

Environmental permitting Regulations 2016

Supporting Information for LA-PPC Application Reefer Trailer Centre



Submitted by.

IPPC Consultants Ltd

20th July 2023

Title & Background	<p>Supporting information for an LA-PPC Application By Reefer Trailer Centre under the Environmental Permitting Regulations 2016.</p> <p>Submission to City of Stoke on Trent Council.</p> <p>Section 7 of Schedule 1 of the Regs “Vehicle Coating and Refinishing” <i>the coating of trailers (including semi-trailers) (category O in the Motor Vehicle Directive)</i></p> <p>PG Note 6/47(11) Original Coating of Road Vehicles and Trailers.</p>
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Application submission documents:

- Part B Permit application form (already submitted)
- Main supporting application report (IPPC/REEF/01)
- STL Spray booth particulate compliance guarantee
- Artic white MSDS
- Clear topcoat MSDS
- H1 risk assessment screening tool (MS Access software) (already submitted)
- Site boundary map

Reefer Trailer Centre Ltd

Supporting Information required for LA-PPC application to City of Stoke on Trent Council

1.0 Introduction

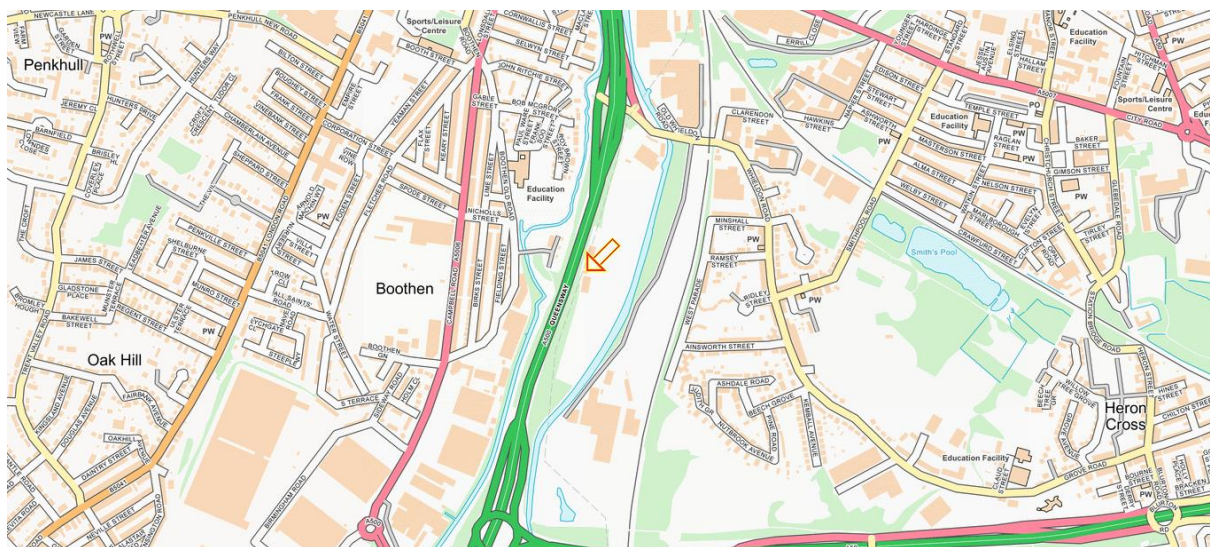
This supporting information document is submitted to City of Stoke on Trent Council as part of a Permit application by Reefer Trailer Centre Ltd under the Environmental Permitting (England and Wales) Regulations 2016 for a LA-PPC permit to control emissions to atmosphere. The requirement for applying to the local authority for a permit is because the process of re-spraying commercial (HGV trailers) uses coating and de-greasing products which contain VOC's. The threshold for requiring a Permit is 0.5t of VOC for a Solvent Emissions Permit under the IED and 1t VOC for a part B Schedule 14 Permit under the Environmental Permitting Regulations 2016.

