

7th March 2019

Mrs E A Parr
PPC 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\New Melt Shop\Annual\2017\TP3639BH 4.2.2. Annual Returns 2018.doc

Dear Mrs Parr,

RE: Melt Shop EPR Permit TP3639BH 4.2.2. Annual Returns 2018

In accordance with CELSA Manufacturing (UK) Ltd Environmental Permitting Regulations (EPR) Melt Shop Permit TP3639BH, permit condition 4.2.2 requires the following:

4.2.2 For the following activities in schedule 1, table S1.1, A1 to A8. A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31st January (or other date agreed in writing by Natural Resources Wales each year. The report(s) shall include as a minimum:

- a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data, and*
- b) the annual production/treatment data set out in Schedule 4 Table S4.2*

1.1 Introduction

Within CELSA Manufacturing Mission statement, we are 'the UK's leading environmentally focused integrated steel manufacturer'. Despite an exceptionally difficult market, CELSA are committed to achieving continual improvement of our environmental performance.

The Melt Shop's environmental performance in 2018 has been reviewed, including the environmental Objectives and Targets which have been set for 2019 by senior management. CELSA received only one justifiable complaint in 2018, relating to dust emissions from the main stack. CELSA has continued to engage with local residents in Tremorfa with a renewed focus on addressing local residents concerns, CELSA enlisted the help of external consultants who have conducted an airborne dust investigation looking into the legislative and associated guidance around dust. CELSA will liaise closely with the Melt Shop to consider what recommendations can be feasibly implemented. In addition, CELSA will meet with local councillor and residents on the 8th of February 2019 to discuss the findings of the report to further exemplify the efforts being made to rectify issues.

1.2 Environmental Performance Review

1.2.1 Production and Energy Consumption

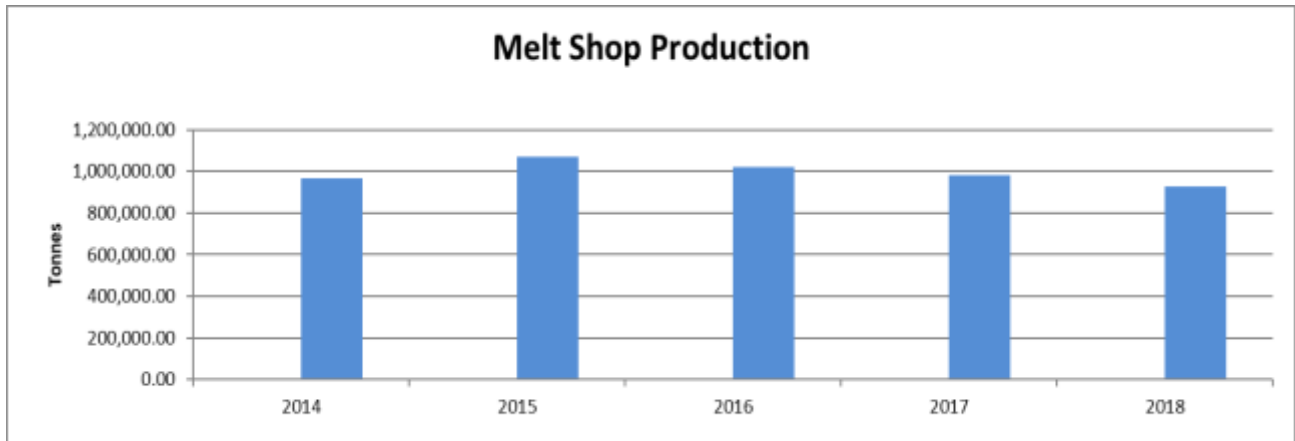


Figure 1: Melt Shop production (tonnes)

There was a drop, by 5% in steel production for 2018, with 925,866 tonnes of steel being produced.

