Main Installation Report (Normal Variation and Consolidation) Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH Permit Ref: EPR/TP3639BH

On behalf of:
Celsa Manufacturing (UK) Ltd

Project Reference:
018-1620

Revision:
REV 00

Date:
December 2019

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Contents

Figures

Tables

Photographs

Annexes

Abbreviations

AST	Above Ground Storage Tank
ASR	Application Site Report
BAT	Best Available Technique
BGS	British Geological Survey
BREF	Best Available Techniques Reference Documents
DEFRA	Department for Environment Food and Rural Affairs
EA	Environment Agency
EAME	Earth and Marine Environmental Consultants Ltd
EMS	Environmental Management System
EPR	Environmental Permit
FRA	Flood Risk Assessment
FPMP	Fire Prevention Mitigation Plan
IPPC	Integrated Pollution Prevention and Control
IBC	Intermediate Bulk Container
mg/l	milligrams per litre
NGR	National Grid Reference
NRW	Natural Resources Wales
Opra	Operational Risk Appraisal
PPE	Personal Protective Equipment
PPM	Planned Preventative Maintenance
SCR	Site Condition Report
SSSI	Site of Special Scientific Interest

µg/l	micrograms per litre
WFD	Water Framework Directive

1 Introduction

1.1 Background

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 consolidation and normal variation as required under Regulation 18 (consolidation) and 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).

An environmental permit application is required where an operator carries out certain prescribed activities, namely installations that undertake Schedule 1 activities, a waste operation or a mobile plant (carrying out either one of the Schedule 1 activity or a waste operation). The status log (history) for the permit is outlined in ***Table 1-1***.

The Authorised company contact is Mr. Richard Lewis (Celsa Manufacturing (UK) Ltd, Environmental Manager).

Table 1-1: *New Melt Shop permit log (main events)*

Description	Date	Comments
Application TP3639BH.	Received 15/10/2004	-
Permit determined (TP3639BH).	03/05/2005	-
Variation and consolidation (EPR/TP3639BH/V002).	24/04/2012	Varied and consolidate permit issued in modern format. The following permits have been consolidated: EPR/TP3639BH, EPR/BU2098IP and EPR/WP3699FQ.
Regulation 6(1) notice of request for more information.	03/09/2013	-
Regulation 60(1) response received.	30/04/2014	Implementation of BAT conclusions under IED.

Description	Date	Comments
Natural Resources Wales Iron and Steel Sector Review 2014 permit EPR/3639BH. Variation issued EPR/TP3639BH/V003.	17/11/2015	Varied and consolidated permit issue in modern IED condition format.
Application PAN-000449. Variation determined EPR/TP3639BH/V004.	20/07/2016	Application to vary permit to add waste codes.
Application PAN-001189. Variation determined EPR/TP3639BH/V005.	24/01/2017	Application to increase millscale storage capacity.
Application for variation PAN-001610. Variation determined EPR/TP3639BH/V006.	20/06/2017	Application to add mechanical shearing to permitted activities as part of scrap metal pre-treatment.

The current permit boundary is outlined in Schedule 7 of the environmental permit (***Figure 1-1***)

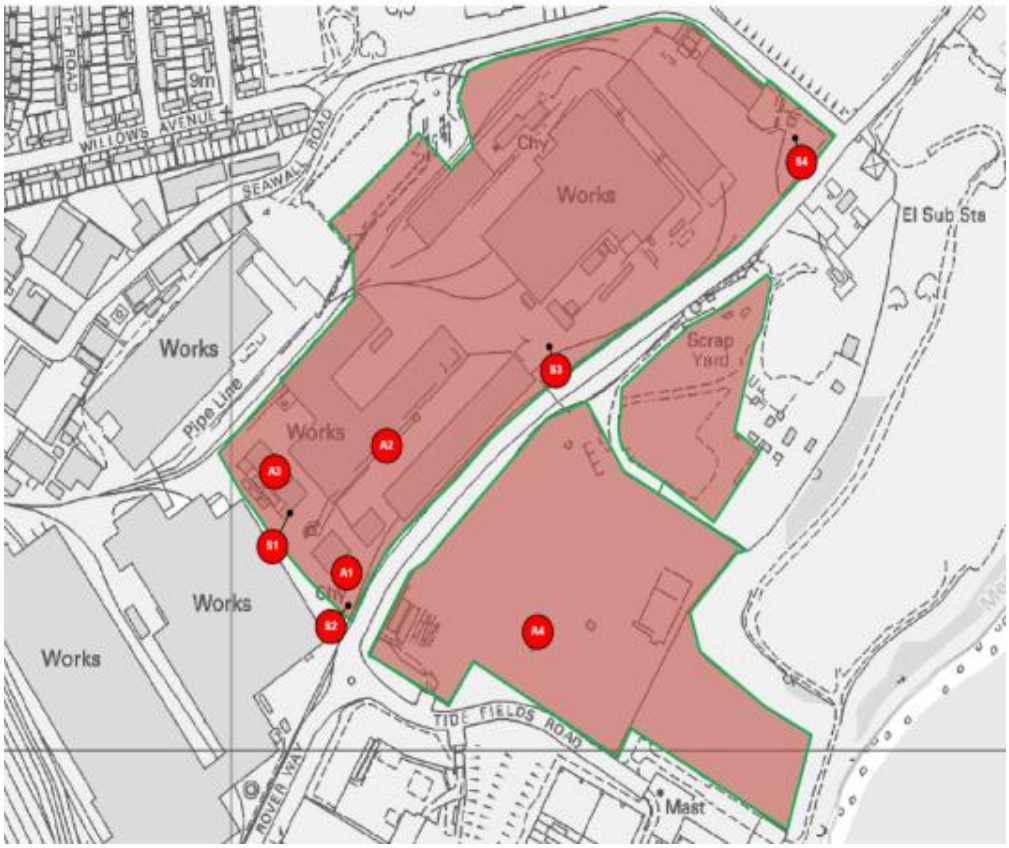


Figure 1-1: *Current New Melt Shop permit boundary*

In addition to the New Melt Shop permit Celsa also operates a waste process (Permit Ref. PAN-002220, Waste Returns Ref. EPR/DP3699FM) on the Rover Way site which was previously operated by Sims Group Ltd until transfer of the permit was completed on 05/02/2018.

EAME has been in contact with the local Natural Resource Wales (NRW) Senior Environment Officer (Mr. Gareth Richards) and it has been agreed that the application would be captured as a normal variation (with existing permit consolidation).

The document represents the Main Application Report submitted as part of the application package to the NRW (EAME Ref. 018-1620).

The main application report has been produced in accordance with NRW's, Environment Agency and Defra's current guidance as outlined within ***Table 1-2***.

Table 1-2: *Technical Standards and Guidance*

Type	Reference
EPR Guidance	NRW (2014). How to comply with your environmental permit, Version 8, October 2014. Defra (2019). Develop a management system: environmental permits. https://www.gov.uk/guidance/develop-a-management-system-environmental-permits. Defra (2018). Control and monitor emissions for your environmental permit. https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit.
Horizontal Guidance	Defra (2016). Risk assessments for specific activities: environmental permits, https://www.gov.uk/government/collections/risk-assessments-for-specific-activities-environmental-permits, 2 February 2016. H1 software tool and guidance. Defra (2016). Energy efficiency standards for industrial plants to get environmental permits, 1 February 2016. H2 Energy efficiency. Environment Agency (2004). Integrated Pollution Prevention and Control (IPPC) Horizontal Guidance for Noise H3 Part 2 – Noise Assessment and Control, Version 3, June 2004. NRW (2014). How to comply with your environmental permit, Additional guidance for: H4 Odour Management, Version 2, October 2014. NRW (2014). Environmental Permitting Regulations, Guidance for applicants H5, Site condition report – guidance and templates, Version 5.0, October 2014.

Type	Reference
BREFs	European Union (2012). Establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production (2012/135/EU). European Union (2013). Best Available Techniques (BAT) Reference Document for Iron and Steel Production.
Sector Guidance	NRW (2017). Fire Prevention & Mitigation Plan Guidance – Waste Management, Guidance Note 16, Document Owner: Regulatory Business Board, Version 2.0, August 2017. NRW (2014). Metal Recycling Industry Environment Management Toolkit Waste Sector - Metal Recycling Sites, Version 2.0, October 2014. EA (2013). S5.06 Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste, Version 5, May 2013. Environment Agency (2004). IPPC Guidance, Production of Coke, Iron and Steel, S2.01, Issue 1, June 2004.

The application package includes completed application forms that are cross-referenced to this technical submission, which is intended to address all the areas required by the variation application and a Site Condition Report (SCR) with supporting appendices. The various documents included with this application package are set out below:

- completed application forms (Part A, Part C2, Part C3 and Part F1);
- non-technical summary;
- technical submission and supporting information (this report);
- site condition report (SCR);
- current Opra assessment spreadsheet (NRW Version 3.6 – TP3639BH); and
- the application fees.

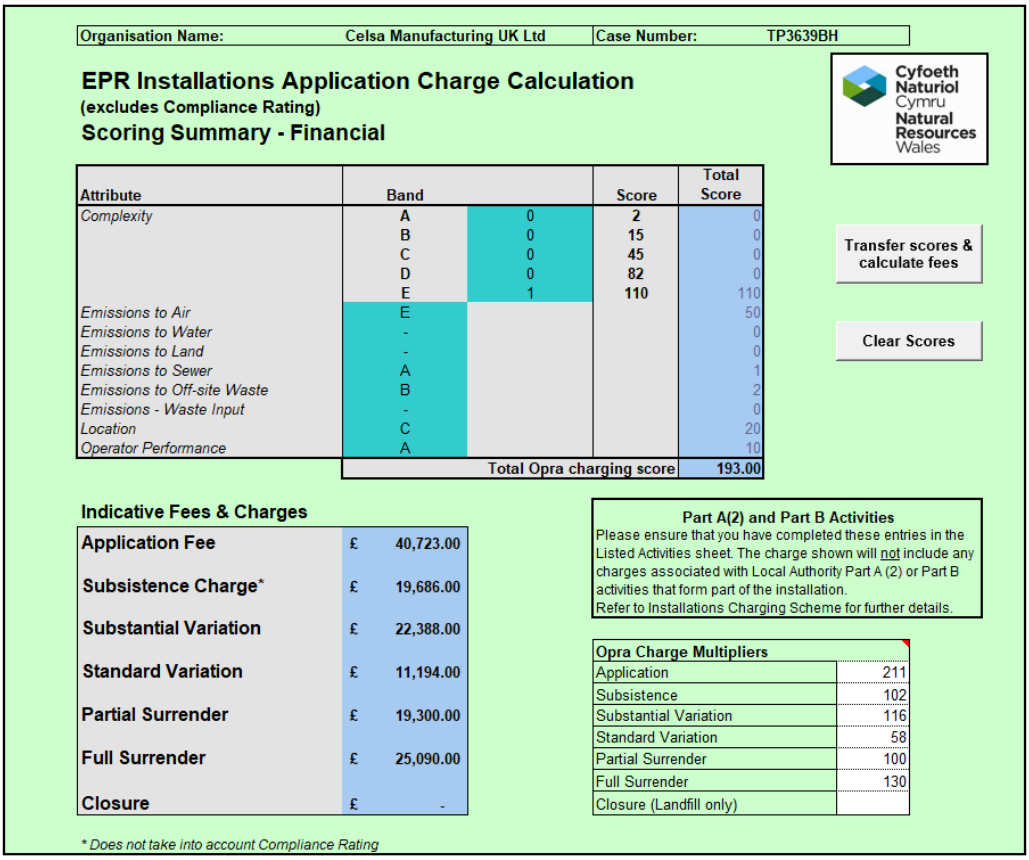
The above items should be regarded as constituting the variation application. In-line with the Form F1 guidance the variation application includes 1 x CD and 1 x paper copy of the application package.

The application has been submitted (via recorded delivery) to the Natural Resources Wales, Permit Receipt Centre, Natural Resources Wales, Cambria House, 29 Newport Road, Cardiff, CF24 0TP and sent by email to permitreceiptcentre@naturalresourceswales.gov.uk

The remainder of this document outlines the requirements requested by the NRW to progress the permit application.

1.2 Operational Risk Appraisal (Opra)

The fees associated with this application (£11,194) have been calculated using the current Opra spreadsheet (NRW Version V 2 01 – TP3639BH) as agreed with the local NRW Senior Environment Officer (***Figure 1-2***).



Organisation Name:	Celsa Manufacturing UK Ltd	Case Number:	TP3639BH

EPR Installations Application Charge Calculation
(excludes Compliance Rating)
Scoring Summary - Financial

Cyfoeth Naturiol Cymru Natural Resources Wales

Attribute	Band		Score	Total Score
Complexity	A	0	2	0
	B	0	15	0
	C	0	45	0
	D	0	82	0
	E	1	110	110
Emissions to Air	E			50
Emissions to Water	-			0
Emissions to Land	-			0
Emissions to Sewer	A			1
Emissions to Off-site Waste	B			2
Emissions - Waste Input	-			0
Location	C			20
Operator Performance	A			10
			Total Opra charging score	193.00

Transfer scores & calculate fees

Clear Scores

Indicative Fees & Charges

Application Fee	£	40,723.00
Subsistence Charge*	£	19,686.00
Substantial Variation	£	22,388.00
Standard Variation	£	11,194.00
Partial Surrender	£	19,300.00
Full Surrender	£	25,090.00
Closure	£	-

Part A(2) and Part B Activities
Please ensure that you have completed these entries in the Listed Activities sheet. The charge shown will not include any charges associated with Local Authority Part A (2) or Part B activities that form part of the installation.
Refer to Installations Charging Scheme for further details.

