RAPID PRESCION ENGINEERING SURFACE TREATMENT APPLICATION EPR/AP3704BM/A001

1. ACTIVITIES – 2.3 , 5.3, 6.4 etc

- Exact total site Vat volume linked to 2.3 A(1) activity – in line with our RGN No2 guidance,
- Other vats linked to 2.3 B activities e.g. rinsing, weak nitric acid cleaning etc – secondary activities not within 2.3 A(1) see definition below:

- ***Part B***

  (a)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.

  Clarification needed if such processes not within RGN No2 definition appendix 1 for 2.3 A(1) exists.

- Effluent treatment capacity – hazardous waste activity ,5.3 A(1) (a) < 10 tonnes/day activity threshold. What is the maximum treatment capacity of the installation ?
- Other activities present? – e.g. coating under schedule activity 6.4 – and specifically potential solvent based paint usage for coating 6.4 B(a) (iv) – dependant on relevance and exceedance of threshold.
- Please consider whether vapour degreasing takes place with solvent on site and if so what annual usage of solvents occurs and what solvents. If lower than 1 tonne per annum usage a directly associated activity.

To answer this question please update your

- Non-tech summary with activities within the installation. Please summarise number of emissions to air , effluent and surface water
- Table please provide a relevant table listing Activities and Directly Associated Activities see an example below

Table S1.1 activities – EXAMPLE ONLY		
Activity listed in Schedule 1 of the EP Regulations	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity**
S2.3 Part A(1)(a)	Surface treating of metals using multiple techniques including chromium and nickel plating, pickling, caustic stripping and nitric acid cleaning	Receipt of raw materials to assembly of surface treated finished parts and despatch of finished parts. Total scheduled activity vat volume capacity is **173.8 m^3**.
S5.3 Part A (1) (a) (ii)	Disposal of hazardous waste with a capacity exceeding 10 tonnes per day involving one or more of the following activities, and excluding activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment—physico-chemical treatment	Receipt and storage of effluent, effluent treatment, recycling of cleaned water and final effluent despatch from site. Maximum treatment capacity is **33 m^3/day**.
Directly Associated Activity		
Directly Associated Activity	Storing and handling of chemicals	Storage of chemicals including bulk acid and alkali storage and storage of flammable materials in dedicated containers.
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 and vapour blasting, mechanical buffing, polishing of work prior to surface treatment; and dust abatement by extraction.
Directly Associated Activity	Chemical preparation	Hot alkaline cleaning including usage of hydrochloric acid.
Directly Associated Activity	Fume extraction and fume abatement	Local exhaust ventilation (LEV) of humid air from process tanks and chromic acid fume abatement by use of knitted mesh filtration.
Directly Associated Activity	Storage and Handling of Wastes	Storage and collection of dewatered sludge, empty containers, spent nickel solution and general waste to remove from installation.
Directly Associated Activity	Heat Treatment	Heat treatment of components within two electric ovens with internal emissions and no discharge to atmosphere.
Directly Associated Activity	Degreasing	Cold degreasing using cotton rags and a hydrocarbon based solvent without fume extraction. Includes sort of degreasing solvent.

- Please provide a detailed list of vats and vat volume equally final aggregate total m3 volume for site linked to 2.3 A(1) activity.
- Please quantity effluent treatment capacities and if relevant coating paint usage per annum and solvent usage per annum if solvent degreasing occurs on site

Response

- Following a review of vat capacities, Rapid Precision are no longer applying for an environmental permit which covers S2.3 Part A(1)(a) as it is considered that current or future proposed capacities would not exceed the 30m3 threshold. Therefore, the application has been amended to cover the following processes which are now deemed more applicable for the process undertaken to the installation:

  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.*

- Changes have been made to the main application document (Ref: CL101_1) and an activity table listing processes and DAAs like that requested above has been included. All changes and inclusions are shown in red type in the document.
- Changes have been made to application forms B3 and F1 to reflect the changes.
- There is no effluent treatment at the site. There are holding tanks where wastewater is collected, and this is released directly to sewer every 3 months. A pH check is done prior to release and dilution with water occurs where required. No chemicals are used to adjust the pH.
- Activity 6.4 – This is not relevant to the site. There is a paint spraying facility on site, but the setup is very small, and usage is very limited. The volumes of paint used in this facility will be very small due to the very small size of the components which are being sprayed and the limited use of the facility and therefore considered unlikely to exceed any of the thresholds associated with 6.4. Further information on this facility is included in CL101_1.
- Vapour degreasing is not relevant to the on-site processes.