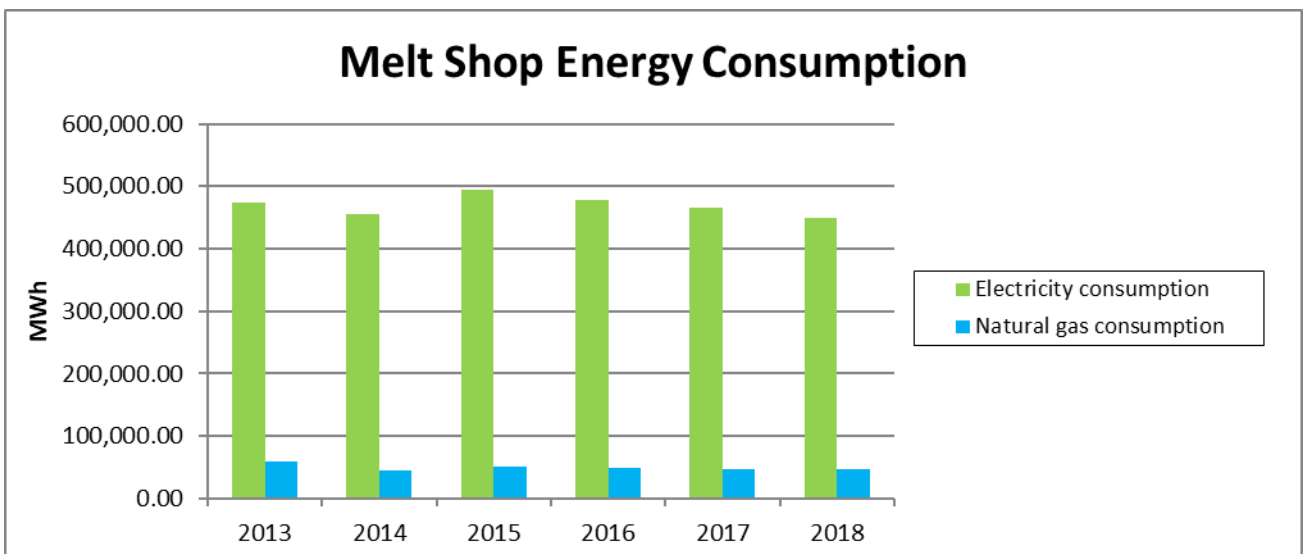


Figure 2: Melt Shop Energy Consumption (MWh)

Electricity consumption at the Melt Shop saw a decrease since 2017, with only 449,051 MWh used; natural gas consumption saw a decrease of 1.37%, usage has remained relatively stable over the years. The Melt Shop will continue to focus on energy as part of their Objectives and Targets for 2019, with any remaining recommendations from the ESOS audit carried forward to 2019.