Opra Charge Multipliers	
Application	211
Subsistence	102
Substantial Variation	116
Standard Variation	58
Partial Surrender	100
Full Surrender	130
Closure (Landfill only)	

** Does not take into account Compliance Rating*

Figure 1-2: *Extract from EPR Installations Charge Calculation*

1.3 Payment Details

Celsa Manufacturing (UK) Ltd has paid the application fee via BACS to the following account:

- Company name – Natural Resources Wales, Income Dept. PO Box 663, Cardiff, CF24 0TP
- Bank – RBS, National Westminster Bank PLC, 2 Devonshire Square, London, EC2M 4BA
- Sort code – 60-70-80
- Account number – 10014438
- Payment reference number – EPRCELSAMANU0001

Notification of payment has been sent (including reference number) to: banking.team@cyfoethnaturiolcymru.gov.uk.

The remainder of this document outlines the requirements requested by the NRW to progress the permit application.

2 Permitted Activities

2.1 Proposed Activities

Each of the proposals is described below in more detail including (where required) Schedule 1 references, proposed activity capacities and Directly Associated Activities (DAA). The scope of this variation is as follows:

Variation Section 01 – Consolidation of the waste process (Permit Ref. PAN-002220, Waste Returns Ref. EPR/DP3699FM) on the Rover Way site into the New Melt Shop permit (Ref. EPR/TP3639BH).

The waste process, previously operated by Sims Group Ltd, was originally issued as a waste management licence under the *Control of Pollution Act 1974* and subsequently amended under the *Environmental Protection Act 1990*. As such there was no requirement (at such time) for the previous operator to produce either an Application Site Report (ASR) or Site Condition Report (SCR) for this activity. As the proposal is to consolidate the permit within the New Melt Shop permit the SCR has been revised to include the area previously operated by the Sims Metal Group Ltd. Transfer of the permit to Celsa was completed on 05/02/2018.

The site is permitted as a metal recycling site (mixed MRS) A20 *i.e.* a waste facility that has a permit for a waste operation under the EPR Regulations (former waste management licences). As a result, Schedule 1 of the New Melt Shop permit (EPR/TP3639BH) will need to be revised to include this directly associated activity (DAA).

No changes to the current activities are proposed *i.e.* this is a straight permit consolidation. The suggested revision (to the permit table) is outlined in ***Table 2-2*** (Activity A11).

No further information is presented within this document *i.e.* no additional technical information is required or submitted.

Variation Section 02 – Variation to include a new integrated scrap metal recycling centre (incorporating oversize material processing, material processing via vibro-flume and material processing via Eddy Current Separation (ECS) on the Rover Way site.

The aim of the project is to recycle, both on-site and off-site, 36,000 tonnes per annum of fines which are separated from feedstock material and circa 95% of which are currently sent to landfill. This will reduce the landfilling of fines (<70 mm material which is screened out of any incoming scrap) to near zero. The type of waste is EWC code 19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11. This is more commonly known as scrap screening fines.

The NRW permitting team was consulted and responded (by email on 23/07/18) regarding the proposed scrap screening activity. The NRW stated that this is not an EPR Schedule 1 activity, however, it will be captured as a directly associated activity (DAA) as it will meet the necessary criteria *i.e.* has a technical connection with the activity; is carried on at the same site as the activity and could have an effect on pollution.

The activity is to be located within a new purpose-built building located on the Rover Way site (***Figure 2-1***).

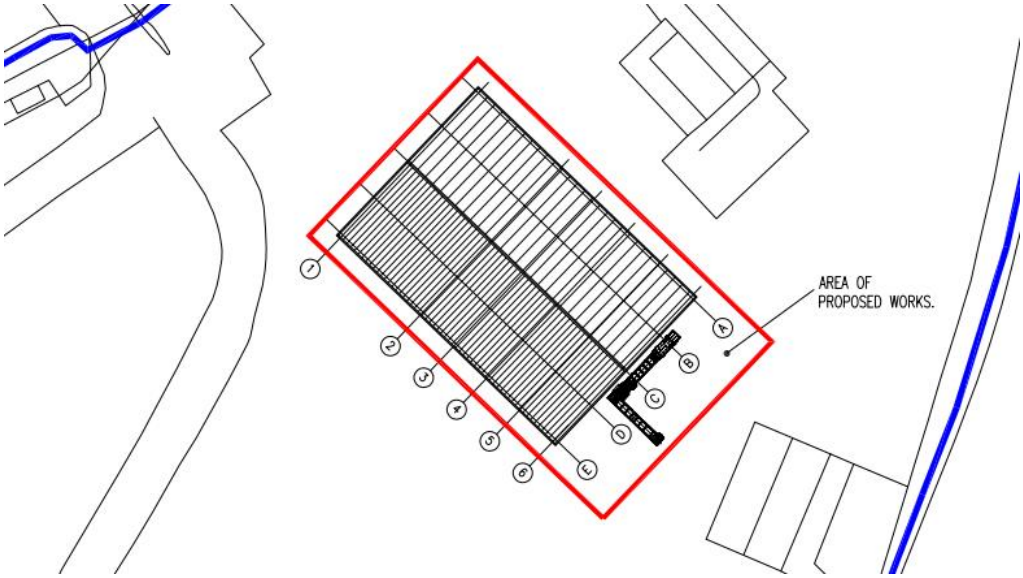


Figure 2-1: *External layout of proposed integrated scrap metal recycling centre*

James & Nicholas (2018). New Haith Scrap Sorter, Tremorfa Works, Celsa, Site Location and Block Plan, Job No. 18.41, DWG P01, Scale 1:500.

Planning permission was granted by Cardiff City Council on 23rd November 2018. (Ref. 18/02065/MJR)[1].

As a result, Schedule 1 of the New Melt Shop permit (EPR/TP3639BH) will need to be revised to include this activity. The suggested revision is outlined in ***Table 2-2*** (Activity A10).

1 https://planningonline.cardiff.gov.uk/online-applications/applicationDetails.do?keyVal=_CARDIFF_DCAPR_124962&activeTab=summary

Variation Section 03 – Variation to remove Carbon monoxide limit from New Melt Shop permit (Ref. EPR/TP3639BH) in relation to emission point A1 (100 mg/m^3, hourly average, continuous monitoring) in-line with current BAT reference documents (BREF).

The current New Melt Shop environmental permit (Ref. EPR/TP3639BH) emission point A1 (furnace fume extraction plant stack) includes an emission limit value (ELV) for Carbon monoxide (100 mg/m^3, hourly average, continuous monitoring) (***Photograph 2-1***).

Photograph 2-1: *Stack A1 (furnace fume extraction)*

Celsa requests that this ELV, and associated continuous monitoring requirement, is removed from the permit in-light of the presented justification.

Point No.1 – No Carbon monoxide ELV stated within the current BREF (2012/135/EU: Establishing the best available techniques (BAT) conclusions (BATC) under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production.

The revised BATC (03.2012) BREF does not include any ELVs in relation to Carbon monoxide emissions to air for the sector.

In the UK there appears to be a discrepancy between similar permits within the steel sector *e.g.* Liberty Speciality Steels (Aldwarke, Rotherham) and Tata Port Talbot (BOS Plant) have no

CO Emission Limit Values (ELVs) and no requirement to monitor CO whilst Outukumpu (EAF Melting Shop Bag Filter and DC Arc Furnace Bag Filter) have a 100 mg/m^3 CO ELV (with quarterly monitoring) and Sheffield Forgemasters (Melt Shop, Bag Filter Plant Roof Vents) have no ELVs but are required to conduct annual CO monitoring.

Point No.2 – Carbon monoxide is no longer monitored as part of the UK Ambient Air Quality network.

The UK's annual compliance assessment is based on both modelling and monitoring that forms part of Defra's national Pollution Climate Mapping. There are no CO maps after 2010. Due to low concentrations assessed by Defra across the UK, the modelling for this pollutant is no longer required[2].

Point No.3 – The Site is not in an Air Quality Management Area with respect to Carbon monoxide

There site is not located within an Air Quality Management Area (AQMA) with respect to Carbon monoxide[3]. The Cardiff area has various AQMAs, but all relate to NOx (as NO_2).

Point No.4 – Carbon monoxide is screened out using the current air environmental risk assessment.

An updated environmental risk assessment has been undertaken using the current risk assessment tool provided on the Department for Environment, Food and Rural affairs (Defra) website[4]. Extracts from the assessment are presented in ***Table 2-1***. The results screen out the Carbon monoxide emissions from further detailed assessment.

2 https://uk-air.defra.gov.uk/data/gis-mapping
3 https://uk-air.defra.gov.uk/aqma/maps
4 https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#risk-assessment-tool

Table 2-1: *Carbon monoxide environmental risk assessment (Stack A1)*

Company Name	Celsa Manufacturing (UK) Ltd
Location	Tremorfa Melt Shop, Seawall Road, Tremorfa, Cardiff, CF24 5TH
Permit Number	EPR/TP3639BH
Objectives	Assessment of CO emissions from Stack A1
Activities	Furnace fume extraction plant stack

Release Point	Effective Height (m)	Efflux Velocity (ms^{-1})	Total Flow (m^3/hr)	Annual (LT) Dispersion Factor (μgm^3s^{-1})	Hourly (ST) Dispersion Factor (μgm^3s^{-1})
A1	45	17.5	1,625,439	0.815	42.5

	Carbon monoxide
ELV Concentration (mg/m^3)	100.00
LT EAL ($\mu g/m^3$)	N/A
ST EAL ($\mu g/m^3$)	10000.00
Air background ($\mu g/m^3$)	333.00[*1]

Note:

[*1] https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2001 (2001 data from Cardiff centre)

Carbon monoxide Long Term Assessment

Release Point	Measurement Method	Operating Mode (% of Year)	ST Conc. (mg/m^3)	ST Release Rate (g/s)	Annual Rate (t/year)
A1	Periodic	74.3%	79.2	35.76	838.5

Process Contribution (PC) $_{total}$ = 29.14 µg/m^3

Stage 1 Screening		Stage 2 Screening			
%PC LT EAL	>1% LT EAL	%PC of Headroom	PEC (µg/m^3)	%PEC of EAL	%PEC of EAL >=70%
No LT EAL	N/A	N/A	N/A	N/A	N/A

No stated Long-term EAL. No further assessment required.

Carbon monoxide Short-Term Assessment

Release Point	Measurement Method	Operating Mode (% of Year)	ST Concentration (mg/m^3)	ST Release Rate (g/s)
A1	Periodic	74.3%	79.2	35.76

Process Contribution (PC) $_{total}$ = 1520 µg/m^3

Stage 1 Screening		Stage 2 Screening		
%PC ST EAL	>10% ST EAL	Headroom (µg/m^3)	% PC of Headroom	PC>=20% of Headroom
15.20%	YES	9334	N/A	No

No further assessment (detailed modelling) is considered necessary.

Variation Section 04 – Variation of the boundary of the current New Melt Shop permit (Ref. EPR/TP3639BH) to include the existing waste process (Permit Ref. PAN-002220) and the proposed new integrated scrap metal recycling centre.

The proposed final permit boundary, to be incorporate in Schedule 7 of the revised permit, is outlined in ***Figure 2-2***.

Figure 2-2: *Proposed permit boundary (post variation)*

Google Earth Imaging with the permission of Google – Licensed to Earth and Marine Environmental Consultants Ltd.

The proposed changes/additions to Permit Ref. EPR/TP3639BH, Schedule 1 - Table S1.1 are outlined within ***Table 2-2***.

Table 2-2: *Proposed Schedule 1 (Operations) Changes – Table S1.1*

Activity Ref.	Activity listed in Schedule 1 of the EP Regulations	Description	Limits of specified activity and waste types
Table S1.1 Activities			
A1	NO CHANGES	-	-
A2	NO CHANGES	-	-
Directly Associated Activities			
A3	Scrap handling and storage	Scrap unloading, sorting and storage. Loading into baskets and transfer to the furnaces.	- shearing of up to **5000** tonnes of scrap metal per month prior to submission to the scheduled activity
A4	NO CHANGES	-	-
A5	NO CHANGES	-	-
A6	NO CHANGES	-	-
A7	NO CHANGES	-	-
A8	NO CHANGES	-	-
A9	NO CHANGES	-	-
A10	**R13 Storage of waste pending any of the operations numbered R1 to R12; and** **R4 Recycling/ reclamation of metals and metal compounds**	**Integrated scrap metal recycling centre (incorporating oversize material processing, material processing via vibro-flume and material processing via Eddy Current Separation (ECS).**	**36,000 tonnes of 19 12 12**

Activity Ref.	Activity listed in Schedule 1 of the EP Regulations	Description	Limits of specified activity and waste types
A11	**D15 Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)** **R13 Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)** **D9 Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12, *e.g.* evaporation, drying, calcination** **R2 Solvent reclamation/regeneration** **R3 Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)** **R4 Recycling/reclamation of metals and metal compounds**	**Metal recycling site (mixed MRS) A20**	**As stated in original WML 94/04 (EAWML30124)**

Notes:

Existing text is outlined in 'black'.

