

Part B - Non-Technical Summary

Overview of the Scope of the Permit Application

This environmental permit application is for Rapid Precision Engineering, which is located in Huyton, Liverpool.

Rapid Precision Engineering was established in 1993 and is a metals component manufacturing company, supplying machined parts to multiple industries. The existing site process are not currently regulated by the Environment Agency. However, Rapid Precision are introducing a cadmium plating facility to the site and have been advised by the Environment Agency that this process will need to be operated via an environmental permit along with a passivation process which is currently undertaken at the site.

Cadmium plating of parts manufactured on site by Rapid Precision is currently undertaken off site by a third party. The parts produced by Rapid Precision are currently transported on an approximate 200-mile round trip to be cadmium plated. Therefore, Rapid Precision would like to reduce reliance on third parties to complete the cadmium plating work in order to reduce the financial and environmental impact of supply chain by installing a cadmium plating facility at their site.

The permit application is for the following activities:

- *Section 4.2 Part A(1)(f)...any manufacturing activity involving the use of mercury or cadmium or any compound of either element or which may result in the release into air of either of those elements or their compounds.*
- *Section 2.3 Part B...any process for the surface treatment of metal which is likely to result in the release into air of any acid-forming oxide of nitrogen and which does not fall within Part A(1) or Part A(2) of this Section.*

A site location plan and a site layout plan are included in **Section G**, along with a drainage plan for the site. **The red line boundary and emission point locations are shown on Figure 1 which is included in Section G.**

The use of 'Best Available Techniques' (BAT) are described within this document (where applicable) and the BAT are also summarised in **Table 1** within **Section G**.

Application Content

This document has been compiled using the Environment Agency's 'The Surface Treatment of Metals and Plastics by Electrolytic and Chemical Processes (EPR 2.07)' guidance document in relation to environmental permits.

In order to satisfy the requirements of the Environment Agency (EA) such that an environmental permit can be granted, the permit application includes the following documents and assessments:

- EA application forms A, B2, B3 and F1

- Site plans (Section G)
- A site condition / baseline report (CL101_2)
- A H1 environmental risk assessment (CL101_3)
- A detailed air dispersion modelling report (CL101_4)
- Other supporting information (e.g. process descriptions, accident risk assessment, raw materials inventory)

This application is being made in accordance with the Environmental Permitting Regulations and using the relevant available Environment Agency tools and guidance documents.

Summary of Activities

Details of the Schedule 1 activities and directly associated activities undertaken at the site are summarised in **Table 1a** on the next page.

Emissions

There are no direct wastewater emissions to groundwater or surface water bodies. All wastewater from the site processes is collected within holding tanks on site and released to sewer every 3 months. The site does not have a discharge consent as the sewage undertaker has confirmed that this is not required.

There are two existing air emission points at the site. They are associated with extraction from the passivation line and the paint spraying booth.

There will be one new air emission point introduced for the new cadmium/nickel plating activity.

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Table 1a – Types of Activities		
Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
S4.2 Part A(1)(f)	Surface treatment of metals using cadmium and nickel plating and includes pickling.	Receipt of raw materials, surface treatment and despatch of finished parts. Total scheduled activity vat volume capacity is 2m ³
S2.3 Part B	Surface treatment of metals by passivation	Receipt of raw materials, surface treatment and despatch of finished parts. Total scheduled activity vat volume capacity is 1m ³
Directly Associated Activity		
Directly Associated Activity	Storing and handling of chemicals	Storage of chemicals in appropriate packaging/containers in secure area.
Directly Associated Activity	Water treatment, rinsing, drying and post-treatment	Water treatment, rinsing and drying of treated work and post-treatment of work, where necessary to complete the surface treatment.
Directly Associated Activity	Mechanical preparation	Grit blasting, prior to surface treatment (cadmium and nickel plating) and dust abatement by extraction (via built in filtration system – no emissions to air).
Directly Associated Activity	Degreasing	Degreasing/general purpose cleaning at room temperature in an ultra-sonic cleaner. No external extraction.
Directly Associated Activity	Chemical Cleaning	Chemical cleaning using aqueous cleaners on a closed loop system on both cadmium/nickel plating and passivation lines.
Directly Associated Activity	Rinsing	Rinsing is counter flow on closed loop system. Resin and carbon filters used to maintain water quality. Wastewater from cadmium/nickel line to be evaporated and collected in a tank for removal by a licenced waste management contractor.
Directly Associated Activity	Drying	The drying process includes a water dip to allow the parts to air dry quickly. Heating at low temperature is undertaken in a small oven which is thermostatically controlled. No external emissions.
Directly Associated Activity	Paint Spraying	Paint spraying of some parts. Limited Intermittent activity only. Average 5 paint jobs per month and each job last between 1-2 hours. Emissions to air from this activity.
Directly Associated Activity	Fluorescent Penetration Inspection	Dip process undertaken to identify cracks on non-ferrous parts. No emissions to air.

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Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
Directly Associated Activity	Chemical Etching	Dip process undertaken to identify machining abuse on the surface of the metal parts. Uses 3 different acid solutions. No emissions to air.
Directly Associated Activity	Storage and handling of Wastes	Storage and collection of waste, empty containers, spent carbon, resin filters waste and residual waste from evaporation to be removed from the installation via licensed waste management contractor.
Directly Associated Activity	Effluent Storage	Storage of wastewater in holding tanks. pH check undertaken prior to release to sewer ~every 3 months.
Directly Associated Activity	Fume extraction and fume abatement	Local exhaust ventilation (LEV) on both process lines of humid air from process tanks.