Technical Note

Discharge of Planning Condition 24

Union Park, London

Glasgow
October 27, 2023

Date:	27 October 2023	Issue:	2.0
Reference:	10276084	Status:	Issue

Prepared By:	Ben Boucher-Myers	Date:	27th October 2023
Edited By:	Ben Boucher-Myers	Date:	27th October 2023
Authorised By:	Ben Boucher-Myers	Date:	27th October 2023

Document Control

Issue	Date	Status	HDR Author	HDR Approval	Notes
1.0	17/10/2023_BBM	Draft	17/10/2023_NS	17/10/2023_NS	Draft for comment
2.0	27/10/2023_BBM	Issue	27/10/2023_BBM	27/10/2023_BBM	Issue

Contents

This page is intentionally left blank.

1 INTRODUCTION

The purpose of this Technical Note is to discharge Planning Condition 24 of the Original Permission (ref. 75111/APP/2020/1955) as quoted below.

Since the planning application was submitted, the Environment Agency (EA) have issued an Environmental Permit (EP) (permit reference: DP3342QV) for the 14 generators associated with Energy Centre 1 ('EC1'). Given there is likely to be more than one EP for this development, this monitoring plan pertains to the EC1 generators only. Subsequent monitoring plans are to be submitted for approval for the remaining energy centres EC2 & EC3 in due course.

Planning Condition 24 wording:

> *Prior to operation of the development, an Emissions Monitoring Plan (EMP) for each phase (energy centre) shall be submitted for agreement by the Local Planning Authority in alignment with the Environment Agency guidance and permit.*
>
> *The EMP shall detail the proposals for the implementation of flue gas monitoring to meet the requirements of Condition 22 for each phase in line with the web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5). The EMP must include all backup generators and shall be in place from the start of operations.*
>
> *N.B. As there may be more than one EA permit, there may be a need for more than one monitoring plan to cover the 42 generators. In such an event, this condition will not be fully discharged (only partially discharged) until all monitoring plans have been submitted for approval.*

2 PROPOSED MONITORING APPROACH

2.1 Monitoring standard

In line with the Environmental Permit and EA guidance, monitoring is to be conducted in accordance with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5)[1] .

2.2 Pollutants and reference conditions

The pollutants to be monitored and the referenced conditions to be used are as per the Environmental Permit. These are summarised as follows:

Pollutants

- Oxides of nitrogen (NO and NO2 expressed as NO2)
- Carbon monoxide

Reference conditions

- 273K, 101.3kPa, dry gas
- corrected to a reference oxygen (O2) concentration of: 3% for liquid or gaseous fuels, 6% for solid fuels and 15% for engines and gas turbines

2.3 Monitoring approach

All generators have been fitted with Selective Catalytic Reduction (SCR) equipment to reduce the NOx emissions.

To achieve the required emissions performance the system has been fitted with NOx sensors both before and after the SCR to control the dosing rate necessary. These sensors are installed, maintained and calibrated according to manufacturer recommendation.

The issued EP requires monitoring of NOx and CO every 1500hours of operation or once every five years (whichever comes first). For this requirement, the standard NOx sensor on the exhaust gas outlet side of the SCR is temporarily replaced with an MCERTS[2] calibrated NOx and CO sensor, which is used for reporting these emissions. This approach means secondary emissions monitoring reports are not required.

Every five years or 1,500 hours of operation (whichever comes sooner) monitoring and testing will be undertaken by an organisation with the EA's MCERTS accreditation.

Total mass emissions for NOx, will be recorded by the SCR system and these are to be reported to the EA annually. NOx and CO will be reported as summarised above.

Monitoring is to be undertaken using current site loads at the time. Given all the generators are identical it is proposed that testing of one generator is representative.

[1] https://www.gov.uk/government/publications/monitoring-stack-emissions-low-risk-mcps-and-specified-generators/monitoring-stack-emissions-low-risk-mcps-and-specified-generators

[2] https://www.gov.uk/government/collections/monitoring-emissions-to-air-land-and-water-mcerts

2.4 Monitoring Port locations

The locations of the monitoring ports are presented in the below figures. The locations have been selected as they represent a downstream location that is close to the combustion zone where the gasses are well mixed. These have been agreed with the EA as part of the application for an EP.

