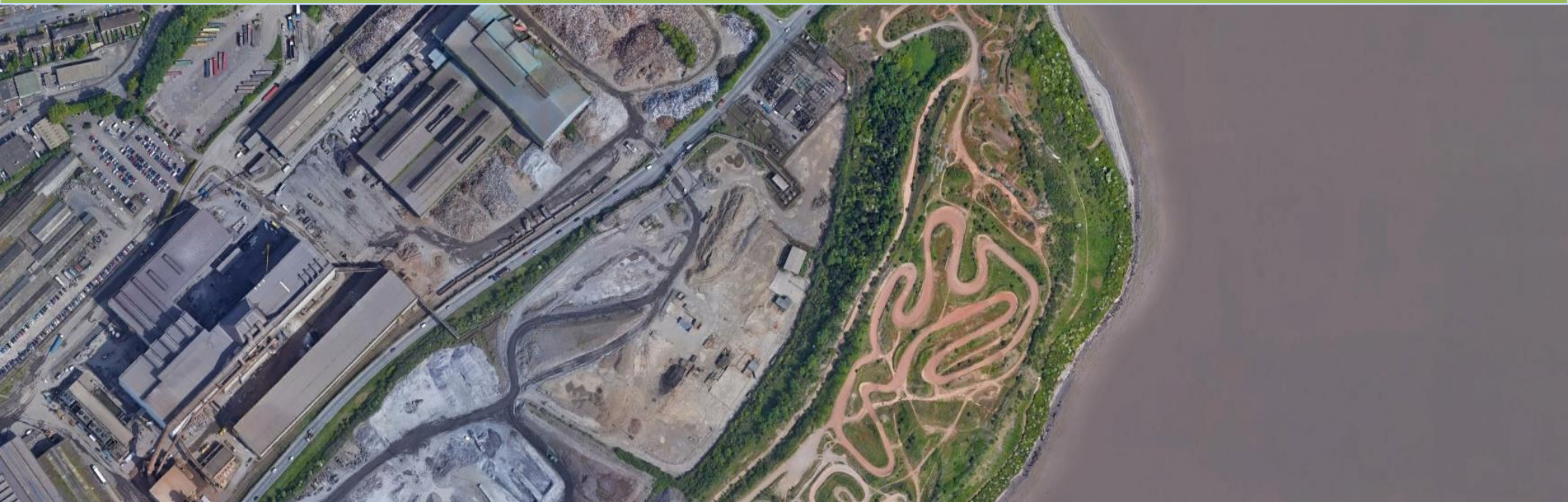
Environmental Permit (Normal Variation)
Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH

Non-Technical Summary (Permit No. EPR/TP3639BH)

018-1666 | December 2019 | Revision 01



S01 Introduction

Introduction

This document has been prepared by Celsa Manufacturing (UK) Ltd ("Celsa") and its environmental consultant Earth & Marine Environmental Consultants Ltd ("EAME") in support of a permit variation (normal) as required under Regulation 20 (variation) of the Environmental Permitting (England and Wales) Regulations 2016 in relation to current activities and proposed activities to be undertaken at Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH (Permit No. EPR/TP3639BH).

This application is to vary an existing environmental permit in relation to operations and activities undertaken at the site (*Figure 1*).

The document represents the Non-technical Summary report submitted as part of the variation package to Natural Resources Wales (NRW) (EAME Ref. 018-1666).

Overall Management

Celsa Manufacturing (UK) Ltd has implemented and maintains an Environmental Management System (EMS) that is certified to ISO14001:2015 (Certificate No. ES081434) and EMAS (Reg. No. UK-000178).

Our current 2017 Environmental Statement can be downloaded from http://www.celsauk.com/Pdf/EMAS%20Statement%202017%20Low%20Res.pdf

Figure 1: *Site Location - Ordnance Survey Map Extract (1:50,000)*
Ordnance Survey 1: 25,000 scale map with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright Earth and Marine Environmental Consultants Ltd, Licence No. 100050755

S02 Current and Proposed Activities

The existing permitted activity relates to the production of steel billet from scrap using an electric arc furnace and continuous casting. The plant was newly built in 2006 with a design capacity of approximately 1.3 million tonnes of finished billet per year (27,000 tonnes per week).

