

22nd October 2019

Dr Gareth Richards
Pollution and Prevention Control Team
Natural Resources Wales
Rivers House
St Mellons Business Park
St Mellons
CARDIFF
CF3 0EY

Dear Gareth,

RE: Tremorfa Melt Shop Environmental Permit TP3639BH Formal Notification of Proposed Changes

In accordance with CELSA Manufacturing UK Ltd Tremorfa Melt Shop Environmental Permit (EPR) TP3639BH, please find below, our formal notification for a proposed trial for the use of millscale and slag to create concrete lego blocks at the Mineral Site at the Tremorfa Works.

1.0 Introduction

CELSA Manufacturing UK Ltd is regulated under section 12 of the Environmental Permitting Regulations 2010 (as amended) to operate an installation which carries out activities as defined within section 2.1 A(1)(b) *'Producing, melting or refining iron or steel or any ferrous alloy, including continuous casting'*. As such the company is permitted in accordance to the terms and conditions of EPR Permit TP3639BH.

Section 4.3.5 of EPR TP3639BH states:

"Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) Natural Resources Wales shall be notified at least 14 days before making the change; and*
- (b) the notification shall contain a description of the proposed change in operation"*

2.0 Proposed Changes

2.1 Utilisation of Millscale and Slag for Lego Block Production

2.1.1 General

CELSA intend to carry out trials to combine non hazardous materials (millscale and slag) into blocks and if the trial successful, CELSA would look to progress with trials for flowable fill material, for use on site. CELSA are exploring other commercial opportunities for the reuse of material on site as opposed to transporting to external outlets across the UK. If the trial is

successful, CELSA would look to permanently use the flowable material across site to improve surfacing and help minimise dust life off.

The proposed trial will take place at the Mineral Site. The proposed trial will involve the use of an excavator, mixer, telehandler and block moulds, with the trial lasting a period of 6 weeks. This notification is intended to cover the period in which the trial runs and it will be implemented as a process on a permanent basis if the trial proves to be successful.

The main driver for this modification is to:

- Utilisation of by-products, which would reduce use of virgin raw materials.
- The cement binder used will be an ultra low carbon material, creating up to 95% less CO₂ than standard cement production.
- Lego blocks would be used to create storage areas on site this will prevent the need for transporting used by-products across the UK which would prevent transport emissions.
- Utilisation of flowable materials to improve current surfacing conditions across site.

2.1.2 Block Production Process Description

The proposed trial will look to create blocks at circa 2.5 tonnes. The composition will be 1.5-2 tonnes of millscale, the remainder made up of a (cement) binder, slag and water. The trial, along with machinery and material will be located at the Mineral Site and operated by Darlow Lloyd and Sons (DLS).

The mobile plant equipment to be used is as follows:

- Excavator
- Mixer
- Block Moulds

The trial and machinery will be operated by the company DLS

3.0 Environmental Impact

CELSA have assessed the environmental impacts in accordance with the requirements of EP TP3639BH, and these are listed below.

3.1 Raw Materials

Diesel oil will be used by excavator, mixer and telehandler. Double skinned tanks are fitted to the vehicle to prevent any losses from the plant machinery. Spill kits will be in place in the event of a spillage. The diesel oil will be supplied by DLS, the company operating the trial.

Millscale and slag will be provided by CELSA.

The binder will be provided by Cenin, in the form of CenDry Ultra Low Carbon cement or Cenpave Zero, please see Appendix 1 for product data sheets.

3.2 Water Use

Water will be required during the trial, water will be sourced from either towns water supply or recycled grey water.

3.2 Emissions to Water

Although water will be consumed, no emissions to water will be produced by the proposed mobile plant equipment.

3.3 Emissions to Air

Given the nature of the millscale, the predominant material used, no particular matter or dust emissions to air is anticipated. With slag, as the material is being mixed in with water and a binder it is anticipated that there will be no particulate matter or dust emissions to air either.

3.4 Odour

The trial will not generate any odour.

3.5 Waste

No additional waste will be produced from the trial. All blocks made will be used on site.

3.6 Energy

The main uses of energy at the installation will not change as the mixer and excavator will be run off generators or their own built in engine, which will be provided by diesel fuel.

3.7 Noise and Vibration

It must be noted that the machinery will be sited within the Mineral Site and only in operation between 6:00am and 6:00pm. DLS will carry out regular HAVS testing and monitor noise levels with a hand held monitor and record results. All of the equipment used is within UK standards for noise and vibration. The hand held mixing devices used would not need to have usage time restricted due to vibration. Therefore, CELSA do not anticipate that the operational activity of the lego block trial will give rise to complaints.

In summary CELSA do not anticipate that the lego block trial will cause any additional environmental impact from the site operations.

4.0 Timescales

DLS intend to run the trial for a period of 6 weeks, from Monday the 4th of November. The operational hours for this activity will be between 6:00am and 6:00pm.

5.0 Conclusions

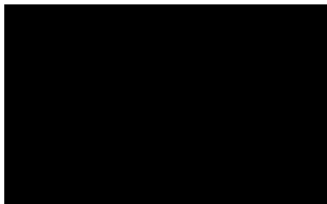
The above trial forms part of an ongoing investment programme into the reutilisation of by-products and temporary surfaces across site which will add to dust abatement controls measures.

In summary, CELSA do not anticipate that the trial will cause any additional environmental impact from the site operations.

We hope that the above text provides enough information for your needs. As detailed above, due to the fact that the environmental impact is minimal we believe that if this trial is successful, the environmental benefits will outweigh the current outlets for material recovery.

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

Yours sincerely



Environmental Advisor

Appendix 1

CenDry Ultra Low Carbon Product Data Sheet

CenPave Zero Product Data Sheet