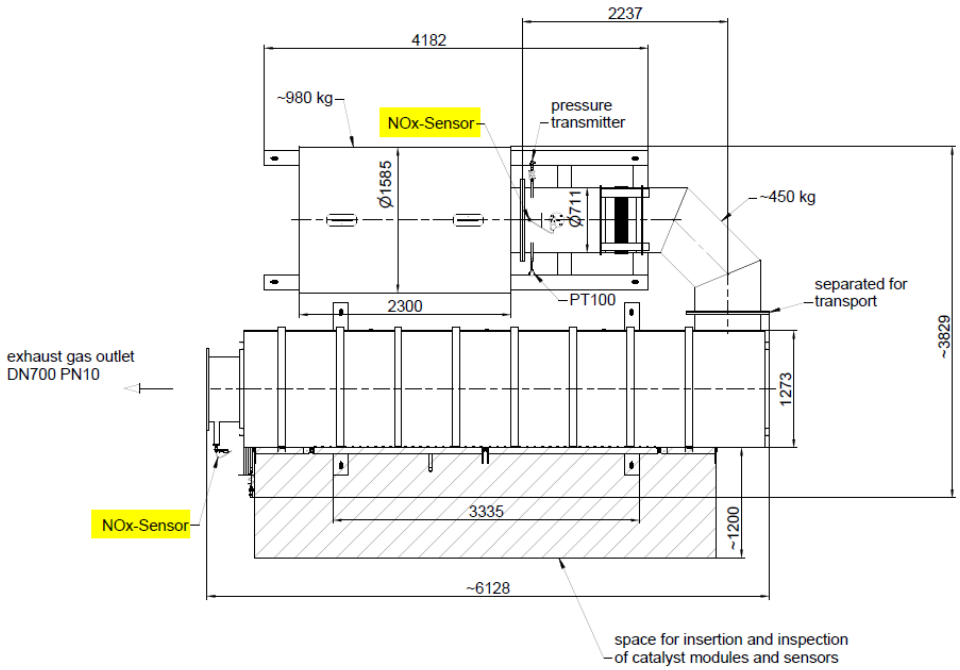

Figure 1 : SCR design with NOx monitoring sensors

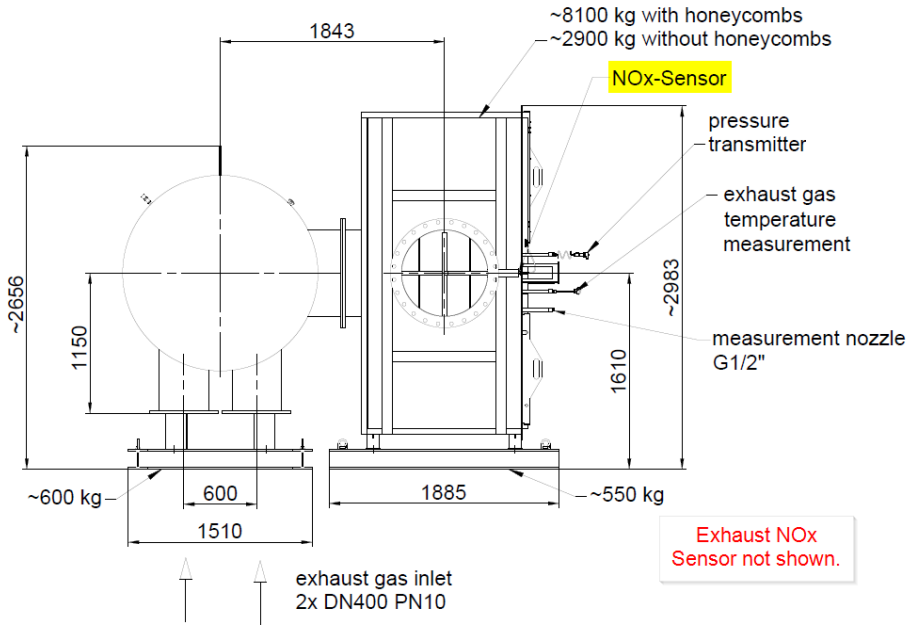

Figure 2 : SCR design with NOx monitoring sensors (cross section)

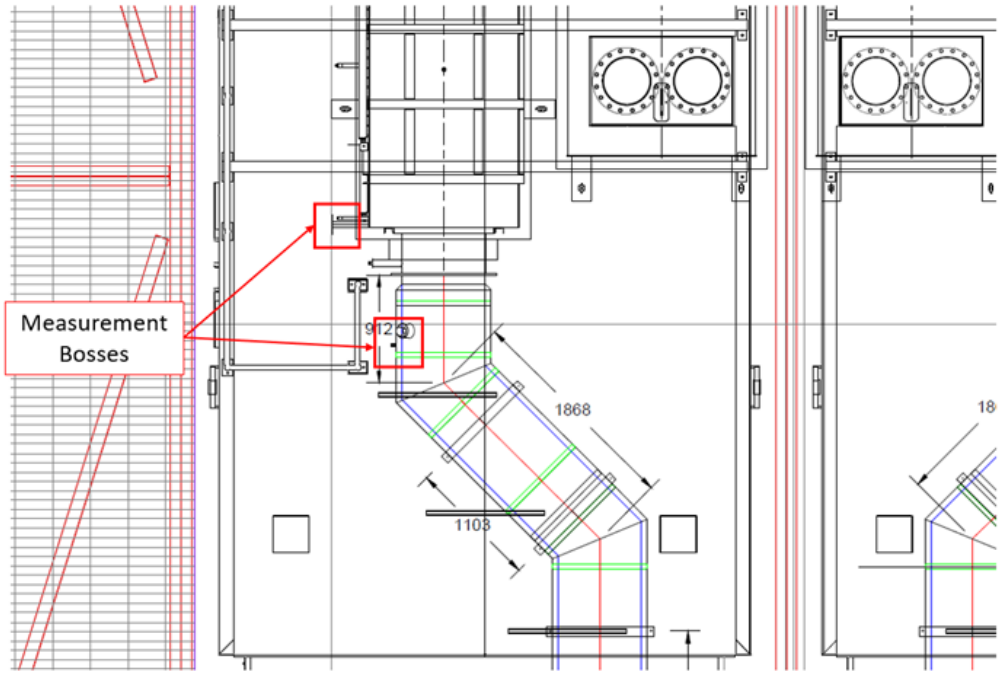

Figure 3: Location of additional measurement bosses to facilitate monitoring