Text outlined in **'green'** is subject to a separate minor technical variation (March 28, 2019) that is currently being considered by NRW in relation to an increased shear limit.

Text outlined in **'red'** relates to the proposed changes outlined within this variation/consolidation application (Ref. 018-1620).

2.2 Waste Types

The new waste codes that need to be added to Schedule 2 Table S2.3 of the New Melt Shop Permit No. EPR/TP3639BH organised by Variation Section are outlined within ***Table 2-3***.

Table 2-3: *Amendment to permit EWC codes*

Variation Section	Requested Additional EWC Codes
Variation Section 01 Consolidation of the waste process (Permit Ref. PAN-002220, Waste Returns Ref. EPR/DP3699FM) on the Rover Way site into the New Melt Shop permit (Ref. EPR/TP3639BH).	Request the inclusion of all EWCs associated with the EPR/DP3699FM permit within the revised New Melt Shop permit (Ref. EPR/TP3639BH).
Variation Section 02 Variation to include a new integrated scrap metal recycling centre (incorporating oversize material processing, material processing via vibro-flume and material processing via Eddy Current Separation (ECS) on the Rover Way site.	Request the following additional EWCs to be added to the revised New Melt Shop permit (Ref. EPR/TP3639BH): 19 12 04 plastic and rubber 19 12 07 wood other than that mentioned in 19 12 06 19 12 09 minerals (for example sand, stones)
Variation Section 03 Variation to remove Carbon monoxide limit from New Melt Shop permit (Ref. EPR/TP3639BH) in relation to emission point A1 (100 mg/m3, hourly average, continuous monitoring) in-line with current BAT reference documents (BREF).	None
Variation Section 04 Variation of the boundary of the current New Melt Shop permit (Ref. EPR/TP3639BH) to include the existing waste process (Permit Ref. PAN-002220) and the proposed new integrated scrap metal recycling centre.	None

3 Operations – Integrated Scrap Metal Recycling Centre

3.1 Introduction

It is proposed that an integrated scrap metal recycling centre will undertake R13 (storage of waste pending any of the operations numbered R1 to R12) and R4 (recycling/reclamation of metals and metal compounds) within a new standalone processing centre at the northern end of the Rover way site (***Figure 3-1***).

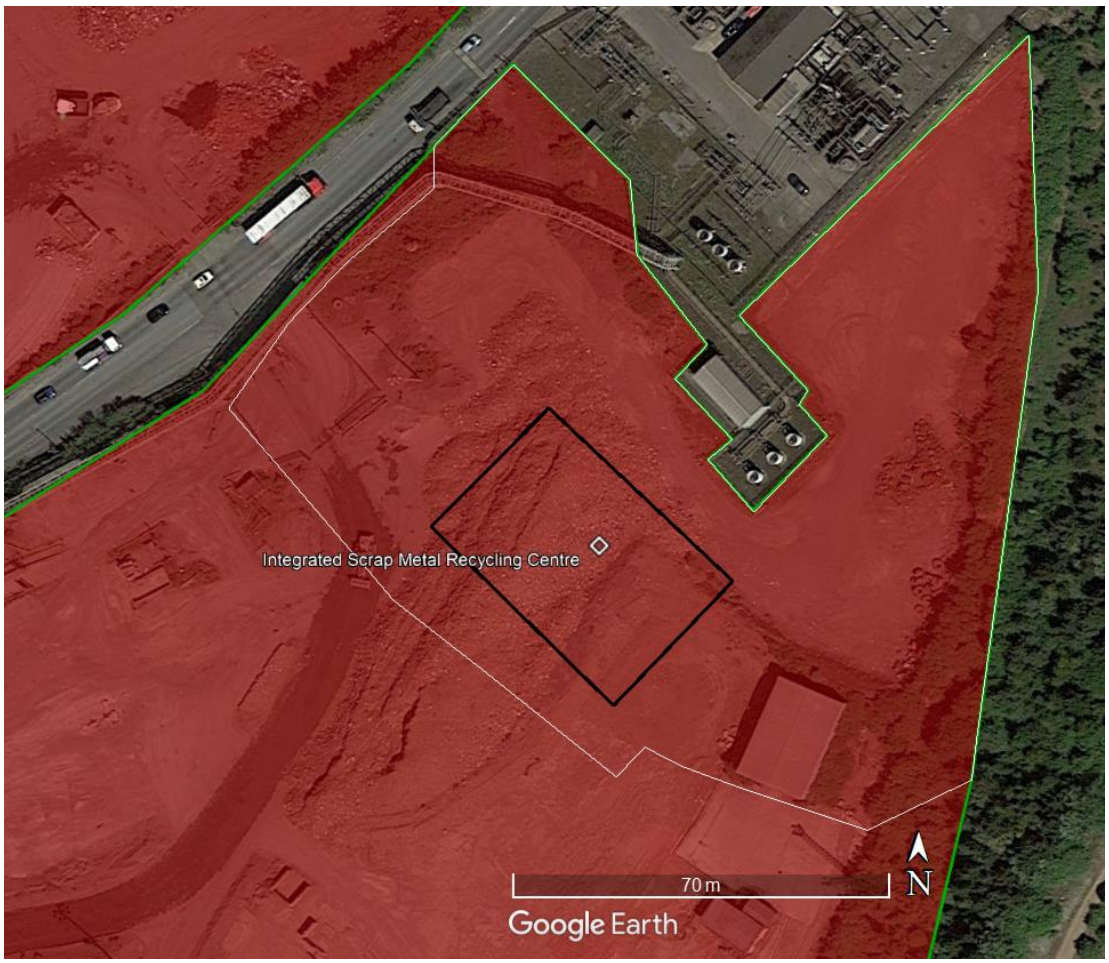


Figure 3-1: *Location of proposed integrated scrap processing centre*

Google Earth Imaging with the permission of Google – Licensed to Earth and Marine Environmental Consultants Ltd.

The processing of the scrap metals will be undertaken wholly within a newly designed and constructed steel portal frame building (approximately 45.8 metres by 31.3 metres) clad in Euroclad 1000/32 single skin steel profiles (colour white - RAL 9401). The internal slab of the

structure will be constructed of concrete. Full internal and external plans are provided in *Annex B*.

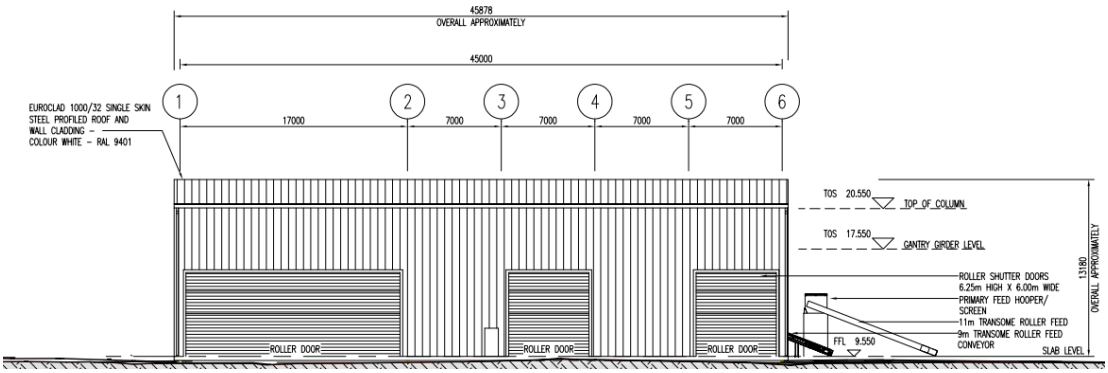


Figure 3-2: *South west elevation of Scrap Processing Centre*

James Nicholas (2018). New Haith Scrap Sorter, Tremorfa Works, Celsa, proposed elevations, Job No. 18.41, DWG PO2 (19/08/18)

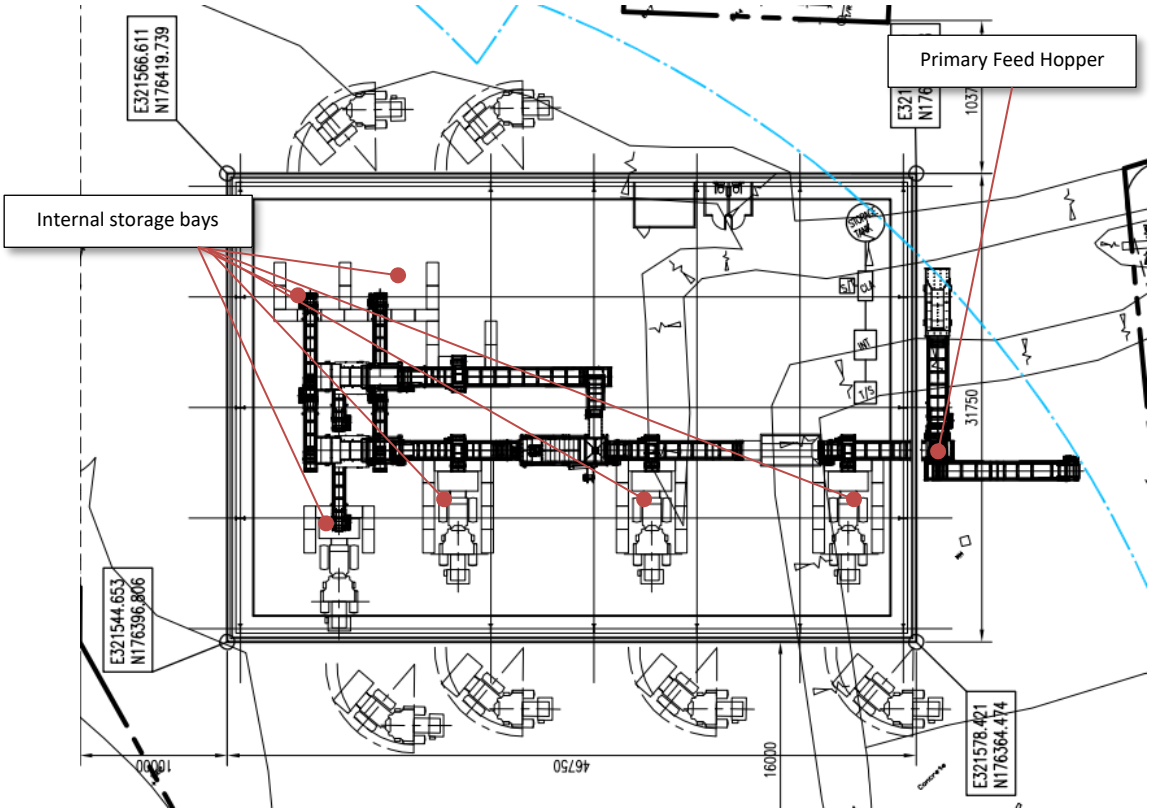


Figure 3-3: *Overview of Scrap Processing Centre*

James Nicholas (2018). New Haith Scrap Sorter, Tremorfa Works, Celsa, Setting out Plan, Job No. 18.41, DWG C03 (12/07/18)

On the south-east elevation of the building will be the primary feed hopper/screen that feeds unprocessed scrap into the building. All scrap metal processing operations will be undertaken wholly within the building apart from vehicle movements to and from the building to the external unprocessed and processed stockpiles.

There will be no cutting of metals using handheld oxy-propane cutting kit.

There will be no diesel fuel or gas cylinder storage associated with the scrap metal processing operations (in this area).

The facility will be operated by 1 x CAT 928G wheel loader and 1 x tractor with associated water bowser.

3.2 Waste Acceptance - Types of Waste

The proposed wastes that are to be accepted into the integrated scrap metal recycling centre are outlined within ***Table 3-1***.

Table 3-1: *Types of waste accepted and restrictions*

Code	Description	Associated with New Recycling Centre
19 12 02	ferrous metal	Y
19 12 03	non-ferrous metal	Y
19 12 04	plastic and rubber	Y (new EWC)
19 12 07	wood other than that mentioned in 19 12 06	Y (new EWC)
19 12 09	minerals (for example sand, stones)	Y (new EWC)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 (consisting of metal containing wastes only)	Y
RESTRICTIONS No hazardous waste will be processed at the Site. This is an excluded waste category.		

3.3 Avoidance, Recovery and Disposal of Wastes

The site is a scrap metal recovery operation. The only waste disposal which will occur will be due to (i) unrecoverable elements and (ii) dirt and fines (19 12 12) within the incoming waste streams. Contractual agreements and operational procedures will aim to minimise the amount of waste disposal from the facility. The process is a direct technical connection to the adjacent stationary technical unit i.e. Chapter 2, S2.1, Part A(1)(b)(i) installation produces steel billet from scrap using an electric arc furnace and continuous casting.

3.4 Waste Acceptance – Volume of Waste

The proposed stockpile and annual processing volumes are outlined within ***Table 3-2***.