1.1 Site Address

Reefer Trailer Centre Ltd
Whieldon Road
Stoke
ST4 4HP

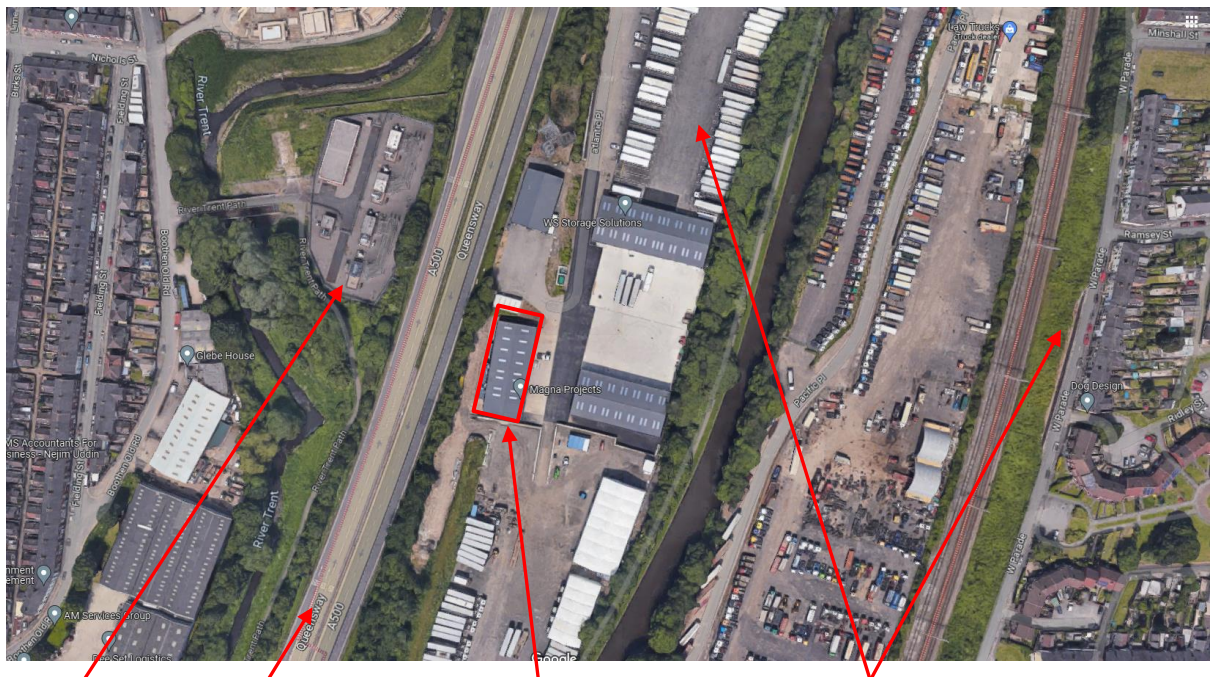
1.2 Operational Location

Site Grid Reference SJ 88020 44362
X (Easting) 388020
Y (Northing) 344362



1.3 Location description

The site is located at Whieldon Road, Stoke, ST4 4HP. The area is part of the Whieldon Road industrial area which is occupied by a variety of industrial and commercial enterprises. The industrial area is immediately adjacent to the A500 Trunk Road which is a major primary A road in Staffordshire and Cheshire, England. It is dual carriageway for most of its length. The Stoke municipal incinerator is located approximately 350m away to the south of the site at the junction of the A50 and A500 roads. Associated businesses surrounding Reefer Trailer Centre Ltd is a large-scale HGV trailer servicing and leasing operation. Immediately across the A500 Trunk Road opposite the Reefer Trailer Centre is a National Grid substation.



