

6th March 2018

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 2017.doc

Dear Mrs Parr,

RE: Melt Shop EPR Permit TP3639BH 4.2.2. Annual Returns 2017

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 2017 has been reviewed, including the environmental Objectives and Targets which have been set for 2018 by senior management. CELSA received only one justifiable complaints in 2017, relating to noise. CELSA has continued to engage with local residents in Tremorfa to understand pertinent issues in the local area.

1.2 Environmental Performance Review

1.2.1 Production and Energy Consumption

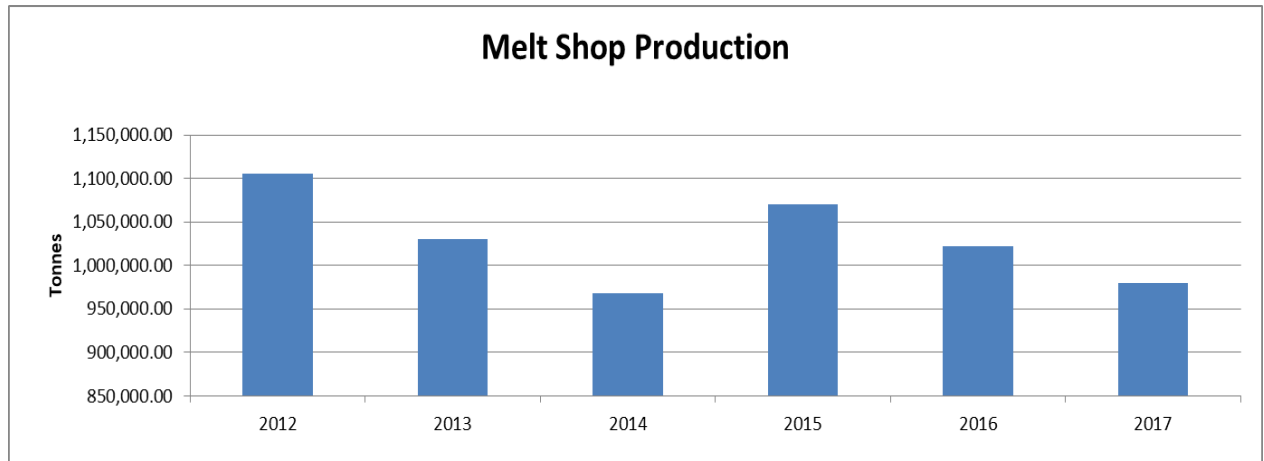


Figure 1: Melt Shop production (tonnes)

