

27th January 2023

Mrs E A Parr
EPR Compliance Assistant
Natural Resources Wales
Rivers House
St Mellons Business Park
St Mellons
CARDIFF
CF3 0EY

Our Ref: w:\Environmental\IPPC\Environment Agency Reporting\Permit Reporting\Section Mill>Returns\Annual\2021\4.1.5 Annual Returns 2022.doc

Dear Mrs Parr,

RE: Section Mill EPR Permit BV0767 4.1.5 Annual Returns 2022

In accordance with CELSA Manufacturing UK Ltd Environmental Permitting Regulations (EPR) Section Mill Permit BV0767, permit condition 4.1.5 requires the following:

4.1.5 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 31 January in each year, provide a summary report of the previous year's progress against such targets.

The following information summarises the CELSA's Section Mill EMS Objectives and Targets for 2022.

1.0 Reduce gas consumption to 420.9 kWh/tonne per month

This objective was to reduce gas consumption to 420.9 kWh/tonne at the Sections Mill.

The Sections Mill furnace gas consumption for 2022 was 441.68 kWh/tonne per month. This is an improvement on 2021's performance of 457.79 kWh per month.

The main contributor to the reduction in gas consumption were the adjustments to furnace strategy that took place in 2022:

- **Billet Specific Rolling Rate/Heat Strategy** – all billet sizes have their own furnace settings, which have been optimised to allow the slabs/billets to be heated up uniformly and most efficiently with the current state of the furnace.
- **Delay Controls** – the temperature setting for each of the delay options has been changed, and additional delay options have been added. These new delay options allow for a suitable temperature to be maintained when the furnace is required to go on an unplanned stop due to a

fault. This results in an overall gas saving when compared to having to heat up from a far lower temperature after a delay. Having a larger range of delay options has allowed the operators to have more control over the furnace during delays, and helps heat up the furnace more efficiently if the different delay options are chosen if they can predict how much longer they will be down for.

- **Ramp Up/Down of the Furnace** - Adjustments made to the duration of the Ramp up controls when in auto have made for a much smoother and more consistent heating of the furnace. An auto discharge function has also been introduced to the furnace. This works by looking at the discharge temperature of each of the billets before making a decision to change a setting if needed. A 'band width' the furnace should work to is set, which auto adjusts up and down if the discharge temperature is low or high respectively.
- **Adjustments to ratios** – The ratios between gas/air for each of the heating zones within the furnace has been optimised.

Other improvements that have also contributed to reduced gas consumption in 2022:

- Removal of furnace entry / exit doors catching points and door repairs
- Changes to door timings to have the doors open for the shortest amount of time which has reduced the amount of heat loss through long opening times
- Changes to doors that were previously staying open continuously due to manual controls not working. Manual controls to open/close doors were repaired and made clearer to the operators.
- Repairs undertaken on furnace hearth ramp refractory during the summer shutdown
- Under fire zone tunnel refractory repaired during the summer shutdown.
- Pyrometer readings were repaired due to issues with the pyrometer giving false signals. This caused the programme to read temperatures in all zones as the same, thus tried to heat up zones which were already at temperature. Pyrometer reference alarms were reinstated in case signal fail reoccurs.

These repairs led to less heat being lost through openings and poor insulation, which in turn led to less gas being used to continuously heat the furnace back to temperature. The repairs to the pyrometer meant less gas was being used due to no longer overheating the furnace in certain zones, which also meant there was less damage being done internally.

2.0 Consume no greater than 85.0 kWh/tonne of electricity per month in 2022

The objective was to consume no greater than 85.0 kWh/tonne of electricity in 2022.

The Sections Mill furnace consumed an average of 84.52 Kwh/tonne per month.

Electricity is still used on 'down' days in the Section Mill, so the kWh/tonne is impacted by days when there is no output. Electricity is also very product dependant, the smaller and more complex the product the harder the monitors have to work resulting in a higher electricity expenditure. In 2022, mainly small and complex products were rolled due to market conditions. Additionally, forced energy stops due to high price volatility have a negative impact on energy consumption.

The main improvement to reduce electricity consumption is the installation of LED lighting to replace old lighting, as well as the replacement of old drives to variable speed drives in the substations.

3.0 Reduce oil consumption to 0.57 l/tonne per month in 2022

This objective was to consume no more than 0.57 litres of oil per tonne of finished product (per month) in 2022 at the Sections Mill. The Sections Mill consumed 0.91 litres/tonne per month on average. The over consumption of oil in the Sections Mill for 2022 is as a result of a number of oil leaks and design issues.

The following improvement measures have been taken to combat oil losses:

- Trend servers have been introduced which monitor oil levels, so crafts and engineers can see oil levels dropping live if there is a leak, which helps identify losses more quickly before tanks empty.
- The pinion box on rolling stand 12 was sent for refurbishment during the summer shutdown to help improve hydraulic losses. There is also an improvement plan to send the other stands for refurbishments in the next shutdown scheduled in February.

Should you require any further information regarding these objective and targets please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'J. Richards'.

Jessica Richards
Environmental Graduate