National Grid
Sub-station

A500

Reefer Trailer
Centre

Other HGV trailer
businesses

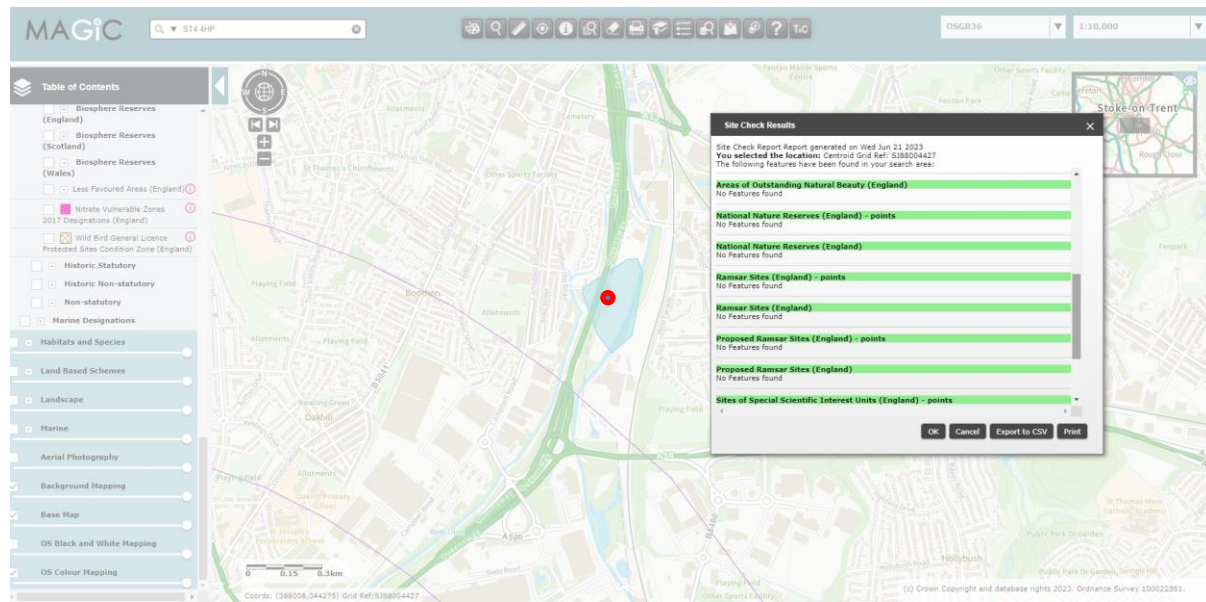
1.4 Site Boundary

The site boundary for the Reefer Trailer Centre paint spraying operations is shown in red. The two spray booth emission points are circled in green.



1.5 Sensitive features and habitats

DEFRA Magic Maps (<https://magic.defra.gov.uk/magicmap.aspx>) has been accessed to determine whether the site is located near any sensitive features or habitats such as SSSI or RAMAR sites. The industrial area and specifically the location of Reefer Trailer Centre Ltd are not located near any designated areas.



2.0 Background

The Reefer Trailer Centre is a body shop dedicated to the repair and refurbishment of HGV refrigerated trailers. The business began approximately 18 months ago and occupies a purpose-built building. The site incorporates a 4-trailer open workshop suitable for working on 4 HGV trailers at a time and associated office, parts store, and meeting room.

Trailer preparation is carried out in order that trailers can be painted in one of two 2 spray booths which are immediately adjacent to the preparation bays.

2.1 Legislative Requirements

Schedule 1 Reference

The respraying of trailers falls under Chapter V and Annex VII of the Industrial Emissions Directive (IED);

3. Coating activity

Any activity in which a single or multiple application of a continuous film of a coating is applied to:

- (a) either of the following vehicles:
 - (i) *new cars, defined as vehicles of category M1 in Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (1) and of category N1 in so far as they are coated at the same installation as M1 vehicles;*

- (ii) *truck cabins, defined as the housing for the driver, and all integrated housing for the technical equipment, of vehicles of categories N2 and N3 in Directive 2007/46/EC;*
- (iii) *vans and trucks, defined as vehicles of categories N1, N2 and N3 in Directive 2007/46/EC, but not including truck cabins;*
- (iv) *buses, defined as vehicles of categories M2 and M3 in Directive 2007/46/EC;*
- (v) *trailers, defined in categories O1, O2, O3 and O4 in Directive 2007/46/EC;*

Definition of vehicle categories

1. Extracted from 2007/46/EC as last amended by 385/2009)

Category O: Trailers (including semi-trailers).

Category O1: Trailers with a maximum mass not exceeding 0.75 tonnes

Category O2: Trailers with a maximum mass exceeding 0.75 tonnes but not exceeding 3,5 tonnes.

Category O3: Trailers with a maximum mass exceeding 3.5 tonnes but not exceeding 10 tonnes.

Category O4: Trailers with a maximum mass exceeding 10 tonnes.

The HGV trailers re-sprayed at the Reefer Trailer Centre are predominantly category O4 with a maximum mass exceeding 10 tonnes.

The Reefer Trailer Centre Ltd will consume >0.5 tonnes or more of solvent in any 12-month period and as such is defined as a solvent emission activity (SE) under the IED. The anticipated VOC usage over 12 months for the size of the operation based upon the first six months data is 2500kg/year.

Under the Secretary of State's Process Guidance Notes (PG Notes) applicable to industry sectors the guidance note PG Note 6/47(11) Original Coating of Road Vehicles and Trailers will be used by the regulator for determining and setting the appropriate permit conditions for the process.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/583978/original-coating-of-road-vehicles-and-trailers-process-guidance-note-6-47_11_.pdf

SE installations have two compliance options and should apply the provisions of a:

- Reduction Scheme, or
- Emission Limits

The reduction scheme is the preferred method of preventing and minimising emissions of VOC using non-abatement techniques such as:-

- Water borne coatings (low organic solvent content)
- Higher solids content coatings
- Powder coatings
- Organic solvent free liquid coatings

Reefer Trailer Centre Ltd will be adopting the reduction scheme as the method of compliance for VOC emissions. Table 4.3 from PG 6/47(11) Original Coating of Road Vehicles and Trailers is detailed below for the target emission factors for processes adopting the reduction scheme.

