Conservation (“SAC”) or Special Protection Areas (“SPA”) within 5km of the Installation.
- 4.1.2. There are no Sites of Special Scientific Interest (“SSSI”), National Nature Reserves (“NNR”) or Local Nature Reserves (“LNR”) within 2km of the Installation. The nearest environmental designation to the Installation is the River Tyne (Tidal Extent + Newburn) Local Wildlife Site (“LWS”), located approximately 1.5km to the south-southeast of the Installation.
- 4.1.3. The Installation is located within an Air Quality Management Area (“AQMA”) within Newcastle City Council Local Authority Area – namely AQMA-No. 1b (City Centre) declared for nitrogen dioxide (“NO₂”).

4.2. Human Receptors

- 4.2.1. The Installation is located within the grounds of Newcastle University. The nearest human receptors are therefore the staff, students and visitors of Newcastle University.
- 4.2.2. The Installation will be operated and maintained in accordance with the manufacturer’s instructions and will operate under the EMS and EnMS. Emissions monitoring will be undertaken as required by the Environmental Permit.

5. AIR DISPERSION MODELLING STUDY

5.1. Overview

- 5.1.1. Detailed air quality modelling, using the ADMS dispersion model, has been undertaken to predict the impacts, associated with stack emissions arising from Merz Court Energy Centre, on human and ecological health.
- 5.1.2. As a worst-case, emissions have been assumed to be at the maximum emission concentrations assumed for the assessment. This represents a conservative assessment of the impact since the actual emissions from the Installation are likely to be lower during normal operation.
- 5.1.3. Due to operational constraints, the maximum number of appliances that could feasibly run concurrently at Merz Court Energy Centre is seven (comprising the proposed CHP and six boilers). Under normal operating conditions (which vary seasonally throughout the year) it has been considered very unlikely that all seven emission points would need to be active simultaneously. It is envisaged that, in such an event, this would be seen as the worst-case scenario in terms of emissions to air.
- 5.1.4. Consequently, for the purposes of the modelling assessment (and in the interest of accounting for the emission points with the worst-case emission rates), it has been assumed the worst-case scenario would consist of the proposed CHP, five existing boilers and one new boiler.

5.2. Conclusions

- 5.2.1. At the point of maximum ground level concentration (“GLC”) and at the potentially sensitive human receptor locations, all pollutants except long-term NO₂ screened out as insignificant. Following further assessment of the long-term NO₂ process contributions (“PCs”), the impact could be regarded as ‘negligible’.
- 5.2.2. For the habitat sites considered, it was demonstrated that the oxides of nitrogen (“NO_x”) and sulphur dioxide (“SO₂”) emissions from the Installation are unlikely to result in a breach of the relevant Critical Levels or Critical Loads or are unlikely to have an adverse effect on local habitat sites – with all predicted PCs well within the acceptable limits.
- 5.2.3. In summary, therefore, it was concluded that emissions arising from Merz Court Energy Centre will not have a detrimental impact on local air quality, human health, the AQMAS or the sensitive habitat sites considered as part of the assessment.