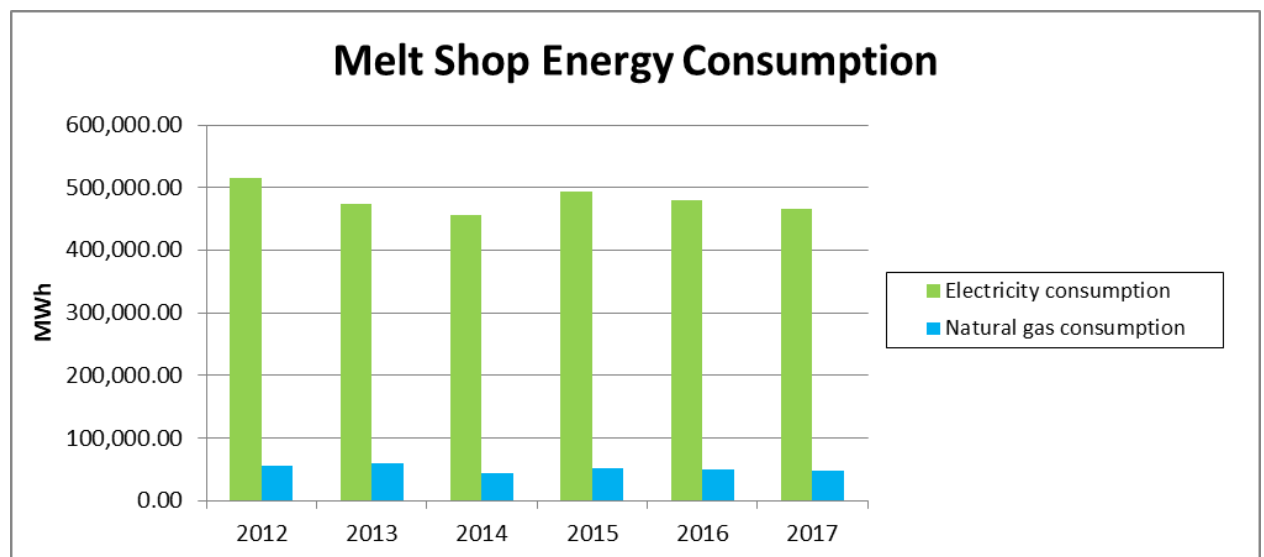


Figure 2: Melt Shop energy consumption (MWh)

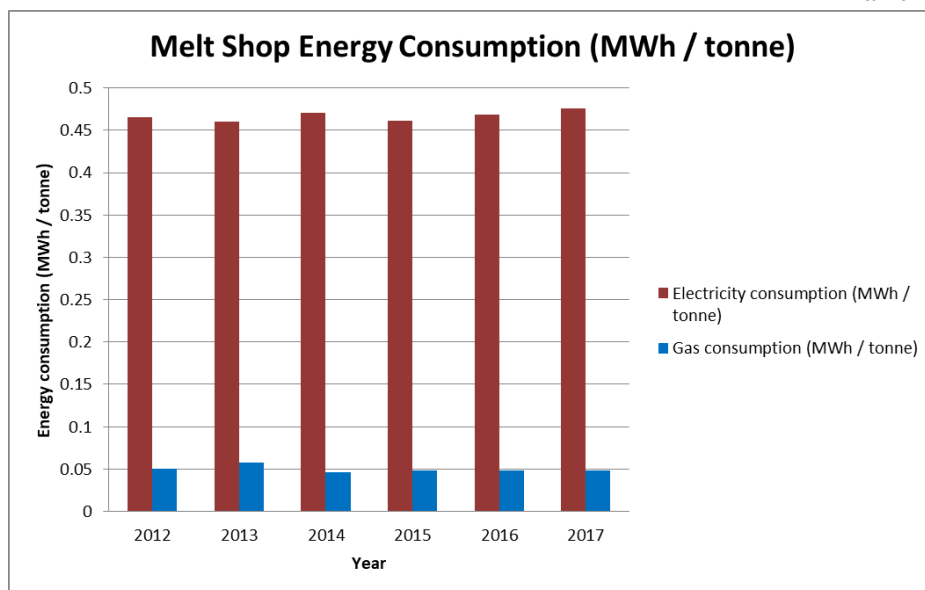


Figure 3: Melt Shop Energy Consumption per tonne (MWh/tonne)

Total production of liquid steel at the Melt Shop decreased from 1,022,489 tonnes in 2016 to 979,643 tonnes in 2017. It can be observed in Figure 3, the Melt Shop has maintained electricity and gas consumption (MWh/tonne) at a stable level in 2017. The Melt Shop is continuing to target energy reduction in 2018, investigating potential energy saving projects that were identified during the ESOS audit with a view to implementing these throughout 2018.