Table 3-2: *Waste Volumes (Storage and Processing)*

On-site Stockpiles and Storage	Maximum (tonnes)	Comments
Stockpiles of unprocessed incoming material (solid) 19 12 12	c. 107 tonnes/day c. 3000 tonnes/month	Loose, bulk material brought from scrap bay operations Stockpile height of 4 metres
Stockpiles of processed, undersize (solid) 19 12 12	c.21 tonnes/day c.150 tonnes/week c. 600 tonnes/month	Stockpile height of 4 metres
Stockpiles of processed, stone and stainless (solid) 19 12 03 and 19 12 09	c. 11 tonnes/day c. 300 tonnes/month	Stockpile height of 4 metres
Stockpiles of processed, wood and plastic (solid) 19 12 04 and 19 12 07	c. 25 tonnes/day c. 176 tonnes/week c. 700 tonnes/month	Stockpile height of 4 metres
Stockpiles of processed, ferrous (solid) 19 12 02	c. 71 tonnes/day c. 500 tonnes/week c. 2,000 tonnes/month	Stockpile height of 4 metres
Skips of processed, non-ferrous (solid) 19 12 03	As required	N/A

3.5 Waste Acceptance – Procedures

All deliveries are weighed at the site weighbridge. The operators then conduct an initial visual check of the load (and associated paperwork) which, if found to be satisfactory, can be deposited on to site whereupon a thorough inspection is made.

In the event of any non-conforming items of waste (outside that permitted by the environmental permit) being identified they shall be separated and stored in a clearly marked quarantine area. Any loads delivered to the site which are found to contain non-conforming wastes (e.g. hazardous wastes, liquids or sludges, liquefied petroleum gas cylinders, putrescible wastes (excluding wood, cardboard and paper), healthcare or clinical wastes and wastes comprising solely or mainly of dusts, powders or loose fibres) shall be returned to the supplier (wherever possible). Should this not be practicable (from a health safety and/or environmental point of view) the waste shall be stored in the clearly marked quarantine area prior to authorised off-site disposal.

3.6 Site Activities

The scrap metal storage and processing areas are outlined within *Annex A – Figure 3 Site External Layout*. The process flow chart for the operation is outlined in ***Figure 3-4***.

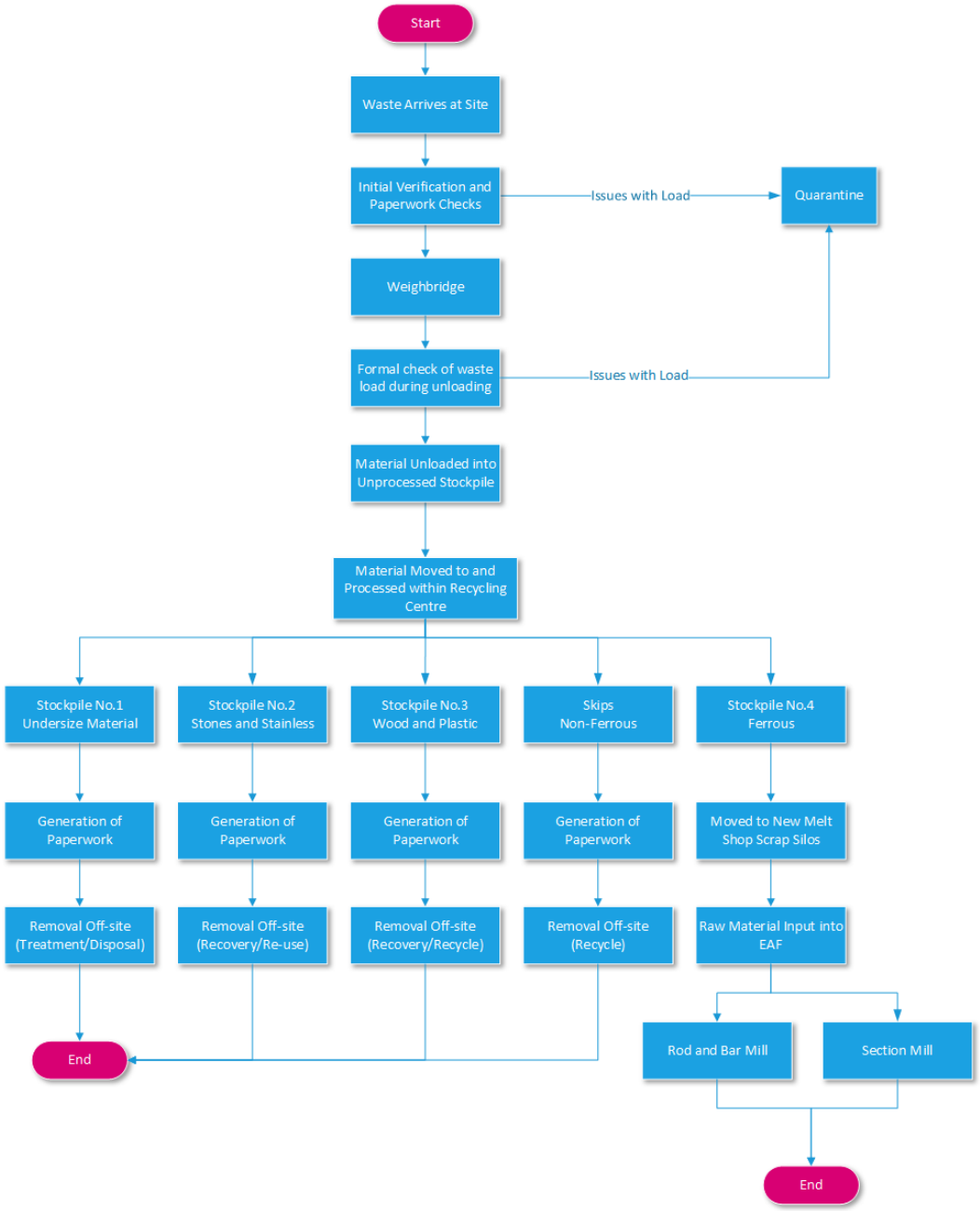


Figure 3-4: *Process flow chart (scrap metal acceptance and processing)*

3.6.1 Incoming Material Storage

The incoming material (post waste acceptance procedures) will be stored on an engineered tertiary containment surface within a waste pile of a specified maximum size ***Table 3-2***.

From the incoming stockpile material will be moved into the main site building which forms the integrated scrap metal recycling centre. The site will process metal using the stages outlined below:

- oversize material processing;
- material processing via vibro-flume; and
- material processing via Eddy Current Separation (ECS).

The processing stages and type of equipment is described below and outlined in *Annex A – Figure A4*.

3.6.2 Oversize Material Processing

Primary Feed Hopper

One (2 metre x 0.9 metre) solid bottom tray feeder with replaceable liner plates fitted to base of tray with 2 side mounted vibrator motor units. Fitted over the tray feeder is a heavy-duty feed hopper with control gate. Feeder mounted on a set of support spring mountings fixed to a heavy-duty support frame with heavy steel sheeting to all 4 sides.

One (2 metre x 1 metre) sizing screen with 0.5metre settling section, 70 mm punched plate replaceable screen driven by 2 side mounted vibrator motors, oversize waste chute to stocking conveyor, undersize chute mounted to the frame. Sizing screen mounted on spring mountings and fixed to a heavy-duty support frame.

Oversize Conveyor

One (11-metre-long x 1 metre wide) standard fully enclosed side 350 mm deep pressed steel design fully troughed belt conveyor, with 250 mm pitch rollers under loading point and 1 metre pitch thereafter. The return run of the belt will be supported on flat-faced return rollers bolted into the frame at 2.5 metre pitch. The belt will be a 500-3 rubber belt with 5 mm top and 1.5 mm bottom cover with a hot vulcanised joint. The head pulley will be 250 mm diameter crowned with a solid steel shaft. The pulley will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the framework of the conveyor and be driven by a shaft mounted geared motor. The tail pulley will again be 250 mm diameter crowned slat faced welded on a solid steel shaft. The pulley again will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the adjuster frameworks that run within the main conveyor body, all belt tracking and tensioning can be do without removing any of the guards.

Oversize Feed Conveyor-bulk Feed Hopper with Overband Magnet

One 9-metre-long x 1 metre wide standard fully enclosed side 350 mm deep pressed steel design fully troughed belt conveyor, with 250mm pitch rollers under loading point and 1 metre pitch thereafter. The return run of the belt will be supported on flat faced return rollers bolted into the frame at 2.5 metre pitch. The belt will be a 500-3 rubber belt with 5 mm top and 1.5 mm bottom cover with a hot vulcanised joint. The head pulley will be 250 mm diameter crowned with a solid steel shaft. The pulley will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the framework of the conveyor and be driven by a shaft mounted geared motor. The tail pulley will again be 250 mm diameter crowned slat faced welded on a solid steel shaft. The pulley again will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the adjuster frameworks that run within the main conveyor body, all belt tracking and tensioning can be do without removing any of the guards. The conveyor will have a stainless steel over liner under the over-bands position on the conveyor.

Fitted to the conveyor will be one 10 PCB Tri-Polar overband magnet with fixed magnet inside a conveyor framework, cleated rubber belt fitted to the conveyor which is driven by a fixed speed geared motor fitted to the head shaft. The conveyor will be mounted on a framework with support chains for full adjustment and have a stainless-steel discharge chute to the containment bay/bin below.

One 4-metre-long x 1.5-metre-wide bulk feeder conveyor to receive bulk material from a loading shovel/transfer conveyor and transfer the material onto the infeed conveyor at a controlled rate. The bulk feeder conveyor will be substantially built from standard channels, angles and formed plates to produce a strong under frame that will be supported at each corner by adjustable legs to the floor. Mounted above the under frame will be a body fabricated from 6 mm. thick plate designed to contain the materials and control the flow by an adjustable swing control gate. The material will be conveyed on a 1.5-metre-wide belt having a 5 mm top cover and being attached to a 150 mm pitch roller conveyor chain at both edges. Cross slats will extend from chain to chain to provide additional belt support. The belt will be driven by a pair of chain wheels which will be keyed to the head shaft, with a further pair of chain wheels mounted at the rear of the conveyor for belt and chain tensioning. The conveyor will be variable speed, driven by a geared motor drive unit and shaft mounted speed reducer mounted on the head shaft.

3.6.3 Vibro-Flume

Feed Conveyor with Over Band Magnet

One 11-metre-long x 1 metre wide standard fully enclosed side 350 mm deep pressed steel design fully troughed belt conveyor, with 250 mm pitch rollers under loading point and 1 metre pitch thereafter. The return run of the belt will be supported on flat-faced return rollers

bolted into the frame at 2.5 metre pitch. The belt will be a 500-3 rubber belt with 5 mm top and 1.5 mm bottom cover with a hot vulcanised joint. The head pulley will be 250mm diameter crowned with a solid steel shaft. The pulley will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the framework of the conveyor and be driven by a shaft mounted geared motor. The tail pulley will again be 250 mm diameter crowned slat faced welded on a solid steel shaft. The pulley again will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the adjuster frameworks that run within the main conveyor body, all belt tracking and tensioning can be do without removing any of the guards. The conveyor will have a stainless steel over liner under the over-bands position on the conveyor.

Fitted to the conveyor will be one 10 PCB Tri-Polar overband magnet with fixed magnet inside a conveyor framework, cleated rubber belt fitted to the conveyor which is driven by a fixed speed geared motor fitted to the head shaft. The conveyor will be mounted on a framework with support chains for full adjustment and have a stainless-steel discharge chute to the containment bay/bin below.

Vibro-Flume

One Vibro-flume 1600 separator unit with Vee bottomed recirculation tank and screw bottom solids discharge with scrapper conveyor, submerged heavies' removals conveyor with cleated belt, stuffing box seals and remote mounted lower bearings. Slatted tail pulley, lagged head pulley with belt tensioning and tracking adjustment driven by shaft mounted fixed speed geared motor. Vibratory trash dewatering screen fitted with replaceable screen deck and waste discharge chute work, water collection chute fitted under the trash screen to direct the screened water into the Vee bottom tank. Trash screen support stand mounted on the top of the Vee bottom tank, recirculation pump with invertor drive and supporting pipework.

The material will then be placed onto a transfer conveyor. One 2.5-metre-long x 1 metre wide standard fully enclosed side 350 mm deep pressed steel design fully troughed belt conveyor, with 250 mm pitch rollers under loading point and 500 mm pitch thereafter. The return run of the belt will be supported on flat-faced return rollers bolted into the frame at 1 metre pitch. The belt will be a 500-3 rubber belt with 5 mm top and 1.5 mm bottom cover with a hot vulcanised joint. The head pulley will be 250 mm diameter crowned with a solid steel shaft. The pulley will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the framework of the conveyor and be driven by a shaft mounted geared motor. The tail pulley will again be 250 mm diameter crowned slat faced welded on a solid steel shaft. The pulley again will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the adjuster frameworks that run within the main conveyor body, all belt tracking and tensioning can be do without removing any of the guards.

3.6.4 Eddy Current Separator

The Eddy Current Separator (ECS) is an advanced metal sorting unit that can separate non-ferrous metals such as aluminium and copper from dry recyclables. An Eddy Current Separator consists of a short belt conveyor that has its drive located at the return end and a high-speed magnetic rotor system installed at the discharge end. The magnetic rotor, which is positioned within a separately rotating non-metallic drum, revolves at around 3000 revolutions per minute during operation whilst the outer drum cover rotates at the speed of the Eddy Currents' belt conveyor.