The waste operation is involved with the storage and processing of by-products from the steelworks. The permitted operations comprise a waste transfer station, mill scale treatment area, and a storage area for the weathering of processed Electric Arc Furnace (EAF) slag. EAF slag is a by-product of the EAF process and when weathered can be sold as a useful mineral aggregate.

This permit variation relates to the installation of new EAF slag crushing and screening equipment combined with an adjacent asphalt plant.

All activities are to be located within a compound on the Rover Way site.

Figure 2: *Permit boundary (post variation)*
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S03 Slag Crushing and Screening

At the current time the environmental permit allows Celsa to transfer EAF slag from the main installation to waste operation located on the Rover Way site. Once there the EAF slag is cooled and broken by drop balling and oxygen lancing. Where metal is recovered this is returned to the electric arc furnace.

However, steel slag has some very useful properties and (once cooled) creates a dense rock-like material that a suitable for a diverse number of applications e.g. construction aggregates, rail ballast, agricultural soil additive, in the manufacture of ordinary Portland cement and as an environmental remediation material. The durability and surface properties of steel slag also make it an ideal material for use in asphalt where high grip surfacing is required for skid resistance.

In order to use the steel slag in an asphalt process the material needs to be crushed and screened to ensure it meets strict quality control requirements with regards to size.

The crushing and screening operation would consist of a one scalping screen, one cone crusher, one trommel screen and two 4-way finishing screens. All equipment associated with this part of the installation would be mobile (i.e. small-scale tracked equipment). This part of the process would be operated by one excavator, one-wheel loader and one dumper truck.

The crushing and screening plant are a **zero-waste solution with nothing going to landfill.**