1.2.2 Air emissions – A1 & A2

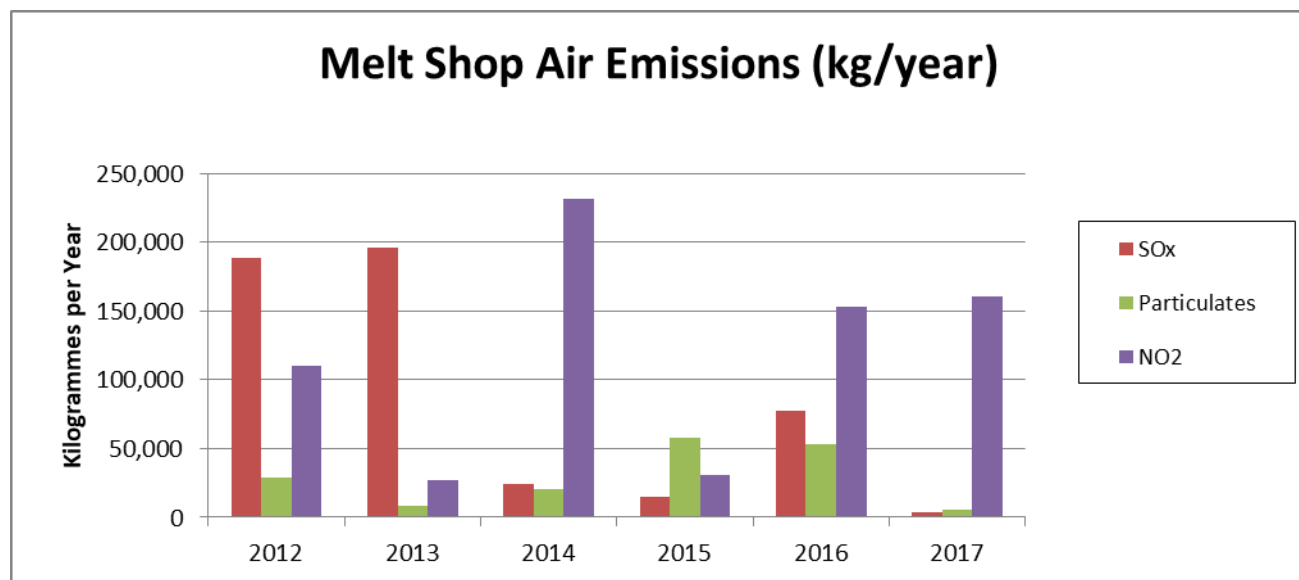


Figure 4: Melt Shop Air Emissions (kg/yr)

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

1.2.3 Waste Water Quality – S1 & S2

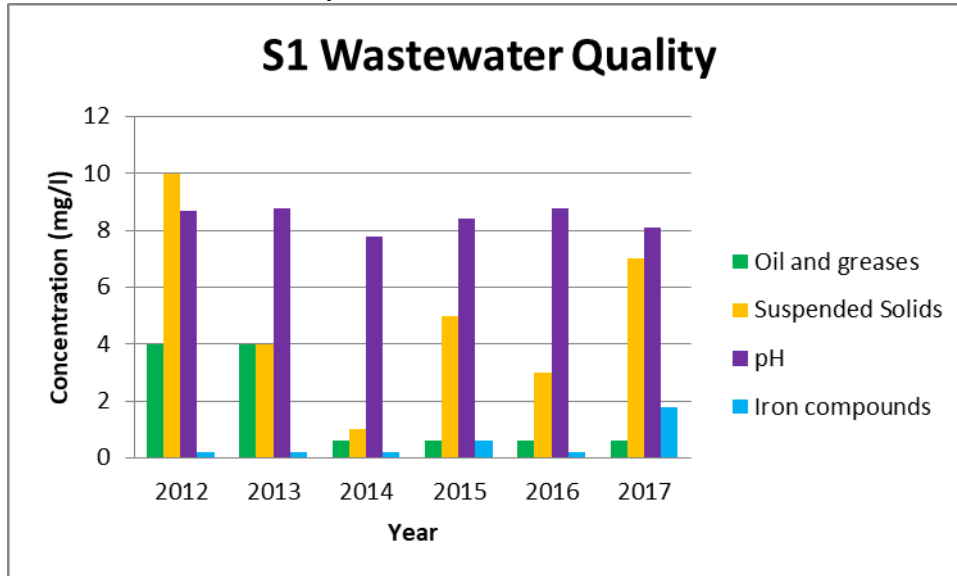


Figure 5: Melt Shop Waste Water Quality (mg/l)

It is difficult to make a true comparison as the results are based on spot samples. However, the waste water quality parameters for S1 and S2 were all below the set limits.