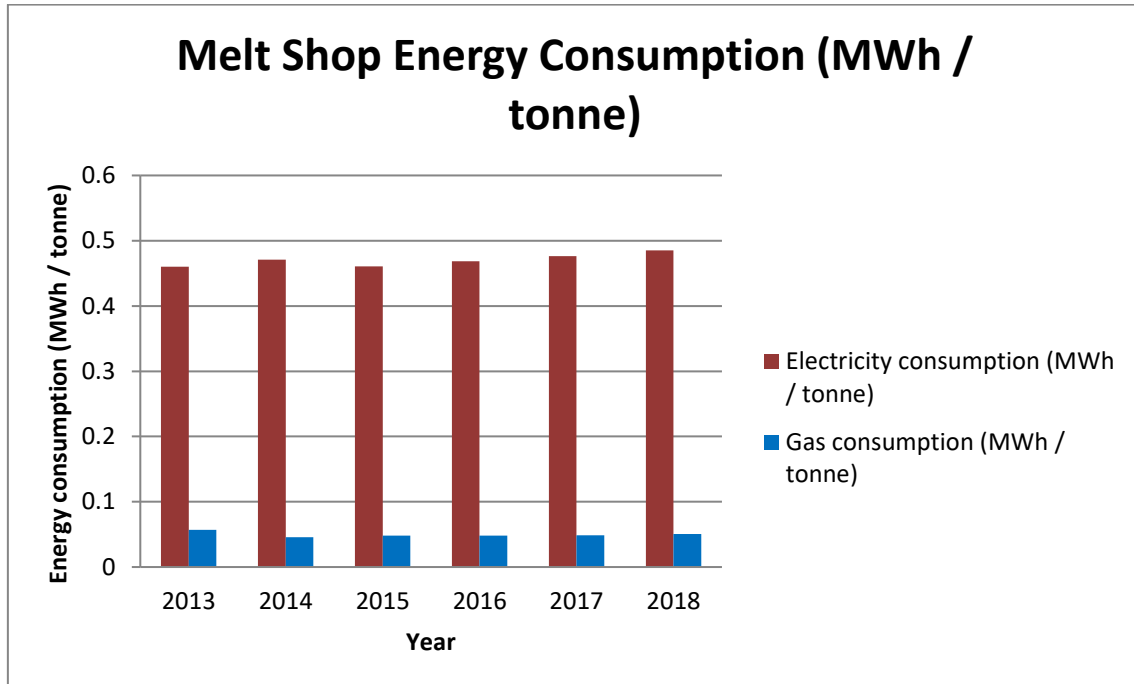


Figure 3: Melt Shop Energy Consumption per tonne (MWh/tonne)

Energy consumption per tonne shows an increase from 2017 to 2018. These issues are being addressed in the objectives and targets set out for electricity consumption for 2019.

1.2.2 Air emissions – A1 & A2

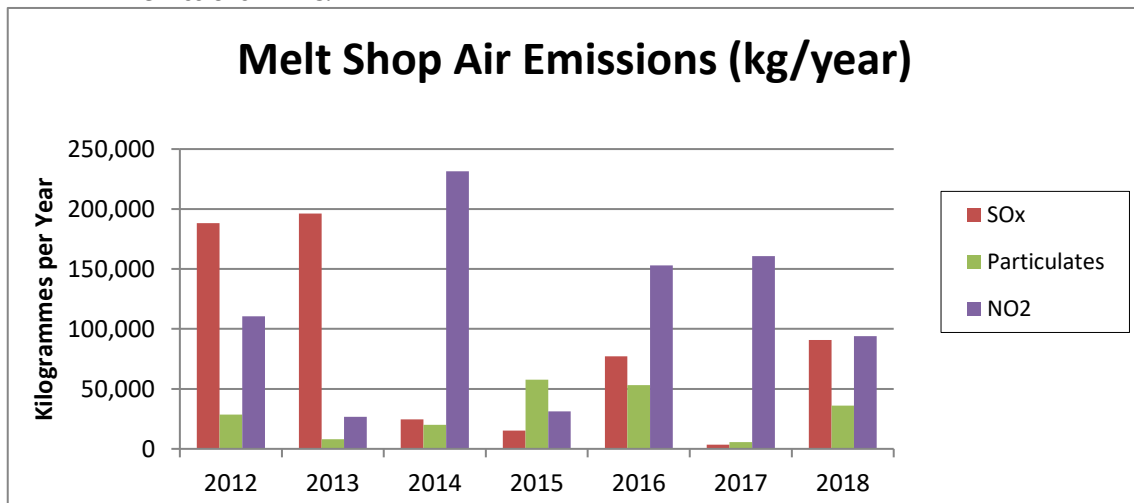


Figure 4: Melt Shop Air Emissions (kg/yr)

The air emission parameters for A1 and A2 were all below the set limits.

Waste Water Quality – S1 & S2



Figure 5: Melt Shop Waste Water Quality (mg/l)

Although there is a noticeable difference seen in the suspended solids, it is difficult to make a true comparison as the results are based on spot samples. The wastewater quality parameters for S1 and S2 were all below the set limits.