As the rotor spins at these high speeds, an electric current is induced into conducting metals. The induced electric current produces a magnetic field, which opposes the field created by the rotor, repelling the conducting metals over a pre-positioned splitter plate. The remaining materials such as plastics, glass and other dry recyclables will simply free-fall over the rotor, separating them from the repelled metals.

Feed conveyors with over-band magnet

One 15-metre-long x 1 metre wide and one 8.5-metre-long x 1 metre wide standard fully enclosed side 350 mm deep pressed steel design fully troughed belt conveyor, with 250 mm pitch rollers under loading point and 1metre pitch thereafter. The return run of the belt will be supported on flat-faced return rollers bolted into the frame at 2.5 metre pitch. The belt will be a 500-3 rubber belt with 5mm top and 1.5 mm bottom cover with a hot vulcanised joint. The head pulley will be 250 mm diameter crowned with a solid steel shaft. The pulley will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the framework of the conveyor and be driven by a shaft mounted geared motor. The tail pulley will again be 250 mm diameter crowned slat faced welded on a solid steel shaft. The pulley again will be supported in a pair of self-lube 2 bolt flange bearings bolted onto the adjuster frameworks that run within the main conveyor body, all belt tracking and tensioning can be do without removing any of the guards. The conveyor will have a stainless steel over liner under the over-bands position on the conveyor.

Each conveyor is fitted with a 10 PCB Tri-Polar overband magnet with fixed magnet inside a conveyor framework, cleated rubber belt fitted to the conveyor which is driven by a fixed speed geared motor fitted to the head shaft. The conveyor will be mounted on a framework with support chains for full adjustment and have a stainless-steel discharge chute to the containment bay/bin below.

Eddy Current Separators

Two ECS units Mastermag ECS 125 eddy current separators with 300 mm diameter x 1.250-metre-wide concentric rotor and short centred feeder belt, vibratory feeder tray to feed the ECS conveyor with a single layer of material to optimise the separation process. Local control panel with inverter controllers for the rotor and conveyor speeds, rare earth pulley for the removal of any fine ferrous, waste chutes and guarding.

Stocking Conveyors

After the ECS a series of link conveyors connect to three further stocking conveyors (one for ferrous, one for non-ferrous metals and one for waste).

3.6.5 Wash Plant Wastewater Treatment Plant

Water from the vibro-flume will be treated using a wastewater treatment plant composed of the following elements (***Figure 3-5***):

- Stage 1: Trash screen – A 1.5 metre (L) x 1.5 metre (W) x 3 metre (H) trash screen is used to remove coarse contamination from the effluent stream (i.e. rags, sticks, plastics, large solids and other debris).
- Stage 2: Interceptor – A 2.0 metre (L) x 1.5 metre (W) x 1.5 metre (H) interceptor is used to remove hydrocarbon contamination from the incoming effluent stream.
- Stage 3: Clarifier – A 2.0 metre (L) x 1 metre (W) x 2 metre (H) clarifier is used to continuously remove of solids by sedimentation. Concentrated impurities discharged from the bottom of the tank are directed to a sludge tank 1.0 m (W) x 1.0 metre (W) and 1.0 metre (H).
- Stage 4: Storage of clarified water – A 15,000 litre storage tank 2.6 metre (D) and 3.4 metres (H) are used to store the clarified liquid prior to disposal.

Figure 3-5: *WWTP flow*

The treated effluent characteristics (based on design parameters of the WWTP) are pH 6 – 10, Free oil <5 mg/l and Total Suspended Solids (TSS) <500 mg/l. The water from the WWTP will be discharged, under consent, to Welsh Water Sewer **(Emission Point Ref: S5)**.

In an emergency Celsa would propose to drain the wastewater from the system and transfer the liquid (using a bowser) to the existing Section Mill settling pits (of which there are two) and associated wastewater treatment plant. The Section Mill operates under the control of an environmental permit (BV0767IT) and a trade effluent discharge consent (TE147F) from Welsh Water. The pits are alternately dried and emptied every couple of months with the residual solids removed from site for off-site disposal.

3.6.6 Storage Post-processing

Post processing (through the integrated scrap metal recycling centre) all materials are to be moved to dedicated stock piles and/or slips located on the southern side of the building. The following stockpiles are to be created:

- Stockpile (Processed, Undersize))
- Stockpile (Processed, Stone and Stainless)
- Stockpile (Processed, Wood and Plastic)
- Stockpile (Processed, Ferrous)

The recovered non-ferrous materials will be stored in series of skips:

- Skips (Processed, Non-ferrous)

All stockpiles and skips are to be stored on an engineered tertiary containment surface in-line with the stated requirements outlined in the site-specific Fire Prevention Mitigation Plan (FPMP).

4 Managing the Activities

4.1 General 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).

The EMS continues to be maintained and is externally audited (by Bureau Veritas) whilst delivering all indicative Best Available Technique (BAT) requirements for an effective management system. The current management systems will be updated to include the proposed operations as the activities at this site will provide a direct connection into the existing operations at the Cardiff site (i.e. the activity is directly associated with the operation of an electric arc furnace, section mill, road and bar mill and the mineralization of slag').

Celsa Manufacturing (UK) Ltd also operates a certified OHSAS18001:2007 Occupational Health and Safety Management System. These systems will also be applied to the process.

4.2 Operations and Maintenance

The company uses a "risk" based approach for assessing the criticality of site equipment in terms of Health, Safety, Environment requirements. As well as the criticality of the plant the equipment is given a priority which determines how quickly an unplanned failure of said equipment is responded to.

The site will establish and will maintain a Planned Preventative Maintenance (PPM) schedule for the new operations in-line with manufacturer's recommendations. This will identify all critical environmental equipment that is used to mitigate or prevent environmental impacts. All records associated with these activities will be maintained on-site and controlled as part of the ISO14001 management system. Any breakdown or malfunction of plant or equipment that could result in abnormal emissions of dust or odours are dealt with promptly and process operations adjusted until normal operations can resume. Any such events are recorded in the site diary and on the company ProSafety system.

4.3 Accidents

The site has established and maintains an Accident/Pollution Management Emergency Plan which is subject to regular review and update and is controlled via the EMS. The plan details site drainage, site services, location of hazardous materials (e.g. fuels and oils), emergency

response equipment, pollution control points etc. Where required the emergency plan will be revised to take in to account any identified deficiencies.

Appropriate spill kits and absorbents will be available throughout the site. These will be subject to regular inspection to ensure stock levels are maintained. All operatives will be trained in their use.

Celsa Manufacturing (UK) Ltd has established and will maintain a stand-alone Fire Prevention and Mitigation Plan in-line with NRW Guidance.

4.4 Incidents and non-conformances

Accidents, Incidents, complaints and non-conformances are to be handled through the existing processes that form part of the ISO 14001 EMS.

4.5 Site security

The wider-site itself is surrounded by a 2.4-metre-high palisade fence. All access on to site will be controlled by the appropriate manager. No unauthorised access will be permitted. The site will be fitted with permanent CCTV.

4.6 Sufficient competent persons and resources

The total manning of the site can vary dependent upon the level of activity being undertaken. Based on proposed current activities there will be two operators at any one time. Celsa Manufacturing (UK) Ltd will provide centralised engineering, technical, transport, administration and environmental support (as required). Celsa Manufacturing (UK) Ltd will provide a comprehensive training programme for the site and the proposed operations in-line with the required competency requirements (e.g. general environmental awareness, maintenance and operational activities, accident and emergency response). This training will be provided to all site operatives.

The appropriate manager provides the necessary Technically Competent Management and is recognised by holding WAMITAB Certificate of Technical Competence. According to WAMITAB a Metal Recovery Site (MRS) Dry Scrap (including separately collected batteries – no free-flowing liquid) is considered LOW RISK with the following qualification requirements:

- WAMITAB Level 4 Low Risk Operator Competence for Non-hazardous waste transfer and storage (601/08514/4) (LROC1)

- WAMITAB Level 4 Certificate in Waste and Resource Management (601/2388/6) (VRQ, Unit 6a) (only available for in-house storage)
- Environmental Permitting Operators Certificate (EPOC)

The proposed technically competent person is:

- **Name:** Mr. Richard O'Neill
- **Certificate of Technical Competence:** Level 4 in Waste Management Operations – Managing Treatment Hazardous Waste (4TMH) – 06/11/2012, Serial No. 17186/11/1, Certificate No. 12815.
- **Operator Competence Certificate:** Level 4 in Waste Management Operations – Managing Treatment Hazardous Waste (4TMH) – 06/11/2012, Certificate No. OCC3418.
- **Continuing Competence Certificate:** TSH/TMH awarded 24/07/2017. Expires 24/07/2019. Certificate No. CCC14850

All site Operatives will be made aware of the requirements of the EPR Permit and will be briefed as to the content of the Environmental Management Plan and the Fire Prevention and Mitigation Plan.

4.7 Records that demonstrate your management system

Records relating to the operation of the site are to be handled through the existing processes that form part of the ISO 14001 EMS. All records relating to the operation of the installation will be maintained as per the stated procedures.

Non-hazardous waste transfer documentation will be maintained on-site for a period of 2 years. If any consignments of hazardous waste are removed the consignment notes will be maintained on-site for a period of 3 years.

The site condition at the start of the permitted period will be recorded within a photographic record. In addition, the site operator will keep records of the:

- design, construction, inspection, monitoring and maintenance of all pollution prevention infrastructure;
- spills and incidents and any resulting corrective and/or preventative actions;
- actions taken if the NRW identify relevant non-conformances or failures; and

- off-site impacts such as pollution incidents that caused, or are alleged to have caused, harm or health effects.

4.8 Access to your permit

Access to the permit will be through existing internal systems (i.e. intranet and on-site noticeboard). Where contractors undertake work within the site the requirements of the permit will be actively brought to their attention.

4.9 Permit surrender and closure

Upon cessation of activities the following site closure plan would be initiated:

- Disconnection of electrical supply and make safe.
- Drain down and empty any above ground storage tank.
- Remove all plant and equipment.
- Remove and dispose of all remaining waste materials in-line with current regulatory requirements.
- Undertake site surrender SCR monitoring (i.e. provide the evidence necessary to demonstrate to the NRW that the site does not pose a pollution risk and is in a satisfactory state).

5 Energy and Climate Change

5.1 Introduction

As part of Celsa's Environmental Management System, Celsa has identified all its potentially significant environmental aspects, whilst considering its legal requirements. Objectives and targets are set on an annual basis to deliver continual improvement in the management of these environmental aspects.

Celsa's governance of environmental issues goes beyond compliance with regulatory requirements and the company commitment to EMAS is evidence of this commitment to operate our business in an environmentally responsible manner. This is demonstrated through the setting of targets that deliver continued environmental performance.

As part of the metal recycling process, a significant amount of energy is used in the form of electricity, natural gas and carbon additions. We are careful to ensure that our processes are efficient to minimise the use of energy and to avoid waste.

This section has been completed in conjunction with reviewing the guidance contained with the Horizontal Guidance H2 Energy Efficiency[5].

5.2 Electricity Use

5.2.1 Scrap Metal Processing Centre

The proposed operating hours of the activity are 40 hours per week (Monday to Friday day shifts only – 12 hours maximum). Assuming (on average) 260 working days per year this equates to 3,120 hours per annum (36 % annual utilisation).

The load when the plant is operating has been reported, by the designers, as 200 kWh. There are no heating systems present within the proposed processing building.

This equates to an annual total of 624 MW (based on constant operation/load during the stated operational period). This will be an overestimate as there will be shut-down and maintenance periods.

5 https://www.gov.uk/guidance/energy-efficiency-standards-for-industrial-plants-to-get-environmental-permits

5.3 Energy Use within the Installation

The energy usage within the installation has been calculated by identifying and reviewing all plant and equipment within the scope of the installation.

Direct releases occur where primary energy is converted to heat and/or electricity at the installation, *e.g.* through use of gas-fired dryer. Indirect releases are those associated with the consumption of electricity or heat generated elsewhere (*i.e.* third-party supply or from an off-site power station). The conversion factor from electricity delivered to primary is 2.4 as per EA Horizontal Guidance Note H2 Energy Efficiency and the H1 database. This takes in to account both generation losses and transmission losses associated with the transfer across the National Grid. The total and specific energy consumption for the installation is outlined within ***Table 5-1***.

Table 5-1: *Energy sources and annual consumption*

Source	Type	Delivered (MWh/year)	Conversion Factor	Primary (MWh/year)
Electricity from public supply	Indirect emissions	624	2.4	1,497.6
Total		**624**		**1,497.6**
Notes: The predicted operating hours of the plant are 3,120 per annum.				

5.4 Carbon Dioxide Emissions as a Result of Energy Use

The reporting of direct and indirect emissions of carbon dioxide resulting from the consumption or generation of energy by the activities covered in the permit is included as part of this overall reporting of environmental emissions. Environmental emissions relating to the consumption of energy at the installation are limited to those emissions arising from the use of LPG at the site itself and indirectly from the use of fossil fuels at the power station providing the electricity to the installation. The estimated carbon emissions are outlined within ***Table 5-2***.