1.2.4 Water Consumption

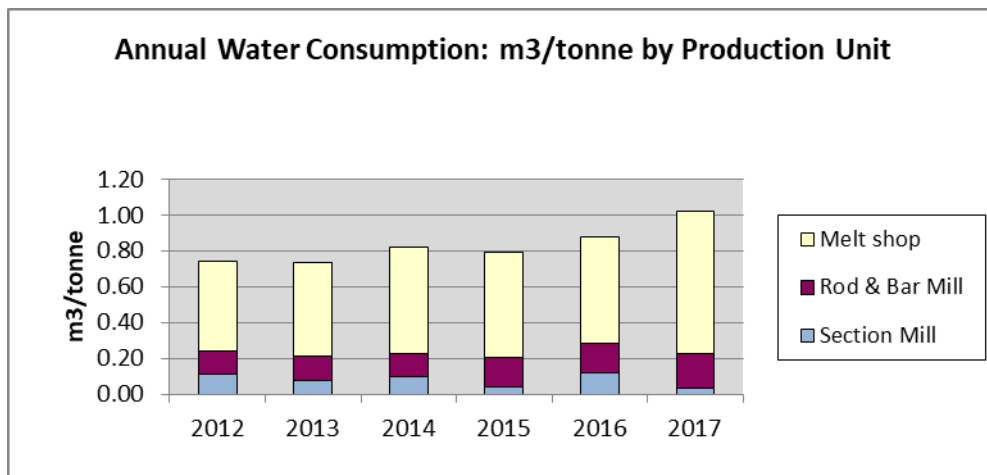


Figure 6: Melt Shop water consumption (m³/tonne)

The Melt Shop water consumption increased to 0.78 m³/tonne in 2017 compared with 0.59 m³/tonne in 2016. Therefore, the Melt Shop did not meet their water reduction target of 3%; an additional reduction target has been implemented for 2018. There are plans to engage further with CELSA's water management contractor (Suez) and supplier (DCWW Welsh Water) to further understand potential water saving measures that can be implemented throughout 2018.

1.2.5 Waste Production

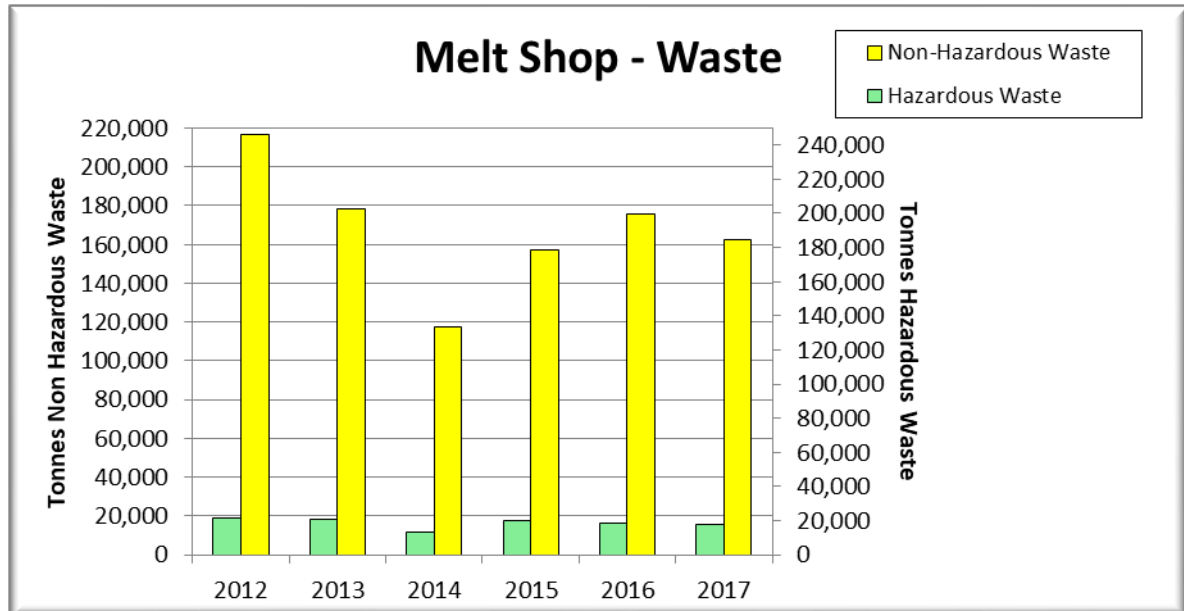


Figure 7: Melt Shop waste production (tonnes)

The general waste target was 10.05 tonnes per month in 2017. However, the Meltshop did not achieve the target with 10.64 tonnes per month being produced. Areas for improvement that were identified in 2016, such as improved communication through better waste segregation signage, were carried forward into 2017. Additionally, communication was maintained with the operational areas in the RBM 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 2018 vs 2017 result.

1.2.6 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).

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.

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.