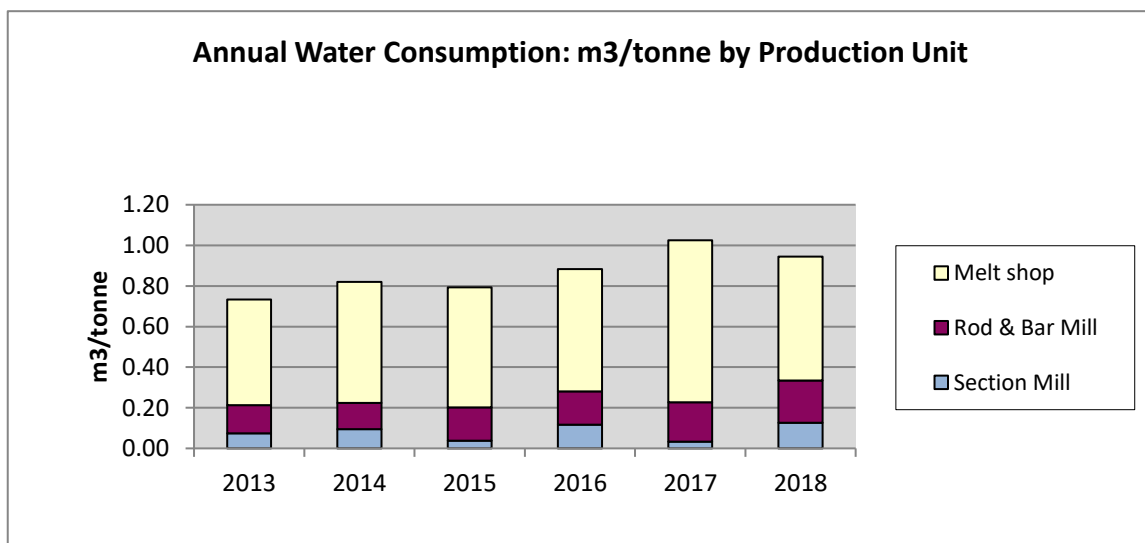


Figure 6: Melt Shop water consumption (m³/tonne)

The Melt Shop water consumption decreased to 0.58 m³/tonne in 2018, compared with 0.78 m³/tonne in 2017. Therefore, the Melt Shop did meet their water reduction target of 3%. CELSA's will continue to engage with the water management contractor (SUEZ) and supplier (DCWW Welsh Water) to upon the potential water saving measures that can be implemented throughout 2019.