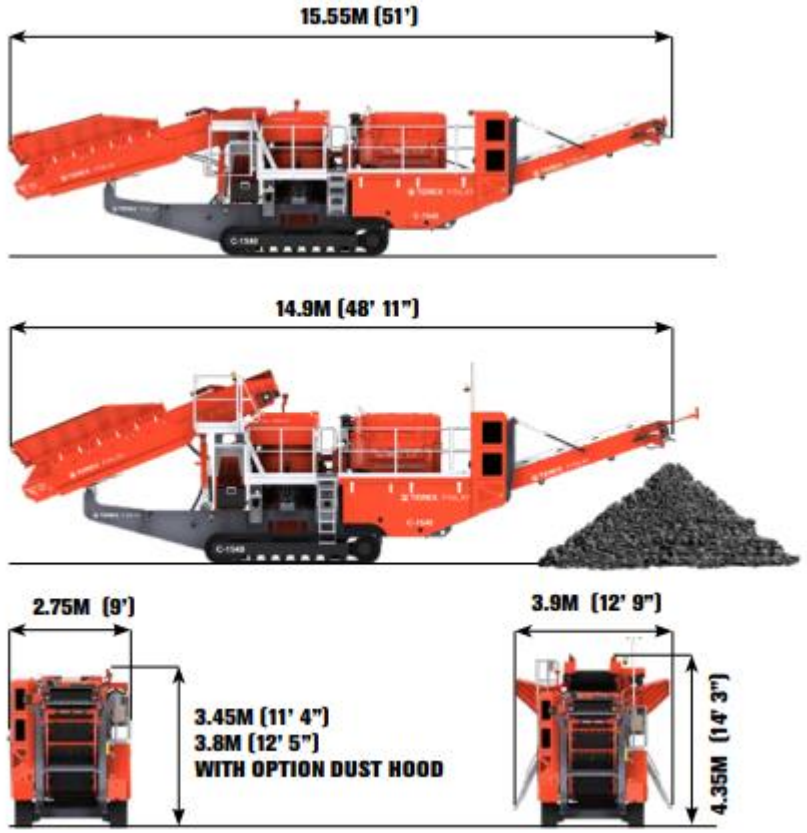


Figure 3: *Cone crusher*
Terex Finlay C-1540 Cone Crusher

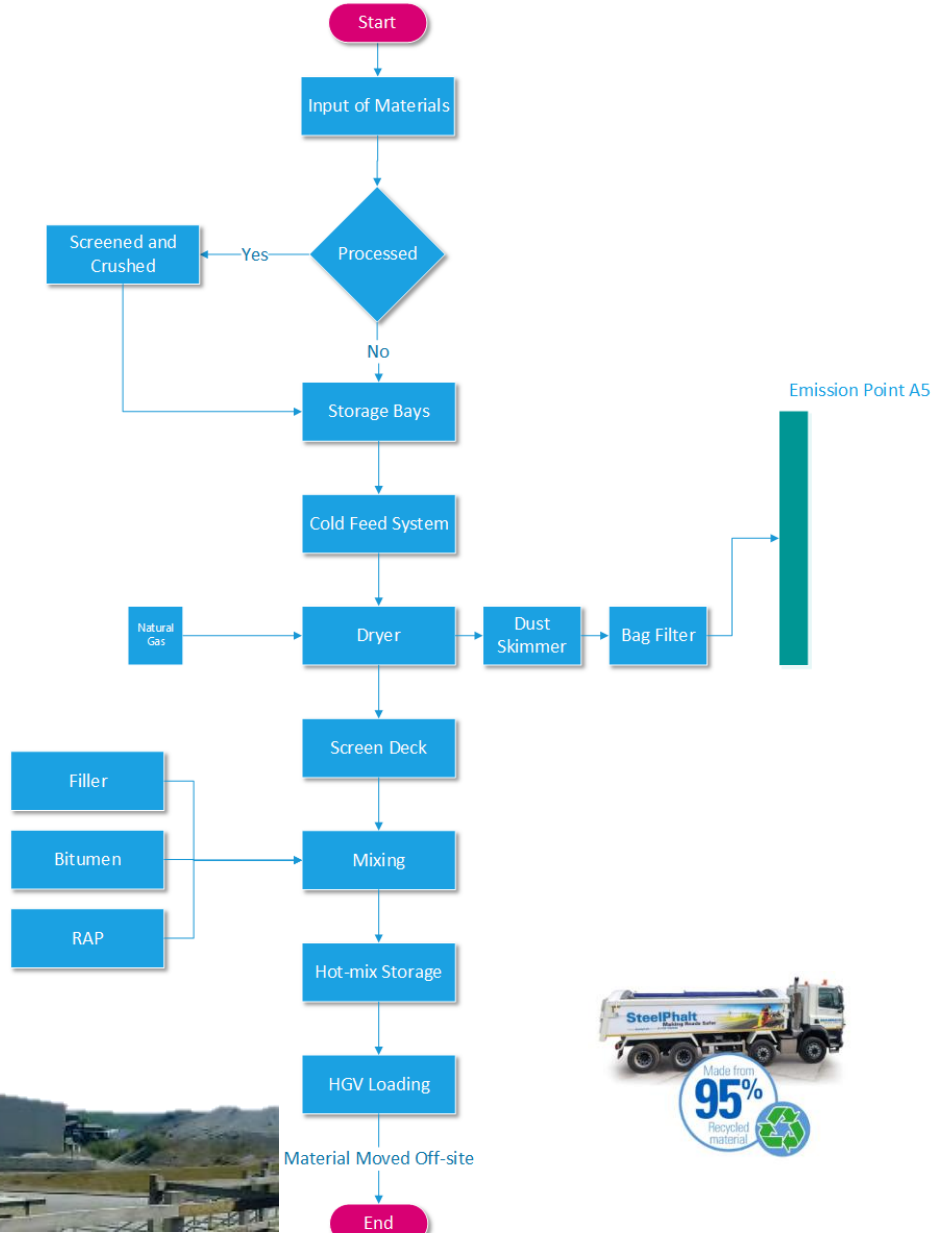
S04 Asphalt Plant

Asphalt, also known as bitumen is a sticky, black, and highly viscous liquid or semi-solid form of petroleum. The primary use (70%) of asphalt is in road construction, where it is used as the glue or binder mixed with aggregate particles (in this case processed EAF slag) to create asphalt concrete.

Processed EAF slag is mixed with filler, bitumen and reclaimed asphalt pavement (RAP) according to the required specification. The asphalt is then loaded on to HGVs for the local market. The company works in partnership with councils, local authorities and contractors nationwide to deliver durable roads for a sustainable world. The final product is 95% made from recycled materials.

The plant will be designed and built to meet the most stringent Best Available Technique (BAT) standards as outlined within process guidance note PG3/15(12).

The plant will be operated by Harsco Metals (SteelPhalt). SteelPhalt has been developing and manufacturing high performance asphalt products for roadmaking in the UK industry since the 1960's.