Table 4.3 - Reduction scheme: target emission figures	
Vehicle coating activity	
0.5 tonnes or more of solvent	Total mass of solids x 1.2

2.2 Application for Confidentiality

No application for confidentiality or national security is being made with this application.

2.3 Planning

The commercial building forming the Reefer Trailer Centre Ltd was based on a planning approval which was granted in June 2020 (reference: 63840/FUL), for open storage (B8), alongside various ancillary buildings, engineering operations and site access improvements. The application was submitted by Oakfield Manor Estates Limited as part of a wider scheme of activities on the land at Whieldon Road. Since permission a further application (67960/full) has been approved (June 2022) which has been as a result of revised technical assessments and detailed drawings including building C which is occupied by the Reefer Trailer Centre.

3.0 Process Description

The operations at Reefer Trailer Centre Ltd involve the repair and refurbishment of HGV refrigerator trailers including the spray painting of the HGV refrigerator body and/or the chassis.

3.1 Preparation Bays

Activities that take place in the preparation bays include grinding and sanding of HGV trailers to prepare them for final paintwork finish. Trailers are worked on by trained technicians to manufacturers guidelines and any fumes generated in the sanding of trailers are exhausted via an integral dust/fume extraction system that has been installed in the workshop open bay area. Extraction equipment is

provided for all sanding equipment which is extracted into a filter bank in the plant room. There are 9 points of extraction for removal of particulate in the preparation bay area.

The extracted air is filtered, and the dust collected in bags. The filter unit is located at the rear of the preparation bays in a separate access corridor/room. The bags are removed from site by a licensed waste carrier.

Once structural repairs are complete trailers are prepared for painting. This involves masking of the trailer with paper and adhesive tape.

3.2 Paint storage and mixing

Paint is mixed in a ventilated mixing room. The containers of paint are stored in a metal cupboard located inside the mixing room. The room is mechanically vented to achieve an air change rate of 20+ air changes per hour. The door is tight fitting and has a self-closing mechanism. The paint products used are usually primer and single topcoat paint product in solid block colours (usually white). The paint manufacturer used at the site is Glasurit (<https://www.glasurit.com/en-int>) which is owned by BASF and is a major supplier of coatings to the automotive sector. The paint products supplied under the trade name of Glasurit comply with the Directive 2004/42/EC for limiting the VOC content of paint.

Where a customer specifies a metallic colour the paint system is a basecoat colour followed by a topcoat of clear lacquer (Glasurit 90line – water based coating). Paint stock is kept to a minimum as the paint has a limited shelf life as directed by the paint manufacturer. Only enough paint is used or mixed for the specific that specific job that is being worked on. This minimises the amount of waste and cost to the business.

3.3 Spray Booths 1 & 2

Two of the workshop bays have been adapted by Spray Booth Technologies Ltd (STL- <http://www.sprayboothtechnology.co.uk/>) to create two bespoke paint spray booths. The booths are fitted with intake air filtration, rear external wall filtration for extracted air and the capability for curing the paint coating at temperatures up to 70°C. The booth filtration system is designed to meet <10mg/m³ particulate matter and is supplied with a compliance certificate from the manufacturer which accompanies this application. STL are a leading paint spray booth manufacturing in the UK.

During the paint spraying process clean air is drawn into the spray booth through ceiling mounted filters. As the air moves through the bay during the spraying process air passes through a rear located fibre filter bank before it is extracted to atmosphere through the externally located duct work and stack. When paint spraying is complete the booth can be put into the bake cycle where the air inside the booth is re-circulated and heated using a fully modulating high efficiency direct gas-fired burner. The heat cures the paint to form a very hard finish to the surface. The spray booths are interlocked such that no paint

spraying can take place when the main outer doors are not correctly closed. The booths have a control system which continually monitors the extraction and heating system and the negative pressure of the booth during paint spraying operations. If the system does not achieve a negative pressure the booth will shut down automatically. The extraction rate of the booths is 15ms under normal operating conditions.

The paint spray booths are maintained on a contract by the OEM supplier (STL) under a regular service and maintenance contract.