1.2.3 Waste Production

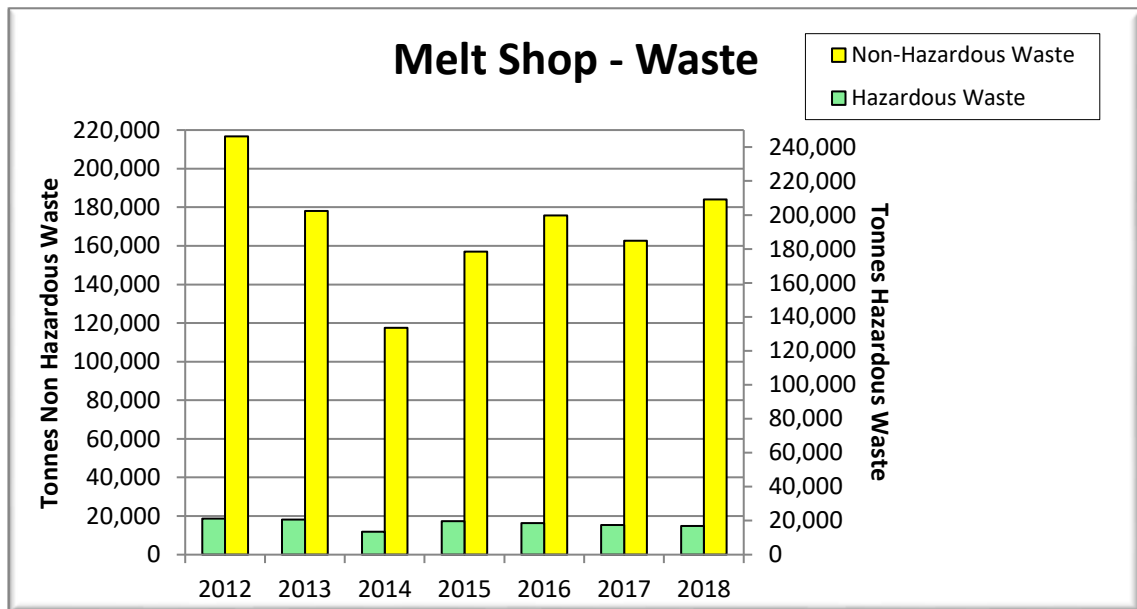


Figure 7: Melt Shop waste production (tonnes)

The general waste target was 10.11 tonnes per month in 2018. However, the Meltshop did not achieve the target with 18.29 tonnes per month being produced. Areas for improvement that were identified in 2017, such as improved communication through better waste segregation signage, were carried forward into 2018. Additionally, communication was maintained with the operational areas through the monthly EMS meetings, where monthly walkabout actions are recorded on Prosafety which includes any actions related to waste segregation. This has most notably increased the level of wood and mixed recycling which have been removed from the general waste stream. Similarly, pre-shutdown discussions are aimed to ensure that any other waste streams are segregated appropriately and are not sent offsite as general waste. A 5% reduction target has been set for 2019 vs 2018 result.

1.2.4 Fugitive Emissions

Particulates are formed as a consequence of EAF steelmaking and are created from the volatilisation of the steel scrap during the electric arc melting process. Large volumes of fume are generated during the melting process, which are handled up to 2 million cubic metres per hour of extraction. Fume is drawn off both the electric arc and ladle furnace using extraction fans. The main fume discharge and any fugitive releases in these areas are captured by the roof canopy (total capture system) and conveyed by ducting to the abatement plant (bag house).

Celsa completed a large amount of maintenance work during the summer shut down (7th to 20th May 2018) which has had a beneficial impact at reducing fugitive emissions, some of this work includes:

- Replacing building cladding on north facing wall at high level
- Four expansion joints replaced on furnace primary ducting
- Bishop's Hat replaced
- 12m section of external ducting and cross duct replaced
- Survey of all remaining ductwork

Slag is produced during the making of steel and is a normal by-product of the EAF process. Slag from the EAF is tipped to flow beneath the furnace onto the slag bed. As this is conducted within the main Melt Shop, any emissions arising from this are captured by the air collection and abatement system. The slag is then moved by a specially adapted bulldozer to an outside intermediate staging area, to blade the material out and allow cooling water to be sprayed onto the slag. The slag is kept in the staging area until a cooled economic load has been assembled. It is then transported via dedicated wagons to the slag reprocessing plant on the other side of the Rover Way.

As part of the secondary steel process an artificial slag is generated on the steel ladle. Subsequent to casting, this slag will be tipped to the ground. When cooled, it is also transported to the slag handling plant across Rover Way.

At the mineral site, where slag is cooled and weathered, controls are in place to minimise fugitive dust lift off. This is stated within Environmental Control Procedure 12, titled Fugitive Emissions Management Procedure. This procedure refers to all direct and ancillary activities associated with continuous operation from the CELSA Melt Shop and Mineral Site which may give rise to fugitive emissions. This procedure also refers to the road dampening at the Melt Shop.

The Turnkey Optical Particle Analysis System (TOPAS), located at Willows High School, enables CELSA to gain a greater understanding of dust levels in Tremorfa. The TOPAS particulate results are reported to NRW on a quarterly basis.