S05 Point Source Emissions

Point Source Emissions to Air

A single new emission point to air will be added to the asphalt installation. The discharge from the dryer first passes through a skimmer system (to remove the coarse dust) and then through a large secondary bag filter before discharging through the 22 metre high stack.

The plant is designed to meet a particulate limit of 20 mg/m^3 well below the required 50 mg/m^3. In practice, experience has shown that the annual daily average is generally in the range of < 5 mg/m^3.

Point Source Emissions to Surface Water

No emissions to surface water.

Point Source Emissions to Sewer

No emissions to sewer.

Point Source Emissions to Groundwater

Surface water run-off will discharge to ground via an engineered settlement lagoon.

Point Source Emissions to Land

No emissions to land.

Point source emissions from the installation meet the required Best Available Technique (BAT) standard.

Figure 4: *Secondary dust collection system (bag filter)*
https://www.parkerplant.com/asphalt/ancillary/dust-filters

S06 Fugitive Emissions

Fugitive Emissions to Air

The processing of EAF slag (ang aggregate) via crushing and screening can give rise to fugitive particulate (dust) emissions. Total dust emissions from processing results from several distinct source activities:

- loading of aggregate onto storage piles;
- equipment traffic in storage area;
- wind erosion of pile surfaces and ground areas around piles; and
- loadout of aggregate for shipment.

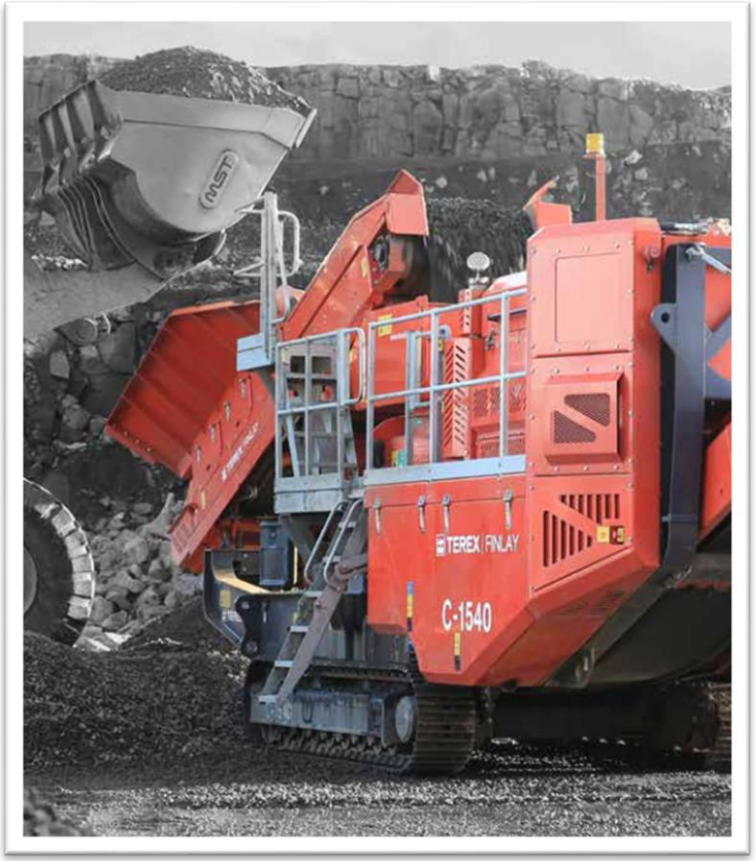
The predicted controlled dust emissions from the processing operations are sufficiently low to represent a low risk to the environment (i.e. meets BAT).

Fugitive Emissions to Land, Surface Water, Sewer and Groundwater

The principal means of pollution prevention is the careful handling and storage of potentially polluting substances. In most cases this is determined by the level of containment of a substance, i.e. spill prevention.

Through the application of effective engineering controls (hard surfaces, containment systems) combined with effective management controls risks of unplanned releases have been significantly reduced.

Fugitive emissions from the installation meet the required Best Available Technique (BAT) standard.



Noise and Vibration

The Regulations require installations to be operated in such a way that *"all the appropriate preventative measures are taken against pollution, in particular through the application of BAT". The definition of pollution includes "emissions that may be harmful to human health or the quality of the environment, cause offence to human senses or impair or interfere with amenities and other legitimate uses of the environment"*.