Table 5-2: *Energy sources and annual carbon dioxide emissions*

Source	Type	Primary (MWh/year)	CO_2 Factor	CO_2 (tonnes/year)
Electricity from public supply	Indirect emissions	1,497.6	0.17	254.5
Total		**1,497.6**		**254.5**
Notes: The predicted operating hours of the plant are 3,120 per annum.				

5.5 Climate Change Levy

Climate change agreements are voluntary agreements made by UK industry and the Environment Agency to reduce energy use and carbon dioxide (CO_2) emissions. In return, operators receive a discount on the Climate Change Levy (CCL), a tax added to electricity and fuel bills. The Environment Agency administers the CCA scheme on behalf of the whole of the UK.

CELSA currently operates under a Climate Change Levy Agreement (CCLA) within the UK Steel Association sector. UKSA/CELSA/N/00001 will apply to the varied installation.

5.6 Management of Energy Use

Celsa is committed to managing and reducing the environmental impact of its operations (wherever possible). Energy reduction programmes are established and maintained throughout the business. The aim of this is to evaluate the environmental impact Celsa's activities (*i.e.* buildings, processes and transport) and identify opportunities for improvement. These opportunities can be reflected in the site improvement objectives (if deemed feasible). In all cases these objectives form part of the ISO 14001 EMS. In addition, the regular monitoring of site energy consumption and the planned preventative maintenance of equipment is carried out on a regular inspection cycle.

6 Emissions to Air, Water and Land

6.1 Point Source Emissions to Air

There are no new point source emissions to air associated with the scrap processing centre.

6.2 Point Source Emissions to Surface Water

There are no new point source emissions to surface water from the installation. All drainage systems on-site are either connected to the foul sewer (process effluent) or to a soakaway (rainwater from roof areas).

6.3 Point Source Emissions to Sewer

As stated in *Section 3.6.5* the scrap processing centre is fitted with a dedicated waste water treatment plant to treat the wastewater generated from the vibro-flume. The treated effluent characteristics (based on design parameters of the WWTP) are pH 6 – 10, Free oil <5 mg/l and Total Suspended Solids (TSS) <500 mg/l. The water from the WWTP will be discharged, under consent, to Dŵr Cymru Cyf (Welsh Water) Sewer **(Emission Point Ref: S5)**. The anticipated discharge volume from the WWTP is 10 m^3/dy.

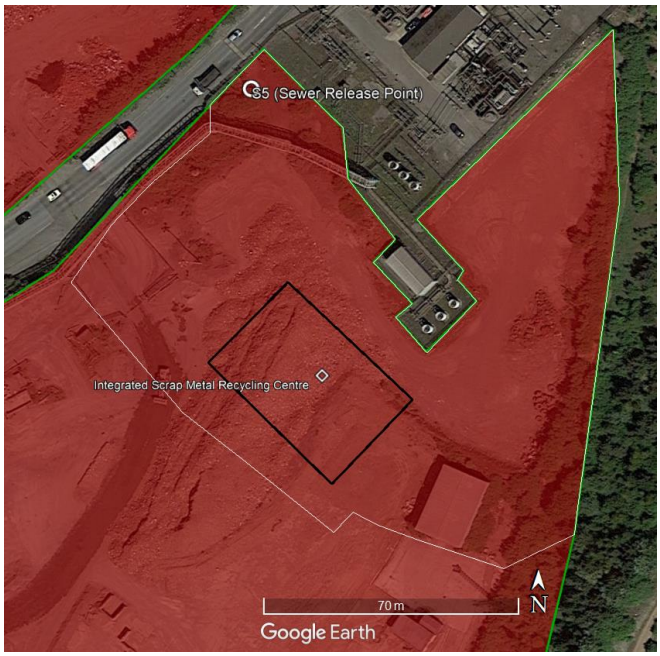


Figure 6-1: *Sewer release point (S5) associated with integrated scrap processing centre*

Google Earth Imaging with the permission of Google – Licensed to Earth and Marine Environmental Consultants Ltd.

A formal wastewater discharge consent application was submitted to Welsh Water on 1st March 2019.

In an emergency Celsa would propose to drain the wastewater from the system and transfer the liquid (using a bowser) to the existing Section Mill settling pits (of which there are two) and associated wastewater treatment plant. The Section Mill operates under the control of an environmental permit (BV0767IT) and a trade effluent discharge consent (TE147F) from Welsh Water. The pits are alternately dried and emptied every couple of months with the residual solids removed from site for off-site disposal.

6.4 Point Source Emissions to Groundwater

There are no point source emissions of process water to groundwater from the installation.

6.5 Point Source Emissions to Land

There are no direct point source emissions to land from any part of the installation.

However, the integrated scrap centre does include a roof rainwater harvesting system that features a soakaway when the maximum storage volumes of rainwater have been exceeded. The discharge to ground will only consist of harvested rainwater and rainwater from the roof level gutters (when not harvested).

6.6 Fugitive Emissions to Air

6.6.1 Dust

Dust emissions occur at several points in the storage cycle, such as material loading onto the pile, disturbances by strong wind currents, and loadout from the pile. The movement of trucks and loading equipment in the storage pile area is also a source of dust.

Total dust emissions from aggregate storage piles result from several distinct source activities within the storage cycle:

- loading of aggregate onto storage piles (batch or continuous drop operations);
- equipment traffic in storage area;
- wind erosion of pile surfaces and ground areas around piles; and
- loadout of aggregate for shipment or for return to the process stream (batch or continuous drop operations).

Either adding scrap metal to a storage pile or removing it usually involves dropping the material onto a receiving surface. Truck dumping on the pile or loading out from the pile to a truck with a front-end loader are examples of batch drop operations. Adding material to the pile by a conveyor stacker is an example of a continuous drop operation.

There are two principal sources of fugitive dust associated with the materials handling activities, namely particulate emissions from the scrap metal handling and storage piles, which consists of loader and truck traffic around the storage piles and fugitive dust associated with the transfer of aggregate by buckets or conveyors.

Dust control techniques include:

- source reduction – mass transfer reduction;
- source handling improvement – e.g. work practices, transfer equipment, loading and unloading (e.g. drop heights, wind sheltering, moisture retention); and
- source treatment – i.e. water sprays or dust suppression.

BAT, as defined within the BAT conclusions iron and steel production[6], is to determine the order of magnitude of diffuse emissions from relevant sources by defined methods. Whenever possible, direct measurement methods are preferred over indirect methods or evaluations based on calculations with emission factors (i.e. either using VDI 3790 Part 3 or US EPA AP42).

Unfortunately, AP-42, *Compilation of Air Pollutant Emission Factors* does not specify emission factors for the handling/storage of scrap metal.

Likewise, the European Environment Agency (EEA) air pollutant emission inventory guidebook 2016 does not included any relevant emission factors[7].

The Reference Document on Best Available Techniques on Emissions from Storage (July 2006)[8] states that scrap metal is classified as an S4 dispersion class material (moderately drift sensitive, wettable).

6 COMMISSION IMPLEMENTING DECISION of 28 February 2012 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production (notified under document C(2012) 903) (2012/135/EU)

7 http://efdb.apps.eea.europa.eu/?source=%7B%22query%22%3A%7B%22match_all%22%3A%7B%7D%7D%2C%22display_type%22%3A%22tabular%22%7D

8 http://eippcb.jrc.ec.europa.eu/reference/BREF/esb_bref_0706.pdf

Work undertaken by the European Commission – DG Environment (Framework contract No ENV.G.1/FRA/2004/0081)[9] references TNO Delft Emission Factors in relation to the handling and crushing of materials. Materials are classified according to their susceptibility to be dispersed and the possibility to prevent this dispersion by wetting (for non-reactive materials). Emission factors from storage increase with the ability to drift of the material. Wetting the materials reduces by a factor 10 the emission of dust from storage. Factsheet E11 (Preparation of scrap metal) outlines emission factors associated to the handling and crushing of materials[10] (***Table 6-1***). These emission factors have been used to qualitative assess fugitive dust emissions from the shearing, shredding and integrated scrap centre operations.

Table 6-1: *Emission factors associated to the handling and crushing of materials[10]*

Class of Material	Drift Sensitivity	Wettable	Material Example	Emission Factor of the dry material (g/kg)
S1	High	No	-	1
S2	High	Yes	Shredder dust (fines and fluff)	1 (0.1)
S3	Moderate	No	-	0.1
S4	Moderate	Yes	Ferrous metal, non-ferrous metal, waste	0.1 (0.01)
S5	Slight	No	-	0.01
Note: Figure in parenthesis are the emission factor of the wet material.				

Dust emissions occur at several points in the processing cycle, such as material loading onto the pile, disturbances by strong wind currents, processing and loadout from the pile. The movement of trucks and loading equipment in the storage pile area is also a source of dust. It is important to note that processing will occur entirely within the proposed processing building.

9 Data gathering and impact assessment for a review and possible widening of the scope of the IPPC Directive in relation to waste treatment activities, European Commission – DG Environment, Framework contract No ENV.G.1/FRA/2004/0081, Assignment No 22, Specific agreement for study N° 07010401/2006/445820/FRA/G1, Final Report, 25 September 2007, 2007/IMS/R/

10 https://circabc.europa.eu/webdav/CircaBC/env/ippc_rev/Library/gathering_activities/final_report/fact%20sheet%20E11%20scrap%20metal%20preparation.doc

The estimation of the total diffuse dust emissions from the scrap metal recycling centre (using the TNO-method) is outlined within ***Table 6-2***.

Table 6-2: *Annual PM_{10} emissions from scrap processing operations (using TNO method)*

Class of Material	Material	Emission Factors (state, g/kg)	Annual Material Processing (tonnes/year)	Emissions of PM_{10} (dry)	Emissions of PM_{10} (wet)
S4 (input)	Scrap metal	0.1 (0.01)	30,000	3	0.3
S4 (output)	Scrap metal	0.1 (0.01)	30,000	3	0.3
TOTAL				**6 tonnes/year**	**0.6 tonnes/year**
Note: Figure in parenthesis are the emission factor of the wet material.					

Discussion on TNO Methodology

Although the TNO methodology provides an estimate of fugitive dust emissions it should be taken within context. Within the European Commission – DG Environment (Framework contract No ENV.G.1/FRA/2004/0081) report the Confederation of the Belgian Recuperation (COBEREC), who represents recovery and recycling companies in Belgium, stated it considers scrap material to be an S5 material, since scrap in itself does not generate dust. The dust on the scrap comes from crushing, transportation, etc. Additionally, COBEREC stated that wetting the material can cause negative effects on product quality (e.g. corrosion, separation efficiency). Therefore, the use of reduction measures at source, such as capping of transport systems, cleaning of roads, etc. were the preferred method. No emission reduction efficiency figures are available for these techniques.

Celsa will employ dust control techniques that include:

- adoption of work practices to minimise dust generation including the provision of training and awareness to all operators;
- use of covered transfer equipment (i.e. belts and conveyors) that are located wholly within the scrap centre processing building;

- adoption of BAT with regards to loading and unloading procedures (e.g. drop heights, wind sheltering, moisture retention within storage piles, minimisation of transport distances);
- the lowest possible drop heights are used when loading material into vehicles and unnecessary disturbance of the stockpiles is avoided;
- hard surfaced areas will be routinely swept to remove fines (with damping where appropriate);
- dust suppression using water sprays, wheel cleaning etc.;
- planned preventive maintenance of all control measures.

6.6.2 Vehicle and Plant Emissions

Movement of diesel-powered vehicles (i.e. material handlers and road transport) in to and around the site will generate diesel particulate emissions. All plant and equipment shall be maintained in accordance with manufacturers recommendations. Where unplanned emissions are noted corrective actions shall be instigated.

The site is not located in a particularly sensitive setting (with respect to dust) being located south of the main steelworks. The closest residential receptors to the site are located approximately 470 metres north (Willow Avenue) across the main steel works site (that forms the main part of the permitted installation). Willows mixed High School is in the same area approximately 450 metres north of the site.

6.6.3 Air Quality Impact Assessment

As part of the planning process an air quality assessment was undertaken by Air Quality Consultants Ltd (*Annex D*). The assessment concluded that, on the basis of the closest sensitive receptors were greater than 400 metres away, that *the proposed development will have no significant impacts on air quality due to either road traffic or fugitive dust emissions*.

6.7 Fugitive Emissions to Land, Surface Water, Sewer and Groundwater

6.7.1 Introduction

There are some types of emission that may cause pollution but do not have set limits within permit conditions. In permits these are called 'emissions not controlled by emissions limits' or fugitive emissions. For there to be a potential impact there needs to be a source, pathway and receptor (**Figure 6-2**).

Figure 6-2: *Fugitive emissions (Source - Pathway - Receptor)*

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. Three levels of containment have been considered:

- **Primary Containment** – *e.g.* a drum, vessel, pipe, bag, *etc.* containing the substance.
- **Secondary Containment** – *e.g.* a bund, double wall vessel or pipe, vent pipe, catch-pit *etc.* designed to retain the substance in the event of a failure of primary containment.
- **Tertiary Containment** – additional measures provided to contain an unplanned release (*e.g.* an oil interceptor in a surface water drain, a concrete hardstanding for road-tankers offloading to a bulk storage tank, *etc.*).