2. BAT -EPR 2.07 compliance/improvement plans

BAT document to show compliance – we note Table 1 in CL101_1 document. Please add to this table with following additional information:

- Effluent treatment design – please complete table to clarify how ETP BAT requirements are met – Not required as no ETP
- Containment of cadmium emissions/minimisation of transfer to effluent – No wastewater emissions to sewer from cadmium plating. Water evaporated off where required and collected in vaporisation tank. Residue from this is taken off site for disposal by a licensed waste management contractor. Further information included in CL101_1
- Emission benchmark compliance – air and effluent. – Some further information added to CL101_1
- Improvement plans – for areas of non-compliance please provide improvement plans and timescales – please include air emissions improvements as discussed further in question 3 below. Section covering this has been included in CL101_1

3. Air emissions

Review based on:

- H1 assessment review of document dated April -19 and reference CL101_3
- ADMS detailed assessment CL101_4

Please provide following clarifications

- Installation definitely to include additional stack? – so proposed impacts are based on Option 2? Yes
- Chromium V1 – please confirm if chromium VI monitoring for current stack is based on actual chromium VI monitoring or a % assessment of total chromium monitoring. In same way please explain basis for chromium VI emission input for new stack. According to Exova 2017 testing report (I've enclosed a copy of this) CrVI is based on "Chromium (Cr^{+6}) in Fine Particulate Matter". Basis for new CrVI is as per section 3.1 in H1 "*it has been modelled in the same way as*

the current passivation stack (release point 1 in option 1) given the similarity of the process but with the addition of cadmium as part of the stack emissions. Cadmium emission rates have been estimated based on the design characteristics of the process and a general comparison to similar processes in the sector. The value presented in the model is therefore a conservative estimate which may require validation once operating."

- Benzene -please confirm if actual Benzene monitoring carried out for paint line emission or just total VOC's with usage of total VOC assumed to be all Benzene? Please advise if you have any data to represent more accurately % Benzene in total VOC if latter assumption used. Measured as total VOCs with all assumed as benzene within H1 (and ADMS)
- Please add a list of additional BAT measures implemented since 2017 monitoring with an estimate of beneficial impact and against which emission parameter BAT measures detailed in CL101_1. It is considered that the measures on the existing process would help reduce emissions associated with all chemicals of concern and benefit would be 100% improvement. This will be validated upon commissioning of the new process.
- Please further add BAT measures to minimize impacts of solvent based paints if after any adjustments the benzene impacts long term and short term are still not insignificant. BAT measures detailed in CL101_1. It is considered that the measures on the existing process would help reduce emissions associated with all chemicals of concern and benefit would be 100% improvement. This will be validated upon commissioning of the new process. Current assessment assumes 71% operation, this is highly conservative as use of the paint spraying facility is very limited, i.e. average 5 paint jobs per month and each job last between 1-2 hours. Emissions to air from this activity.

In general, please quantity where possible reduced impacts. This will be reviewed further post duly making

- It is considered that the updated BAT measures on the existing process and those proposed for the new process would help reduce emissions associated with all chemicals of concern and benefit would be 100% improvement. This will be validated by testing upon commissioning of the new process.

4. Effluent emissions

- Flowrate to sewer – it is difficult to see actual values for daily/short term maximum flow emissions to sewer utilised in H1 – please clarify these values. Please ensure the daily treated flow aligns with activity treatment capacity (if there is a deviation due to clean effluent recycling please clarify)
- Flowrate values – please clarify basis for figures utilised i.e. from actual flowmeter readings or other means e.g. mass balance/process data.

Flowrates have been worked out taking into account the tank volumes and wastewater storage volumes per month. As stated in the CL101_1 document a release to sewer only occurs every few months due to the small volumes of wastewater produced at the site. Also, no treatment is undertaken on site.

5. Site plans/Site Condition Report

- Clear installation boundary and emission point plan – we note site plans for installation boundary and air emissions – please provide a location for where effluent and surface water emission points leave the boundary including a plan with installation boundary marked on. Figure 1 has

been included in Section G of CL101_1 and this shows red line boundary and location of all emission points.

- With SCR document CL101_2 please confirm if any bulk tanks on site beyond containers mentioned. Any bunds for bulk tanks /drums must contain > 110 % of individual container volumes and> 25 % of total container volumes within a given bund. No bulk tank located on site. Only storage on site is within the chemical store located on the first floor of the building. This storage area is very small which reflects the low volume of raw materials which are stored on site. The storage area is secure and is locked to prevent access. All raw materials are stored in original packaging/containers on drip trays which are raised above the floor. More information on this is included in CL101_1 and photographs are included in Section G of this document.

6. Fee review

- 2.3 A(1) fee correct
- Part B fee if relevant added (50 %). Fee under table 1.18 of 2019 charging guidance is £1650 so 50 % fee applies as associated with another activity – so £825 fee applies. Please note this is £825 fee per Part B activity dependant on activity definition as per responses to question 1 above. **To be checked.**
- Habitat fee – Under table 1.19 fee required is £779 as there are European sites within 10 km – **definitely required**

F1 form amended to reflect change in fees.

Overall, please pay additional fee after above review. Can you advise on how the additional money should be paid?

Simon Wigglesworth/13/7/20