3.4 Paint and Paint Spraying

The paint material used is two-pack paint including primers (Glasurit 284-90). Some of the metallic or pearlescent finishes are over lacquered with clear, two-pack lacquer. The paints used are very similar to those used in motor vehicle repair workshops. The paint products are high solids, low VOC products with some paint products used which are water based.

A significant number of refrigerated trailers are paint with a solid colour white. This helps reflect the sun and minimise the heating affect that this could have on the trailer structure and extra costs running costs in order to achieve the minus 18°C temperature that frozen food products would need to be transported at.

Below is the MSDS for the Artic White Paint which has a calculated VOC content of 375g/l. The main VOC constituent of the paint product is n-butyl-acetate (7-8%).

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control)

VOC content:	27.4 %	organic solvents
VOC content:	27.5 %	calculated
VOC content:	375.7 g/l	calculated

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):
Listed in above regulation: Flammable liquids, Categories 2 or 3 not covered by P5a and P5b

Details relating to the VOC Directive 2004/42/EC:

Subcategory as indicated in Annex IIB:	d
Limit value for maximum VOC content as specified in Annex IIB:	420 g/l
VOC content of the ready-for-use product according to ISO 11890-2:	419 g/l

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

Primers and Clear coat paint products also supplied by Glasurit contain 420g/l of VOC. The artic white and clearcoat product MSDS accompany this application.

Paint is applied with suction and gravity fed air atomising spray guns. High velocity Low Pressure guns, with better than 65% transfer efficiency, are currently in use for all paint materials. Compressed air for the spray guns is filtered at the take-off point within the booths and is supplied via 2 electrically-driven scroll compressors. Painting operatives wear airline breathing equipment and the air is tested regularly to BS4275 for breathing air purity.

When painting is finished there is an initial period where the extraction rate in the spray booth is reduced, and air is re circulated through the spray booth heating system. The booth heating is provided by an indirect gas burner. For most paint jobs baking time is circa 40 minutes at 65 degrees centigrade. Once the trailer has cooled down the masking and tape is removed.

Potential VOC risk areas are the spray booths, preparation bays, paint mixing room and gun cleaning cabinet (Sited in the paint mixing room). Particulate matter from spray painting activities is dealt with via the booth filter system.

3.5 Spray Gun Cleaning

Prior to cleaning, spray guns are drained of all unused paint. The receptacle is a sealable drum which, when full is removed by a specialist licenced contractor, for recycling. After use the guns are cleaned in a specialist gun cleaning machine which recirculates the cleaning solvent. Spray guns are partly stripped and then the components are placed over the cleaning nozzles within the gun washer. An air operated pump recirculates the solvent through the nozzles, effecting the cleaning. At the end of the process a small quantity of thinners is used to rinse through and blow through the gun to ensure the gun is completely clean.

3.6 Booth Emission Points

For each of the two paint spray booths there is an air intake duct and an exhaust stack. There is an incidental ventilation duct and small stack from the paint mixing kitchen. The extract ducts discharge at the side of the main building as shown in the photograph below.



Intake ducts

Booth extract stacks

paint mixing room
extract stack

The two-paint spray booth extract stacks discharge approximately 1.5m above the roof ridge line of the main building housing the paint spray booths. Very close by there are overhead power cables (this can be seen to the top left of the photograph) which when National Power were consulted by the booth manufacturer, they required the stack height limited. As such the stacks discharge 1.5 meters above the roof ridge height. PG Note 6/47(11) Original Coating of Road Vehicles and Trailers does not state a minimum height for discharge that an operator has to achieve, though in many PG notes there is a recommendation for 3 meters above a roof ridge. Within PG Note 6/47(11) (paragraphs 5.13 to 5.16) a stack height calculation is not necessary consists purely of air and particulate matter, (i.e. no products of combustion or any other gaseous pollutants are emitted) the above provisions relating to stack height calculation for the purpose of dispersion and dilution should not normally be applied. Revised stack height calculations should not be required as a result of publication of this revision of the PG note, unless it is considered necessary because of a breach or serious risk of breach of an EC Directive limit value or because it is clear from the detailed review and assessment work that the permitted process itself is a significant contributor to the problem.

Advice has been given from the Environment Agency to Stoke City Council that if stacks are not 3m over ridge then a risk assessment should be carried out to see if VOC emissions can be “screened out”, and then if not to carry out dispersion modelling. The risk assessment guidance to be used is: Air emissions risk assessment for your environmental permit - GOV.UK (www.gov.uk). An H1 air emissions risk assessment has been completed for the screening of VOC emissions.