In all cases the actual technique (*i.e.* the physical control) is supplemented by effective management control through the development and use of appropriate operational procedures with the overall aim of breaking the S-P-R pollution linkage.

6.7.2 Sources

On-site sources that could lead to potential fugitive emissions to land, surface water, sewer or groundwater include:

- leaks and spills from the handling, storage and use of process chemicals, maintenance chemicals and vehicle and plant fuels;

- leaks and spills from on-site vehicles and plant during use and refuelling;
- loss of containment due to in-plant failure;
- losses to ground from the handling and loose storage of dry materials; and
- fire water run-off.

6.7.3 Pathways and Receptors

It is important to note that a pathway, such as groundwater, can be both a pathway and a receptor for site-derived fugitive emissions. The Site Condition Report (SCR) (Ref. 018-1620 Celsa Cardiff Normal Variation - SCR REV00) indicates that the installation is directly underlain by:

- **Made Ground** – Made Ground (Undivided) - Artificial Deposit.
- **Superficial Deposits** – Tidal Flat Deposits - Clay, Silt and Sand.
- **Bedrock Deposits** – Mercia Mudstone Group – Mudstone.

From historical maps and information provided by Celsa representatives it is known that the site was reclaimed from the Severn Estuary in the 1960s. Reclamation materials comprised slag and other steel manufacturing waste materials from local steel manufacturing facilities, hence historic pollution (due to the nature of the fill materials) is likely to be present.

Hydrogeology

From a review of the environmental database, the hydrogeological deposits are classified as:

- **Made Ground** – Not classified.
- **Superficial Deposits** – Secondary Aquifer - Undifferentiated. Secondary Undifferentiated has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
- **Bedrock Deposits** – Secondary B Aquifer. These are predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

The site is not within a groundwater Source Protection Zone (SPZ). The closest existing abstraction licence (Ref. 21/57/25/78) is operated by Celsa Manufacturing (UK) Ltd with a borehole located at ST 21350 76100. The water is used for process cooling and dust suppression as part of a steel works operation.

Hydrology

The site is located adjacent to the Cardiff Flats (edge of the Severn Estuary). There are no surface water abstractions associated with the site or any other site within 1-km.

6.7.4 Subsurface Structures

The operator has established and recorded the routing of all installation drains and subsurface pipework including identifying all sub-surface drainage sumps. Inspection and maintenance programmes for all subsurface structures has been established and will be implemented as per the planned preventive maintenance schedule.

6.7.5 Site Surfacing

The site surfacing has been designed to comply with the requirements of Sector Guidance[11]. This includes an engineered surface composed of graded slag and geotextile with six concrete entry ramps providing access to each of the roller shutter entrance points into the building.

The design of the tertiary containment surfaces (for all operational areas) has considered collection surface water capacities, surface thicknesses, strength/reinforcement, falls, materials of construction, permeability, resistance to chemical attack and inspection and maintenance procedures. Impervious surfaces, spill containment kerbs, sealed construction joints and a connection to a sealed drainage system (that discharges to sewer) are not warranted in this area due to the lack of stored hazardous materials and the nature (cleanliness) of the incoming/processed scrap metal.

6.7.6 Above Ground Storage Tanks (ASTs)

Tanks associated with the WWTP are located wholly within the scrap centre building. All above-ground tanks containing liquids whose spillage could be harmful to the environment should be bunded. Where bunds are provided they shall be impermeable and resistant to the stored materials, have no outlet and drain to a blind collection point, have pipework routed within the bunded areas with no penetration of contained surfaces, be designed to catch leaks

11 Environment Agency (2004). IPPC Guidance, Production of Coke, Iron and Steel, S2.01, Issue 1, June 2004.

from tanks or fittings and have a capacity greater than 110 percent of the largest tank or 25 percent of the total tankage (whichever is the large).

All storage areas will be subject to regular visual inspection and any contents pumped out or otherwise removed under manual control after checking for contamination. Where not frequently inspected, bunds shall be fitted with a high-level probe and an alarm (as appropriate).

Tanker connection points shall be located either within the bund or other provided adequate containment system.

All storage vessels shall be subject to programmed engineering inspection (normally visual) but extending to water testing where structural integrity is in doubt). This shall be dictated by manufacturers recommendations.

No bulk storage of fuels or hydrocarbons is located within the scrap processing centre.

6.7.7 Storage areas for IBCs, drums, bags

All storage areas shall be located away from watercourses and sensitive boundaries and should be protected against vandalism. The site (as a whole) is protected by a 2.4 m high palisade fence line within which the asphalt plant is centrally located.

Storage areas shall have appropriate signs and notices and shall be clearly marked-out, and all containers and packages should be clearly labelled. All raw materials are supplied and stored in labelled UN approved containers. Incompatible substances shall be kept apart, segregated and/or isolated in-line with HSG71[12].

Where spillage of any stored substance could be harmful to the environment, the area shall be appropriately kerbed or bunded.

The maximum storage capacity of storage areas shall be stated (within management system documentation) and not exceeded, and the maximum storage period for containers should be specified and adhered to.

Containers shall be stored with lids, caps and valves secured and in place . This approach shall also be applied to nominally emptied containers.

12 http://www.hse.gov.uk/pUbns/priced/hsg71.pdf

All containers, drums and small packages should be regularly inspected (at least weekly). Procedures shall be in place to deal with damaged or leaking containers.

6.7.8 Management Controls

All on-site plant/vehicles have diesel and hydraulic tanks. The total loss of the fuel/oil within these tanks is rare there is a potential risk. There is also a potential risk of spillage during refuelling operations, but this will only ever take place on the hard standing. No bulk storage of fuels or hydrocarbons is located within the scrap processing centre. Emergency spillage kits will be available and will be regularly inspected. The emergency spill kit training is provided to employees.

All accidents will be logged, investigated and actions will be undertaken to prevent reoccurrence. The site environmental risk assessment and Emergency Management Plan will be reviewed annually.

6.8 Odour

6.8.1 General Operations

Based upon the nature of the proposed operations, the wastes being stored, handled and treated and their location (in relation to sensitive receptors) no significant odour issues are anticipated. Thus, an odour management plan has not been produced.

Although the installation represents a very low risk, olfactory monitoring will be undertaken by Site staff as part of the weekly Site inspections. The presence or otherwise of any offensive odours shall be recorded in the Site Diary. If an odour is recorded, the possible source(s) shall be investigated by Site staff and preventative action taken. All actions taken shall be recorded within the Site Diary.

Celsa Manufacturing (UK) ltd believe that the operations give no reasonable cause for offence or annoyance regarding odour.

6.9 Pests

Based upon the nature of the proposed operations, the wastes being stored, handled and treated and their location no significant pest issues are anticipated. Thus, a pest management plan has not been produced.

Although the installation represents a very low risk, pest monitoring will be undertaken by Site staff as part of the weekly Site inspections. The presence or otherwise of any pests shall be recorded in the Site Diary.

7 Noise and Vibration

7.1 Introduction

An initial baseline assessment of noise and vibration was undertaken by Acoustic Consultants Limited[13] (Ref. 7625/DO, August 2018) as part of the planning application process. The following guidance and standards have been considered as part of this assessment:

- sector guidance note IPPC S5.06;
- horizontal guidance for noise Part 2 – noise assessment and control (IPPC H3 – Part 2);
- BS 7445-1:2003 Description and measurement of environmental noise. Guide to quantities and procedures;
- BS4142:2014 Methods for rating and assessing industrial and commercial sound; and
- specific local guidance (Cardiff Council).

It is important to note that this assessment was completed for planning purposes and as such does not fulfil the full requirements for the environmental permit application. As a result, TNEI Services Ltd are currently (as of May 2019) undertaking the following work:

- **Baseline Survey** – Subsequent to consultation with Cardiff Council and NRW a comprehensive baseline survey is being undertaken.
- **Development of a noise propagation model** – Based on the agreed noise inventories, a noise propagation model will be built using CadnaA software and predictions undertaken in accordance with ISO9613-2 Acoustics-Attenuation of sound during propagation outdoors - Part 2: General method of calculation. The provision of an updated noise model for the Rover Way site was requested by NRW.
- **Reporting and Assessment** – Predictions of noise will be compared to noise target limits derived from the baseline monitoring or as agreed with Cardiff Council and where exceedances are identified an indication of required noise mitigation measures will be provided. Upon completion of the final noise model and agreement of any required mitigation a Noise Impact Assessment (NIA) report will be produced detailing all noise

13 Acoustic Consultants Limited (2018). Noise Assessment Proposed Scrap Metal Sorting Machine and Building, Celsa Manufacturing Cardiff, 29th August 2018, REV C, Project 7265.

modelling parameters, calculations and assumptions, assessment against the noise limits and any noise control requirements.

The results of the TNEI Services Ltd assessment will be provided to NRW once the additional work has been completed.

In the interim, the results of the initial Acoustic Consultants Limited assessment are presented below.

7.1.1 Sector Guidance Note S5.06

Within this section noise should be taken to refer to noise and/or vibration as appropriate, detectable beyond the site boundary. Where noise issues are likely to be relevant, the operator is required, in the application, to provide information on the following:

- the main sources of noise and vibration associated with the installation;
- the nearest noise-sensitive sites;
- conditions/limits imposed under other regimes (e.g. planning);
- the local noise environment;
- any environmental noise measurement surveys, modelling or any other noise measurements; and
- any specific local issues and proposals for improvements.

The level of detail supplied should be in keeping with the risk of causing noise-related annoyance at sensitive receptors.

The indicative BAT requirements are:

- The Operator should employ basic good practice measures for the control of noise, including adequate maintenance of any parts of plant or equipment whose deterioration may give rise to increases in noise (for example, bearings, air handling plant, the building fabric, and specific noise attenuation kit associated with plant or machinery).
- The Operator should employ such other noise control techniques necessary to ensure that the noise from the installation does not give rise to reasonable cause for annoyance, in the view of the Regulator. In particular, the Operator should justify where Rating Levels ($L_{Aeq,T}$) from the installation exceed the numerical value of the background sound level ($L_{A90,T}$).

- Further justification will be required should the resulting field rating level ($L_{AR,TR}$) exceed 50 dB by day and a facade rating level exceed 45 dB by night, with day being defined as 07:00 to 23:00 and night 23:00 to 07:00.

- In some circumstances creeping background noise may be an issue. Where this has been identified in pre-application discussions or in previous discussions with the local authority, the Operator should employ such noise control techniques as are considered appropriate to minimise problems to an acceptable level within the BAT criteria.

- Noise surveys, measurements, investigations (e.g. on sound power levels of individual items of plant) or modelling may be necessary for either new or for existing installations, depending upon the potential for noise problems. Where appropriate, the Operator should have a noise management plan as part of its management system.

7.1.2 Horizontal Guidance Note H3 Part 2

This guidance document has been produced by the Environment Agency to provide guidance for dealing with permitting of noise and vibration emissions. Part 2 of the guidance provides information relating to the principles of noise measurement and prediction, and noise control techniques.

7.1.3 BS 7445-1:2003 Description and Measurement of Environmental Noise. Guide to Quantities and Procedures

BS 7445-1:2003 describes best practice methods and procedures for measuring and reporting environmental noise. It recommends that:

- measurements are undertaken using a fully calibrated Class 1 sound level meter which should be field calibrated before and after onsite measurements;

- where possible, measurements should be taken at least 3.5 metres from the nearest reflecting surface (other than the ground);

- measurements should be taken between 1.2 metres to 1.5 metres above the ground; and

- the assessment time & date should be carefully selected to evaluate ambient and background noise conditions during appropriate meteorological conditions.

In addition, the standard provides advice on the selection of appropriate measurement parameters, depending on the noise source (i.e. steady state, fluctuating etc.). The recommendations specified in this standard are applied during all instances of the measurement and reporting of environmental noise.

7.1.4 BS 4142:2014 Methods for Rating and Assessing Industrial and Commercial Sound

BS 4142:2014 describes methods for rating and assessing sound in order to provide an indication its likely impact upon nearby premises (typically residential dwellings) and is advocated as an appropriate assessment method in H3 Parts 2.

When considering the level of impact, BS 4142 emphasises the importance of the context in which a sound occurs. BS4142 takes great care in the use of the words sound and noise whereby sound can be measured by a sound level meter or other measuring system, whereas noise is related to a human response and is routinely described as unwanted sound, or sound that is considered undesirable or disruptive.

The specific sound emitted from the Proposed Development (dB, L_{Aeq}) is rated by considering both the level and character (i.e. tonal elements, impulsivity, intermittency and distinctiveness) of the sound. This is achieved by applying appropriate corrections to the specific sound level externally at the receptor location, which gives the rating level of the sound in question. This is then assessed against the existing prevailing background sound level (dB, L_{A90}) at that location in order to determine a likely level of impact.

The level by which the rating level exceeds the prevailing background sound level indicates the following potential impacts (pp. 16 BS 4142:2014):

- a difference of +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- a difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
- the lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

The standard requires that consideration is given to the context in which the sound is experienced, and subjective judgement is applied to determine whether the impact is significant.

