

**KRIGER 2.0 MW<sub>th</sub> BIOMASS BOILER INSTALLATION**  
**MCP/SG ENVIRONMENTAL PERMIT APPLICATION**  
**JCG HALE LIMITED**  
**JUNE 2019**

### **Non-Technical Summary**

JCG Hale Limited proposes to install a biomass boiler at their new site near the Milland Road Industrial Estate, Neath. The installation will incorporate a Kriger 2.0 MW<sub>th</sub> biomass boiler, supplying approximately 2.0 MW of thermal energy to on-site space and process heating applications, as well as to a directly associated Organic Rankine Cycle (ORC) power generation unit. The biomass boiler will be located within an existing building on-site which will be modified to accommodate the process equipment and fuel store.

The biomass boiler will burn virgin timber wood chip fuel, prepared from offcuts generated by the on-site manufacturing activities, and will utilise approximately 4,200 tonnes per annum of clean wood biomass fuel. As the wood chip fuel is classified as a waste, the operation of the biomass boiler would normally be subject to regulation by Neath and Port Talbot Council. However, as the thermal rating of the boiler is greater than 1 MW<sub>th</sub> and incorporates an ORC, the biomass boiler is also classified as a Medium Combustion Plant (MCP) and a Specified Generator (SG). Therefore, the operation of the boiler will be subject to regulation by Natural Resources Wales (NRW), and the application is submitted on this basis.

The Kriger 2.0 MW<sub>th</sub> biomass boiler has been designed in line with the requirements of Best Available Techniques (BAT) to ensure that energy recovery efficiency is optimised, and the associated environmental impact of the operation of the biomass boiler is minimised at all times. The Kriger 2.0 MW<sub>th</sub> biomass boiler is fully instrumented to enable close control of operating conditions to ensure that pollutant emissions remain within the acceptable limits that will be defined by conditions in the Environmental Permit.

The Kriger 2.0 MW<sub>th</sub> biomass boiler will be equipped with abatement and control facilities to minimise the formation of Oxides of Nitrogen (NO<sub>x</sub>), Carbon Monoxide (CO), Volatile Organic Compounds (VOCs) and Particulates. The boiler includes combustion air staging and a flue gas recirculation (FGR) system to control combustion temperatures and minimise the formation of Oxides of Nitrogen (NO<sub>x</sub>), ensuring that the emissions of NO<sub>x</sub> remain within the specified Emission Limit Values. Particulate emissions will be minimised by means of a high efficiency ceramic filter on the exhaust from the biomass combustor that will ensure that more than 99.9 % of particulate emissions are collected.

Emissions from the Kriger 2.0 MW<sub>th</sub> biomass boiler will be discharged from a dedicated chimney, 16-metres in height, that has been designed to ensure effective dispersion, under even the most adverse weather conditions. A detailed air quality assessment has demonstrated that emissions from the Kriger 2.0 MW<sub>th</sub> biomass boiler will have an insignificant impact on local air quality in the vicinity of the JCG Hale Ltd site.