Permitting decisions

Bespoke permit.

We have decided to grant the permit for **Plymbridge Road Precision Tubing** operated by **Fine Tubes Limited**

The permit number is **EPR/WP3930DL**

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision making process. It summarises the decision making process in the decision checklist to show how all relevant factors have been taken in to account.

This decision document provides a record of the decision making process. It:

- highlights key issues in the determination
- summarises the decision making process in the decision checklist to show how all relevant factors have been taken into account
- shows how we have considered the consultation responses.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit. The introductory note summarises what the permit covers.

Key issues of the decision

1. Introduction

This is a new installation. In practice this is an existing facility where it has been highlighted that it has the following A (1) scheduled activities which need a relevant EPR permit:

- Chemical Activity 4.2 A (1) b – Chemical Milling
- Surface Treatment Activity 2.3 A (1) (b) –capacity > 30 m^3 vat volume.
- Effluent Treatment Activity 5.4 A (1) (a) (ii). The installation effluent treatment maximum capacity for non-hazardous waste disposal is 200 m3/day.
- Activities under Schedule 14 to Environmental Permitting Regulations – Vapour degreasing with Solveco 120 solvent with one component having a R61 risk phrase (May cause harm to the unborn child). Usage level per annum greater than 1 tonne per annum threshold. The operator has confirmed this in its request for information response dated 10/08/17.

The approach is to ensure all the relevant BAT requirements are met where possible during permit determination or otherwise via the usage of improvement programmes.

2. H1

Air

The Applicant provided a H1 assessment with their duly making response submitted 20/07/17. The air emission parameters linked to variation changes are as follows:

- Nitrogen Dioxide
- Oxides of Nitrogen (Ecological Receptors)
- Hydrogen Fluoride

The Applicant confirmed that all solvent emissions linked to surface metal treatment component vapour degreasing are primarily contained within sealed equipment and any small emissions vented into the workplace are not vented to atmosphere.

The Applicant has utilised monitoring data for inputs for the H1 assessment and assumed operations continuously throughout the year which is a conservative approach, as operations are batch processes. We have applied the 50 % criteria for converting oxides of nitrogen to Nitrogen Dioxide emissions for long term assessment as detailed in our H1 guidance.

H1 screening.

The above data was used to perform a H1 screening.

Step 1

The emissions which warrant further investigations are

- PC (Long term) >1% of the LT Environmental benchmark.

- PC (Short term) >10% of the ST environmental benchmark.

Basis of the assessment

A summary of the results of the Application H1 assessment of emissions to air are as follows utilising assumptions as described above:

Substance	Long Term EAL/EQS µg/m3	Short Term EAL/EQS µg/m3	PC LT µg/m3	PC % of LT EAL/EQS	PC LT >1% of EQS/EAL	PC ST µg/m3	PC ST % of EAL/EQS	PC ST >10% of EQS/EAL
Nitrogen Dioxide	40	200	0.442	1.11	**Yes**	20.9	10.5	**Yes**
Hydrogen Fluoride	16	160	5.49	34.3	**Yes**	53.8	33.6	**Yes**
Oxides of Nitrogen (ecological standard)	30	75	0.884	2.94	**Yes**	20.9	27.86	No
Hydrogen Fluoride (ecological daily mean)	-	5	-	-	-	53.8	1,076	**Yes**
Hydrogen Fluoride (ecological weekly mean)	-	0.5	-	-	-	53.8	10,760	**Yes**

H1 Step 1 Screening Conclusion

- Oxides of Nitrogen dioxide and Oxides of nitrogen long and short term impacts do not screen out initially. The operator pursued detailed modelling to assess whether in reality the emissions were insignificant after such detailed modelling.
- Hydrogen fluoride process contributions are significantly elevated and therefore detailed modelling has been completed and the assessment of the modelling is summarized below

Dispersion Modelling for Hydrogen Fluoride Atmospheric Impacts

The Hydrogen Fluoride (human health and ecological) impact emissions linked to the combustion activities at the installation did not screen out after a H1 assessment.

The operator provided a final detailed modelling report with their schedule 5 notice response (report dated 22/12/17)

The meteorological data is for the years 2012 to 2016 inclusive. The modelling used stack data provided by the operator and took into account the effect of site buildings and terrain on the dispersion of pollutants.

The modelling was carried out based on usage of ADMS 5 modelling software.

Predicted concentrations were compared with the relevant Environmental Quality Standard as per our H1 annex (f) air emissions guidance.

The basis for the modelling is as follows:

- Usage of acid scrubbers for all three process stack emissions A1- A3.
- Stack heights and emission concentrations as per modelling report table within section 6.4 of the report
- Emission level modelling input based on new stack monitoring carried out in Q3 2017.

BAT assessment

The BAT assessment for Hydrogen Fluoride atmospheric emissions (schedule 5 notice response dated 22/12/17) confirms the installation key measures for Hydrogen Fluoride emission minimisation are:

- Process control via material management of hydrofluoric acid usage.
- Balanced ventilation system
- Acid scrubber abatement.
- Improved acid scrubber maintenance procedures.
- Demister review – review to be completed by end of June 2018

Operator Identified Sensitive Receptors – basis for detailed modelling

Section 6.6 of the modelling report details the five local residential properties that were selected by the operator for impact assessment, complete with national grid references of each receptor. In addition the operator modelled maximum pollutant concentrations at ecological receptors within 1km of the centre of the installation.