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

A1 Monthly Average Concentrations

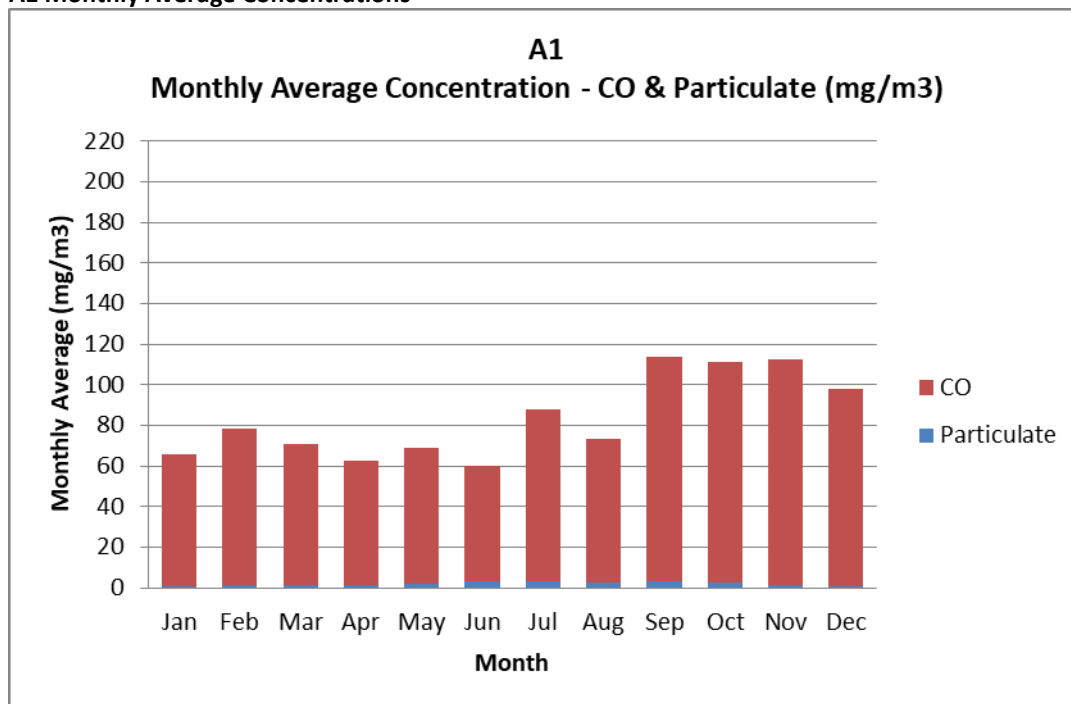


Figure 8: Melt Shop Monthly Average Concentration of continuous monitoring (mg/m³) – A1

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 higher CO monthly average concentration can be observed from July until December. Investigations are currently being conducted in order to identify any issues that are contributing to the CO breaches. An external fume extraction expert has been on-site working alongside the Melt Shop and we are awaiting his conclusions and recommendations before creating an action plan, to prioritise the recommendations, in order to return to compliance. The report will be sent to NRW before the 28th February 2018.

Ambient Air

Unfortunately, the only data received from the TOPAS monitor was from the 1st January to the 26th January 2017. The TOPAS monitor results for this period were submitted separately in March 2017. Unfortunately, data was only received up until the 26th January due to Cardiff Council condemning the electricity boards of the school, resulting in only the ground floor having a supply of electricity, meaning

that the monitor had no electricity supply running to it. The power to the monitor was reinstalled on the 5th October 2017, however the unit was not responding via the online portal. A service engineer from Turnkey attended site on the 18th October to check, calibrate and service the unit. Following his visit it was identified that there was significant damage to the power cable supplying the unit. CELSA are currently liaising with the school to rectify the issue.

In summary, improvements have been made in a number of areas, all wastewater discharges were within permit limits. Regarding waste management, the melt shop reduced the quantity of general waste being sent off site mainly by continuing to improve engagement and communication with both the workforce and the external waste management provider. Additionally, a new Environmental Training package (ISO14001) was rolled out to all Level 1-3 employees in 2017, which should improve the knowledge base of the workforce and allow individuals to make informed decisions in respect to environmental matters.

In 2018, 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,

A handwritten signature in black ink, appearing to read "R. Lewis".

Richard Lewis
Environmental Manager