4.0 Process Emissions and H1 Assessment

The potential sources of release to air from the process are as follows:

- Particulates
- VOC
- Odour

PG Note 6/47(11) Original Coating of Road Vehicles and Trailers sets emission limits for particulates, VOC and di-isocyanate emissions. The paint spraying techniques, equipment and fabric filtration system to the paint booths ensure compliance to the particulate emission limits (10mg/m³ compliance certificate by booth guarantee). VOC emissions will be controlled by the reduction scheme for the paint coatings used. Isocyanate emissions are limited at 0.1mg/Nm³ as a 15-minute mean with manual extractive testing.

There may be a low level of odour associated with paint products.

As the stack heights are under (approximately 1.5m) below a recommended height of three meters above the roof ridge the Environment Agency commented on the earlier application that a screening risk assessment (Air emissions risk assessment for your environmental permit - GOV.UK (www.gov.uk) <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>) should be carried out to see if VOC emissions can be “screened out”, or air dispersion modelling would need to be undertaken. The risk assessment uses the Environment Agency H1 screening software tool.

From the MSDS for the paint products the two main VOC constituents of the paints are n-butyl-acetate and Xylene. These two substances have been inputted into the H1 screening assessment with a stack height of 9 meters, based upon each booth used for painting at least 4 hours per day over a 50-weeks year. A worse case scenario of VOC emissions was selected at the maximum 50mg/m³ limit.

The screen shots on the following page show the air emission release point, the inventory for the substances and then the final table is the impact screening results reported as a process contribution screened to the EAL. The EAL is an Environment Agency assessment criterion for a range of pollutants based on the workplace exposure limits with an adjustment converting from worker exposure to public exposure.

Air Release Points							
Please define your Release Points for Releases to Air							
Are there any Air emissions?				Yes <input type="button" value="Click the Add button below"/>			
Number	Description	Location or Grid Reference	Activity or Activities	Effective Height metres	Efflux Velocity m/s	Total Flow m3/hr	
e.g. A1		North stack		150	25	5,000	
1	Booth 1	Reefer Trailers	Paint spraying	9	15	47000	
2	Booth 2	Reefer Trailers	Paint spraying	9	15	47000	

Air Emissions Inventory											
Please list all Substances released to Air for each Release Point identified in the previous page.											
Number	Substance	Meas'ment Method	Operating Mode (% of Year)	Data relating to Long Term effects			Data relating to Short Term effects			Annual Rate tonne/yr	ELV Conc. mg/m3
				Conc. mg/m3	Release Rate g/s	Meas'ment Basis	Conc. mg/m3	Release Rate g/s	Meas'ment Basis		
e.g.	sulphur dioxide	Estimated*	70% load	1510	3000	annual avg	1510	3000	hourly avg	55,000	2000
1	n-butyl acetate	Estimate	15.0%	50.0	0.652778		50.0	0.652778		3.0879	50.00
2	Xylene, o-, m-, p- or mixed isomers	Estimate	15.0%	50.0	0.652778		50.0	0.652778		3.0879	50.00
3	Particulates (PM10) (Annual Mean)	Estimate	15.0%	10.0	0.130556		10.0	0.130556	24 hr Mean	0.6176	

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 out further assessment as they are likely to have an insignificant impact.									
Number	Substance	Long Term		Long Term			Short Term		
		EAL	EAL	PC	% PC of EAL	> 1% of EAL?	PC	% PC of EAL	> 10% of EAL?
		µg/m3	µg/m3	µg/m3	%		µg/m3	%	
2	Xylene, o-, m-, p- or r	4,410	66,200	8.54	0.194	No	1,191	1.80	No
3	Particulates (PM10)	40.0	-	1.71	4.27	Yes	238	-	

The VOC emissions for both substances are screened out using the assessment, with N-butyl-acetate screened out completely on the stage one assessment. Particulate matter in the form of PM10 was screened which resulted in the process contribution being >1% of EAL (long term).

Further investigation for the screening result was carried out re-running the assessment with a lower process contribution for particulates than the maximum 10mg/m³ (3mg/m³ was used from the STL booth guarantee results) and by increasing the stack height theoretically to double the existing 9 meters from ground level to 18m (resulting in 10m above roof ridge height); the results still reported the long term %PC of EAL to be greater than 1%.