A baseline noise assessment has been undertaken in-line with current best practice guidance and in-line with the requirements of Cardiff City Council.

The assessment has determined that noise immission levels are likely to be more than 10dB below the existing noise levels at all receptor locations and for all proposed working periods. Accordingly, it is considered that the Proposed Development will not have an adverse noise impact on the local area.

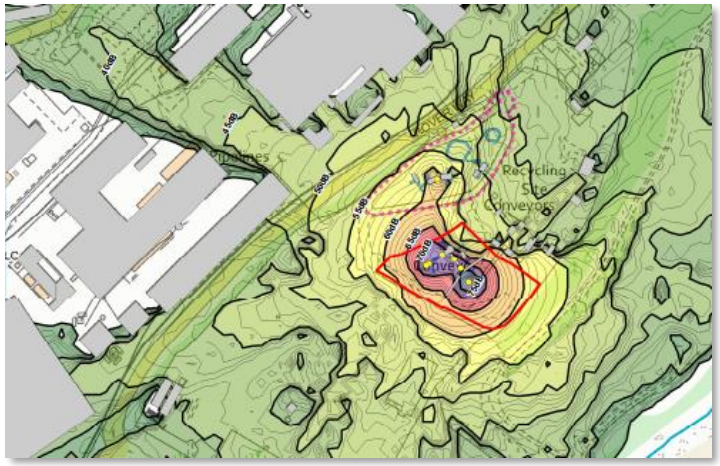


Figure 5: *Location of slag processing and asphalt plant*
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S08 Conclusion

Conclusions

This section provides an assessment of the environmental significance of the emissions from the installation by looking at the site in the context of its environmental setting and UK guidance for such assessments.

Slag Processing

The proposed equipment (i.e. crushing, screening) is new and meets all relevant safety and environmental standards with regards to noise, vibration and exhaust emissions. The control of fugitive dust has been assessed in-line with current statutory requirements and have been determined as low risk meeting the required Best Available Techniques (BAT) standard.

The process will be undertaken by competent personnel experienced in the processing of EAF slag-based materials. All operations will be covered under the existing Celsa ISO14001/EMAS management system which will include external third-party audits.

Asphalt Plant

The plant will be designed and built to meet the most stringent Best Available Technique (BAT) standards as outlined within process guidance note PG3/15(12).

Air emissions from the planned plant have been compared to published Emissions Limit Values (ELVs) stated in the relevant statutory guidance. The plant is designed to exceed all required air emission limit requirements – this has been confirmed through assessment using the NRW H1 Environmental Assessment Process and via ADMS 5 air dispersion modelling.

The process will be undertaken by competent personnel (from Harsco Metals) experienced in running an asphalt plants (since the 1960s).

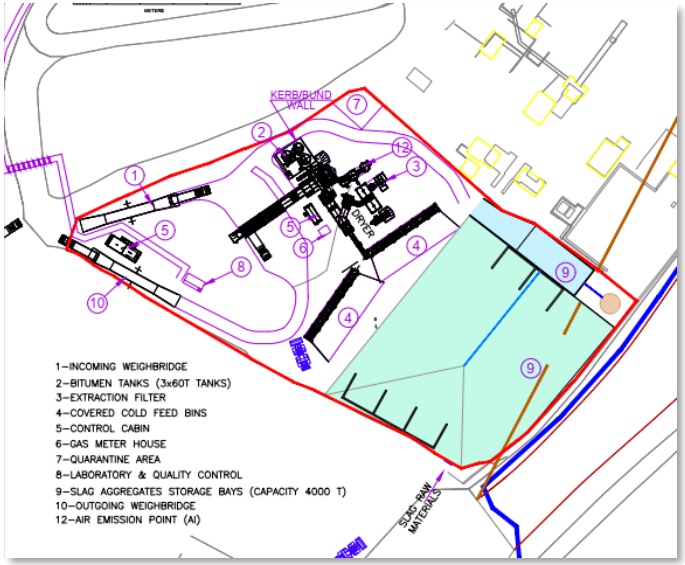

Figure 6: *Proposed layout of the asphalt plant*

All operations will be covered under the existing Celsa ISO14001/EMAS management system which will include external third-party audits. Harsco Metals also operates management systems that is certified to ISO14001.

Based on the environmental assessment the proposed variation will not have a significant change on the environmental impact or environmental risk of the permitted installation.

EAME
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