Non-technical summary

This application relates to the installation of four new natural gas-fired boilers at the brewery site. The existing boilers, installed in 1974, have been deemed as a business risk. To improve operational reliability, energy efficiency, and environmental performance, the new boilers will be installed alongside them. This will also allow for the transition to our new brewery to happen smoothly over the next two years, where the new boilers will ultimately end up. The new boilers will be located in the existing boiler house and will discharge emissions through an existing unused stack, with no changes to fuel type or source, or emission points.

The new boilers are vertical tubeless steam boilers with a total rated thermal input of 5 MWth. They are designed for energy-efficient operation, achieving up to 86% efficiency (typically 82%), and offer modern features that reduce emissions and enhance safety. The boilers incorporate fully modulating burners with up to 10:1 turndown ratios, a variable speed combustion air blower, and a digital burner management system for optimised performance. These technologies allow the boilers to match steam output to demand efficiently and reduce unnecessary fuel use.

The new boilers have tested NO_x emissions of 37.8 mg/Nm³, well below the legal limit of 100 mg/Nm³ for existing medium combustion plants under the Medium Combustion Plant Directive (MCPD), with low levels of other pollutants. Natural gas use ensures minimal dust and no SO_2. The combustion process is fully controlled and monitored, with emissions testing continuing under current permit requirements. As the boilers run on natural gas, emissions of dust and sulphur dioxide (SO_2) remain negligible.

Additional features include advanced safety systems (e.g. high water protection, low water cut-off with manual reset, operating pressure limit switches, safety relief valves, and emergency stop contacts), which exceed standard requirements. The boilers are BG01-compliant (arrangement level 3) and supplied with a 10-year pressure vessel warranty, ensuring long-term operational reliability.

There is no change to the site's water use, wastewater generation, or waste streams. The existing Environmental Management System (EMS), certified to ISO 14001, will be updated to reflect the new equipment. This boiler upgrade aligns with the site's environmental objectives by reducing emissions, improving energy efficiency, and supporting continued compliance with relevant Best Available Techniques (BAT) and permit conditions.