If the screening assessment was applied to all vehicle respraying type operations (where compliance is the 10mg/m³ booth guarantee certificate) they would also not pass the screening assessment. The H1 screening risk assessment in this instance is not giving a reflective result for particulate emissions for the type of process (over various stack height scenarios). The compliance route stated in the PG note of a maximum 10mg/m³ particulate compliance guarantee certificate at the existing stack heights is suitable for the

spray booth emissions as all VOC's are screened out using the risk assessment.

The level of di-isocyanate contained in paints has reduced in order to ensure that the risk for paint spraying operatives and workplace exposure levels are kept to a minimum. The main artic white paint product and top clear coat do not contain isocyanate. The hardener used with the paint does contain hexamethylene-di-isocyanate at <0.1%. The PG Note sets a stack emission limit of 0.1mg/m³. From review of emission test reports for paint spraying operations the level of isocyanate emitted from a stack is very often below the level of detection (LOD) when the emission testing for isocyanate has been carried out.

Below are three sets of isocyanate stack emission results from paint spraying operations that show typical levels at 1000 times below the limit.

Isocyanate results, FM Coatings, Boldon 2022.

Emission Point	Concentration (mg/m ³)	Uncertainty of Measurement (%)	Mass Emission Rate (g/hr)
Base Coat	<0.0001	20453.29	<0.0009
Primer	0.0005	3152.56	0.0120

TRELLEBORG PPL, Coventry

Main Stack

Substance	Concentration	PPC Limit	Time
	mg/nm ³		
di-isocyanates total NCO Run 1	<0.007	0.1	09:18 to 09:48
di-isocyanates total NCO Run 2	<0.007	0.1	09:48 to 10:18
VOC As Carbon Run 1	7.98	100	09:18 to 09:48
VOC As Carbon Run 2	3.39	100	09:48 to 10:18

Simba, agricultural machinery, Sleaford

Summary of Results

	Concentration (mg/Nm ³)	
	Particulate Matter	Total Isocyanates
Emission Limit	50	0.1
Orange Booth (South Stack)	0.3	<0.006
Orange Booth (North Stack)	0.3	<0.006
Black Booth (South Stack)	0.7	-

Given the <.1% di-isocyanate content of the hardener and no isocyanate contained in the paints and the results from very similar paint spraying operations the process will very comfortably be well below the 0.1mg/m³ emission limit.

It is suggested that the manual extractive testing for isocyanate is relaxed based upon the above evidence.

5.0 Monitoring

The trailer facility will conduct a daily and weekly visual and olfactory monitoring of emissions from the stacks and process. The emissions check is done from outside the process building with the stack emission points in view. Daily equipment monitoring checks are completed on spray booth operations, paint delivery systems prior to and during spraying.

- Stack emissions for VOC is controlled by the reduction scheme.
- Particulate emissions controlled by spray booth guarantee certificate <10mg/m³.
- Isocyanate emissions controlled by paints not containing isocyanate used at the facility and evidence from comparable commercial paint spraying operations.

5.1 DEFRA Reduction scheme

The DEFRA Reduction Scheme Coatings Spread sheet will be used to keep an inventory of the coating products used including gun wash and thinners and waste products returned for recycling. The spreadsheet will calculate compliance to the reduction scheme emissions factor for VOC usage. The spreadsheet will be submitted annually to the regulator as required by the permit. Below is an example of the reduction scheme submission that will be kept and made by Reefer Trailers Ltd.

COATINGS USED IN ACTIVITY:										Insert coating details row		
Ref	Type of Product	Description of Use of Product	VOC (g/kg or g/litre of product supplied as specified by supplier	Solids (g/kg or g/litre of product supplied as specified by supplier	Litres or kg of product used in 12 month period as supplied	Mass of solids used in kg	Mass of solvent used in kg	Target Emission Factor from Table 4 of Guidance Note	Allowable solvent for VOC under Reduction Scheme	Solvent balance in kg against allowable solvent under Reduction Scheme		
1	Top 14 - top coat	14 Line Polyurethane	381	736	85	62.475	32.385	1.2	74.97	42.585		
2	Top SC601 Col - top coat	Acrythane SC601 Colours	360	840	405	340.2	145.8	1.2	408.24	262.44		
3	BASXSC - top coat	Acrythane XSC21	360	840	14146	11882.6	5092.56	1.2	14259.168	9166.608		
4	Prispeed 3	Speedbuild 3 Primer	420	864	15	12.96	6.3	1.2	15.552	9.252		
5	Cur 9029 - ZIP	Hardner	263	788	3	2.364	0.789	1.2	2.8368	2.0478		
6	Cur 9044	Hardner	540	456	7820	3558.1	4222.8	1.2	4269.72	46.92		
7	ADD2298	Balleys Additive	360	840	25	21	9	1.2	25.2	16.2		
8	Top SC601 RG	Balleys Green GLS	360	840	2600	2184	936	1.2	2620.8	1884.8		
OTHER SOLVENTS USED IN ACTIVITY E.G. THINNING/CLEANING :										Insert thinning/cleaning details row		
Ref	Type of Thinning/Cleaning or Other Solvent Used		Specific Gravity from Supplier		Litres used in 12 month period		Mass of other solvent used (kg)					
1	TNC2604 Thinner		0.92		1595					-1467.4		
2	Cleaner/gunwash		0.84		850					-714		
SOLVENTS REMOVED FROM THE SITE AS WASTE										Insert solvents removed details row		
Ref	Type of waste		Estimated amount of solvent in waste (a/litre)		Amount of waste removed from site (litres)		Mass of solvent disposed of (kg)					
							Total Actual VOC Emission	Total Target VOC Emission	Difference (kg)			
							12627.034	21676.4868	9049.4528			
The mix of products, thinners and equipment cleaning solvents used shows the installation meets the Reduction Scheme solvent:solids ratio												