Updated 2018 guidance[14] states that an operator must write a noise and vibration management plan explaining how you'll prevent or minimise noise and vibration. This must

14 Guidance Control and monitor emissions for your environmental permit - Noise and vibration management plan

be submitted if your risk assessment shows that your operation could cause pollution from noise or vibration beyond your site boundary.

7.1.5 Local Planning Guidance

It is stated within the Acoustic Consultants Limited report that Shared Regulatory Services (SRS) provide environmental protection and pollution control services to Cardiff Council and SRS expects applicants to aim for -10dB in their developments. We understand that this is a desired target rather than an absolute requirement although where feasible this criterion should be met. However, SRS have advised Acoustic Consultants Limited that each scheme should be considered individually, and this is not a fixed criterion. This criterion has also not been published or formally adopted by the local authority.

7.2 Assessment Criteria

Based upon BS4142 criteria, and taking account of the aims of the Horizontal Guidance Notes, the following assessment criteria have been adopted for the purposes of this assessment:

- Significant Impact: BS4142 rating level of around +10 dB above the prevailing background level;
- Adverse Impact: BS4142 rating level of around +5 dB above the prevailing background level; and
- Low Impact: BS4142 rating level equal to, or below the prevailing background level.

In line with EPR requirements to demonstrate the application of Best Available Techniques (BAT), the development should be designed and operated such that significant impacts are avoided, and adverse impacts are mitigated and minimised. Where the rating level equal to, or below the prevailing background level, a low impact is predicted, and no additional noise mitigation measures are considered necessary.

Based on the SRS advice Acoustic Consultants Limited would consider a more appropriate criteria to be 0 dB. Acoustic Consultants Limited would consider a difference of 0 decibels will have a low impact on nearby noise sensitive receivers and is considered acceptable in noise impact terms.

https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit#noise-and-vibration-management-plan

7.3 Receptors

The Site of the proposed development is located due south of the main Celsa steel making operations on the southern side of Rover Way (*Figure 7-1*).

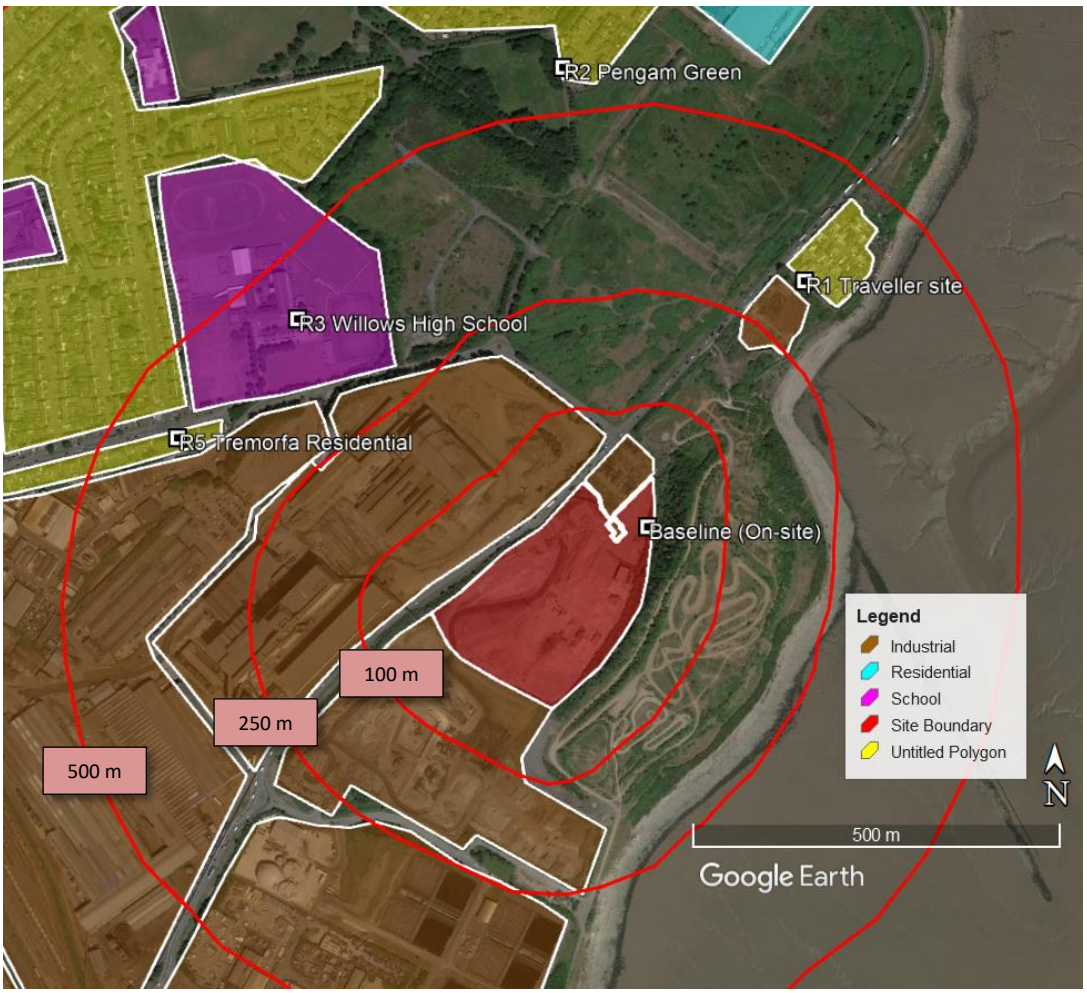


Figure 7-1: *Surrounding environmental receptors (within 500 m)*

Google Earth Imaging with the permission of Google – Licensed to Earth and Marine Environmental Consultants Ltd.

The closest sensitive noise receptors are:

- R1 – Travellers' site 370 metres north northeast (beyond the Western Power Distribution 33 kV/132 kV substation) located immediately adjacent to a Welsh Water compound;
- R2 – Pengam Green residential area 550 metres north (across open land adjacent to Tesco store).

- R3 – Willow High School 340 metres north of the Site the main Celsa steel making operations;
- R5 – Tremorfa residential area 430 metres north northeast (beyond the main Celsa site).

7.4 Baseline Noise Assessment

As part of the planning application (Ref. 18/02065/MJR) for the new integrated scrap sorting process a baseline noise survey was undertaken by Acoustic Consultants Limited. The report is provided in *Annex D*. From the measured data Acoustic Consultants Limited determined the background sound levels during daytime, evening and night periods (***Table 7-1***).

Table 7-1: *Typical background sound levels*

Time Period	Background Sound Level $L_{A90(T)}$ dB
Daytime (07:00 – 17:00)	53
Evening (19:00 – 23:00)	50
Night (23:00 – 07:00)	47

7.5 Operational Noise Limits

Noise from plant and activities associated with the planning application is to be assessed in accordance with BS4142:2014.

The following table provides Rating Level noise limits when determined at the noise sensitive residential properties to the North East. The rating level is the equivalent noise level of the activities with corrections for character as defined in British Standard 4142:2014.

The noise limits provided in the table below are based on the BS4142:2014 difference of 0 dB which the British Standard states is an indication of the specific sound source having a low impact.

Table 7-2: *Proposed external plant noise limits*

Period	Time	Maximum Rating Level $L_{A90(T)}$ dB
Weekday - Daytime	07:00 – 17:00	53 $L_{Ar(1\text{-hour})}$ dB
Weekday - Evening	19:00 – 23:00	50 $L_{Ar(1\text{-hour})}$ dB

Period	Time	Maximum Rating Level $L_{A90(T)}$ dB
Weekday - Night	23:00 – 07:00	47 $L_{ar(15\text{-}minutes)}$ dB

7.6 Noise and Vibration Management Plan

Based upon the nature of the proposed operations and their location (in relation to sensitive receptors) no significant noise or vibration issues are anticipated as the processing activities are located wholly within the main building. However, a noise and vibration management plan has been produced as outlined within *Annex C*. Where required, this will be updated considering the current on-going assessment by TNEI Services Ltd.

Celsa Manufacturing (UK) Ltd believe that the installation will give no reasonable cause for offence or annoyance regarding noise and/or vibration.

8 Monitoring

8.1 Monitoring of emissions to air

There are no point source emissions to air from the installation. No additional monitoring is required.

8.2 Monitoring of emissions to surface water

There are no point source emissions to surface water from the installation. No additional monitoring is required.

8.3 Monitoring of emissions to sewer

The site has applied for a discharge consent to sewer. The discharge will be monitored in-line with the consented parameters set by Welsh Water.

8.4 Monitoring of noise emissions

Based upon the nature of the proposed operations and their location (in relation to sensitive receptors) no significant noise or vibration issues are anticipated (i.e. the installation represents a low risk of complaints). No formal operational (routine) environmental noise surveys are therefore proposed.

8.5 Monitoring of odorous emissions to air

Based upon the nature of the proposed operations and their location (in relation to sensitive receptors) no significant odours are anticipated (i.e. the installation represents a very low risk). No formal odour monitoring is therefore proposed.

9 Environmental Risk Assessment

9.1 Introduction

This section of the technical submission 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.

The EA's Horizontal Guidance Note H1 (Environmental Assessment and Appraisal of BAT) was withdrawn on 1st February 2016. Thus, the 'Risks from your Site' information on the www.gov.uk website has been utilised throughout the assessment process[15]. The website outlines the following risk assessment stages:

- Stage 1 – Identify and consider risks for your site, and the sources of the risks.
- Stage 2 – Identify the receptors (people, animals, property and anything else that could be affected by the hazard) at risk from your site.
- Stage 3 – Identify the possible pathways from the sources of the risks to the receptors.
- Stage 4 – Assess risks relevant to your specific activity and check they're acceptable and can be screened out.
- Stage 5 – State what you'll do to control risks if they're too high.
- Stage 6 – Submit your risk assessment as part of your permit application.

9.2 Receptor Identification

The SCR which is provided within the application submission gives a detailed account of the environmental setting of the site, including physical conditions and environmental sensitivity. This is summarised in ***Table 9-1***.

15 https://www.gov.uk/government/collections/risk-assessments-for-specific-activities-environmental-permits

Table 9-1: *Summary of Principal Receptors*

Category	Description
Location	The site is located approximately 3-km east of Cardiff City centre at National Grid Reference (NGR) ST 21444 76235. The site is located south of the existing permitted installation that is located on the northern side of Rover Way. The following current activities have been identified surrounding the Site: • NORTH – Rover Way beyond which is the main Celsa Manufacturing (UK) site and permitted installation. A Western Power 132 kV substation is located adjacent to the northern edge of the site. The closest residential receptors to the site are located approximately 470 metres north (Willow Avenue) across the main steel works site (that forms the main part of the permitted installation). Willows mixed High School is in the same area approximately 450 metres north of the site. • EAST – Cardiff Motocross Centre MX and Minibike Track (Foreshore MXC track) beyond which is the Severn Estuary(200 metres). • SOUTH – Tide Fields Road beyond which a welsh Water waste water treatment works, and other light industrial activities associated with Tremorfa Industrial Estate. • WEST – Rover Way beyond which is the main Celsa Manufacturing (UK) site.
Site Surfacing	The Site topography is flat lying at approximately 10 metres Above Ordnance Datum (AOD). The Site is entirely hardstanding (within the installation) including all roadways and stockpile storage areas.
Surface waters	The site is located adjacent to the Cardiff Flats (edge of the Severn Estuary). There are no surface water abstractions associated with the site or any other site within 1-km.
Flood Plain	According to the NRW flood mapping the northern part of the site is within Flood Zone 3 (i.e. the extent of a flood from rivers with a 1% (1 in 100) chance or greater of happening in any given year and/or the extent of a flood from the sea with a 0.5% (1 in 200) chance or greater of happening in any given year) and Flood Zone 2 (i.e. the extent of a flood from rivers or from the sea with up to a 0.1% (1 in 1000) chance of happening in any given year, contains areas recorded to have flooded in the past and Flood Zone 2 is important from a planning context as it forms the basis of Zone C in the Welsh Government Development Advice Map).

Category	Description
Groundwater	The Mercia Mudstone Group (bedrock) is classified as a Secondary B Aquifer. These are predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers. The site is not in a source protection zone (SPZ).
Residential areas and human receptors	The closest residential receptors to the site are located approximately 470 metres north (Willow Avenue) across the main steel works site (that forms the main part of the permitted installation). Willows mixed High School is in the same area approximately 450 metres north of the site.
Historic buildings, listed buildings and archaeological sites	According to Historic Wales there are no National Monuments, Cadw Listed buildings or scheduled ancient monuments on-site or within 500 metres.
Conservation and habitats protected areas and areas of scientific interest	The site is adjacent (within 250 metres) of the Severn Estuary which is designated a Ramsar Site, Special Area of Conservation (SAC), Special Protection Area (SPA) and a Site of Special Scientific Interest (SSSI)

9.3 Standard Risk Assessment

A suitable risk assessment, using the approach outlined within *Section 9.1*, has been undertaken for the scrap processing centre and is provided in *Annex E*.

Annex A: Figures

Annex B: Technical Documents – Scrap Metal Recycling Centre

Annex C: Management System Documentation

Annex D: Technical Assessments (Noise and Air Quality)

Annex E: Environmental Risk Assessment