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By email: [Georgina.Sidney@simsmm.com](mailto:Georgina.Sidney@simsmm.com)

Georgina Sidney  
Sims Metal Management  
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Dear Georgina

## Sims Avonmouth – H1 Screening Assessment of Emissions to Air

### 1. Introduction

This letter provides the relevant screening assessments of point source emissions to air that could arise from operation of the facility at Royal Edward Dock, Avonmouth, Bristol BS11 9BT. The assessment has been completed in accordance with the EA's Risk Assessments for your environmental permit [1].

The scope of the assessment has covered the following aspects:

- Release point characteristics;
- Air emissions inventory and mass flows;
- Emissions screening for further assessment.

Air emissions screening has been carried out using the H1 software, a copy of this assessment is provided electronically to support this letter.

### 2. Emissions Release Point

There will be two point-source emissions to air from the proposed facility. The shredder emissions (release point A1) will be from a single 23 m stack, at an efflux velocity of  $28.67 \text{ ms}^{-1}$ , and a normalised volumetric flow rate of  $105,635 \text{ m}^3/\text{hr}$ . The non-ferrous metals processing building emissions (release point A6) will be from a single 20 m stack, at an efflux velocity of  $15 \text{ ms}^{-1}$ , and a normalised volumetric flow rate of  $55,264 \text{ m}^3/\text{hr}$ .

Long term emissions from release point A1 are based on monitoring data from another site operated by Sims, located at Smethwick which operates a similar shredder unit. Short term emissions for release point A1 and both short and long term emissions for release point A6 are based on the emissions limit for particulates for the currently permitted emissions point at the facility.



### 3. Emissions Screening

Estimated emissions have been screened for significance against appropriate environmental standards for long-term and short-term exposure. Emissions standards are based on statutory air quality limits where available, and upon human health protection Environmental Assessment Levels (EALs) as given in H1 guidance. Where process contributions are lower than 1% of the relevant emissions standard for long-term exposure and lower than 10% of the relevant limit for short-term exposure the emissions are screened out as insignificant.

The estimated process contributions (PCs) from the H1 software have been used in this assessment. Figure 1 below shows the emissions screening.

**Figure 1: Air Impact Screening Stage One**

Air Impact Screening Stage One									
Screen out Insignificant Emissions to Air									
This page displays the Process Contribution as a proportion of the EAL or EQS. Emissions with PCs that are less than the criteria indicated may be screened from further assessment as they are likely to have an insignificant impact.									
Number	Substance	Long Term	Short Term	Long Term			Short Term		
		EAL	EAL	PC	% PC of EAL	> 1% of EAL?	PC	% PC of EAL	> 10% of EAL?
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	%		µg/m <sup>3</sup>	%	
1	Particulates (PM10)	40.0	-	63.9	160	Yes	2,839	-	

On the basis of the above particulate emissions do not screen as insignificant.

The predicted environmental concentration (PEC) for particulates has been evaluated and compared to the EAL. Assumed background concentrations are taken from the air quality assessment undertaken during the planning phase which established the background concentration of PM10 as 18 g/m<sup>3</sup>. PECs which are lower than 70% of the relevant long-term emissions standard and lower than 20% of the relevant short-term standard minus 2 \* the background concentration are screened out as insignificant. Those not screened out as insignificant are recommended for further detailed assessment.

**Figure 2: Air Impact Screening Stage Two**

Air Impact Modelling Stage Two Screening										
Identify need for Detailed Modelling of Emissions to Air										
This page displays the Process Contributions in relation to the background pollutant levels and the EAL or EQS. You should use this information to decide whether to conduct detailed modelling. Note that releases that are insignificant are not shown as they are screened from further assessment. Also complete this page if you have already done detailed modelling.										
Number	Substance	Air Bkgnd Conc. µg/m <sup>3</sup>	Long Term				Short Term			
			PC µg/m <sup>3</sup>	% PC of headroom (EAL - Bkgnd)	PEC mg/m <sup>3</sup>	% PEC of EAL	% PEC of EAL >=70?	PC µg/m <sup>3</sup>	% PC of headroom (EAL - Bkgnd)	% PC of headroom >=20?
1	Particulates (PM10) (Annual Mean)	e.g. 12 18	63.9	290	81.9	205	Yes	2,839	-	



Figure 2 shows that the PEC for particulates is 81.9%. The results suggest there is a need for further assessment of particulate matter (PM<sub>10</sub>) and detailed modelling will be progressed.

Yours sincerely  
For RPS

A handwritten signature in blue ink that reads 'Jennifer Stringer'.

Jennifer Stringer  
Technical Director

Encs: H1 Assessment



## Appendix A

## H1 Assessment