6.0 Start-up/shut-down and unintentional releases to atmosphere.

The paint spray booths must be under negative pressure prior to any spraying to commence. A computer-controlled interlock prevents spraying taking place if there is no negative pressure or the pressure drops across the booth.

When spraying operations have concluded the booth extract system remains running to ensure satisfactory clearance times as required by workplace health and safety (HSG261: Health and Safety in Motor Vehicle Repair and Associated Industries guidance).

Spill kits are provided for any potential spillages on site.

7.0 Waste

The amount of waste paint and gun cleaning is kept to a minimum. Only enough paint for the job/repair being completed is mixed in the spray gun pot.

Paint solids captured from the gun cleaning machine is discharged into a polyethylene bag, sealed and placed inside the sealed skip kept outside of the process building. Used paint tins and containers are removed from site by a licenced waste carrier.

Any cloths or rags that have encounter material that emits fumes are disposed of through an environmental waste recycling company.

8.0 IED Designated Materials

The industrial emissions Directive contains requirements for designated materials (Articles 58, 59, 80(7)). SE Box 7 detailed in the PG Note 6/47(11) Original Coating of Road Vehicles and Trailers lists the designated materials used in industrial emissions Directive installations which must be either replaced or controlled contained and limited.

1. Materials designated because of their VOC content:

- hazard statement H340, H350, H350i, H360D, or H360F
- until 1 Jun 2015: risk phrases R45, R46, R49, R60, or R61

2. Materials designated because of their halogenated VOC content:

- hazard statements H341 or H351
- until 1 Jun 2015 : risk phrases R40, or R68

The Glasuirt paints products used at the facility are EU paint product directive complaint for commercial vehicle applications. The MSDS for the coating products has been reviewed for VOC content and designated materials and the designated materials listed for VOC's are not contained in the paints.

In line with SE Box 7 all paint and coating products will be controlled under contained conditions as far as technically and economically feasible to

safeguard public health and the environment and in accordance with the guidance provided within Section 5 of the PG Note.

- Coating materials always stored in sealed lidded containers
- Minimal amount of product held on stock
- Coating dispensed to spray booth in sealed and contained paint dispensing system
- Products already received in mixed form and do not require decanting or further mixing
- Strict health and safety procedures for use and control of all coating materials under COSHH

9.0 Management Techniques and impact assessment

The company deploys techniques to minimise emissions by training of spray operators in efficient application of paint, using High velocity Low Pressure guns, good housekeeping techniques for handling, storing, mixing and removal of paint and implementing a preventative maintenance programme for the spray booths by regular filter changes, consistent extract efficiency and OEM service /maintenance contract. A visual and olfactory assessment of the stacks (undertaken at ground level and downwind) is undertaken on a weekly basis and recorded in a log.

Aspect	Impact	Control Measure	Result
Use of Paint, cleaning solvent and Thinners	Harmful to the environment - Air and soil	Air extraction system in use and maintained. Waste management control Spillage response plan implemented Management Audits carried out and deficiencies actioned. All coatings are compliant	Controlled – not significant
Generation of Wastepaper	Use of natural resources	Waste Paper is segregated Recycle where possible	Controlled – not significant
Use of electricity	Depletion of fossil fuels	Use of LED lights to minimise power consumption Lights only used when required All machinery and equipment maintained to ensure optimum performance	Controlled – not significant