1.2.5 The review of annual production/treatment data set out in Schedule 4 Table S4.2

A1 Monthly Average Concentrations

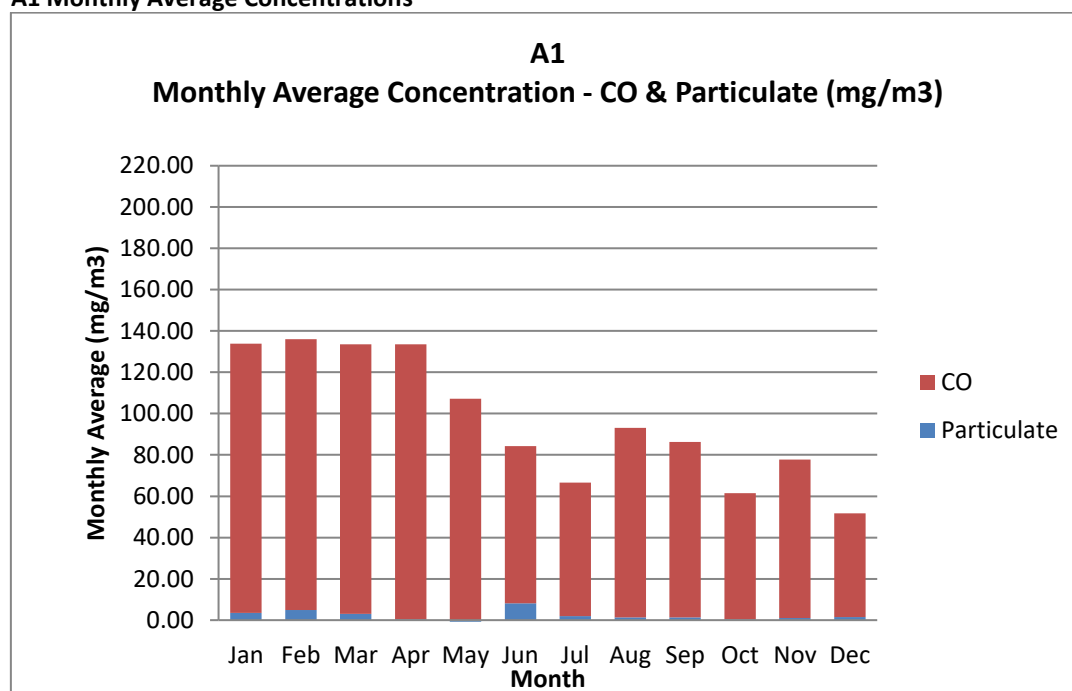


Figure 8: Melt Shop Monthly Average Concentration of continuous monitoring (mg/m³) – A1

CELSA's A1 continuous emissions are monitored and analysed throughout each Shift and discussed in the daily morning meetings with the Melt Shop senior managers, production personnel and engineers. A

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higher CO monthly average concentration can be observed at the start of the year, from January to April. Investigations were conducted in order to identify any issues that were contributing to the CO breaches. The majority of issues relating to breaches were as a result of delays from trimming, reblowing of oxygen and general engineering delays, these were issues that were addressed during the May shutdown period, evidently seen post May. In addition, the lower monthly average seen in December was attributed to probe failure in the Continuous Emission Monitoring System, (CEMS) which required an external technician to come in to assess the causes of failure. CEMS was down from the 2nd of December until the 12th.

Ambient Air

Unfortunately, the only data received from the TOPAS monitor was from the following periods: the 10th of April to the 12th of September, the 20th of November to the 2nd of December and then the 7th of December. The TOPAS monitor results for these periods were all submitted. The cause for these failures have been noted in all the quarterly reports submitted to the NRW.

In summary, improvements have been made in a number of areas, all wastewater discharges were within permit limits. Regarding waste management, the melt shop continued to improve engagement and communication with both the workforce and the external waste management provider. Further to the Environmental Training package (ISO14001) that was rolled out in 2017, additional training in environmental awareness was rolled out to all employees in 2018. This improved their knowledge base of the workforce and allow individuals to make informed decisions in respect to environmental matters.

In 2019, CELSA will continue to manage and improve environmental impacts through the Environment Management System and strive to achieve the challenging targets set.

If you require any further information, please do not hesitate to contact the Environmental Department.

Yours sincerely,



Gabriella Nizam
Environmental Advisor