Human Health Sensitive Receptors Risk Assessment

A summary of the operator conclusions are provided below:

Step 1

H1 insignificance test according to H1 annex (f) guidance is as follows:

The emissions which are insignificant are:

- PC (Long term) <1% of the LT Environmental benchmark.
- PC (Short term) <10% of the ST environmental benchmark.

The process contributions, in the tables below, are the worst case modelling data at any of the sensitive receptors for human impacts and maximum concentrations at any of ecological receptors within 1 km of installation as a conservative assessment:

Substance	Long Term ES µg/m^3	Short Term ES µg/m^3	PC LT µg/m^3	PC % of LT ES	PC LT >1% of ES	PC ST µg/m^3	PC ST % of ES	PC ST >10% of ES
Hydrogen Fluoride **(Human receptors)**	16	160	0.0033	0.0021	No	0.03	0.019	No
Hydrogen Fluoride	-	5	-	-	-	0.03	6.0	No

(ecological daily mean)								
Hydrogen Fluoride (ecological weekly mean)	-	0.5	-	-	-	0.03	0.60	No

Conclusion

The long and short term process contributions for Hydrogen Fluoride are assessed as having insignificant impacts as compared against all the relevant human health and ecological EQS's.

Therefore no further assessment is required.

NO_2/Oxides of Nitrogen assessment

The modelling was completed for five human residential sensitive receptors and all ecological habitat sites as listed above for Hydrogen Fluoride assessment above. The maximum results at any of the sensitive receptors as detailed above are:-

Substance	Long Term EAL/EQS µg/m3	Short Term EAL/EQS µg/m3	PC LT µg/m3	PC % of LT EAL/EQS	PC LT >1% of EQS/EAL	PC ST µg/m3	PC ST % of EAL/EQS	PC ST >10% of EQS/EAL
Nitrogen Dioxide	40	200	0.15	0.38	No	1.57	0.79	No
Oxides of Nitrogen (ecological standard)	30	75	0.21	0.70	No	4.49	5.99	No

Conclusion

The long and short term process contributions for NO2/oxides of Nitrogen from the installation are insignificant in comparison with relevant human health and ecological standards Environmental Quality Standards i.e.

- PC (Long term) <1% of the LT Environmental benchmark.
- PC (Short term) <10% of the ST environmental benchmark.

Therefore no further assessment is required.

H1 Effluent assessment

The operator completed a H1 assessment as part of their duly making response (submitted 20/07/17).

The effluent discharges via a sewage treatment plant discharge to Plym Estuary, as such this is a Trac Water (estuaries and coastal waters) discharge.

The assessment was carried out in line with our guidance *Permitting of hazardous pollutants in discharges to surface waters.*

Test 1: Does the concentration of the substance in the discharge exceed 100 percent of the EQS?

The results of the initial phase are as follows.

These assessments have been carried out on a conservative basis without the application of sewage treatment reduction factors and using actual monitoring. There are manganese and chromium III emissions from the installation but there are no EQS's for these parameters and hence no further assessment can be completed.

The operator presented total chromium emission data for chromium VI emission assessment. This is a highly conservative approach and is discussed in more detail below:

Parameter	Annual Average Long term EQS µg/l	ELV Long Term discharge emission µg/l	Maximum Allowable Concentration (MAC) Short Term EQS µg/l	ELV Short term discharge emission µg/l
Copper	3.76 *	0.7	-	
Chromium VI	0.6	0.9	32	1.4
Nickel and its compounds	8.6	0.7	34	2.5

*Based on Dissolved Oxygen Concentration < 1mg/l, as most conservative approach.

Conclusion

The installation emissions screen out at test 1 for all parameters for all relevant Environmental Quality Standards (EQS's) except Chromium VI. For these parameters no further assessment is required.

Most specific assessment for Chromium VI emissions.
A conservative Sewage Treatment Reduction Factor from our guidance *Permitting of hazardous pollutants in discharges to surface waters* is 0.52. Hence the post sewage treatment works effluent level of chromium VI, using conservative total chromium data, is 0.9 *0.48 = 0.43. This is below EQS even without any consideration of dilution factor when entering surface water course.

Hence in practice chromium VI emissions are assessed as insignificant and no further assessment is required

Containment

The schedule 5 notice response dated 19/12/17 confirmed the following external raw material, process and waste storage tanks.

Material	Tank Storage Volume in litres
Spent Acids	10,000
Potassium Permanganate	10,000
Mixing Vessel	10,000
Acid Settlement Vessel	10,000
Final Settlement Vessel	5,700
Hydrochloric Acid	5,700
Sodium Metabisulphate	3000

All the bunds comply with the criteria of volume > 110 % of individual storage tanks and > 25 % of aggregated total storage volumes within each bund.

We have added an improvement program IC5 to ensure all external bunds comply with CIRA 736 guidance.

Fire Water Management

The schedule 5 notice response dated 22/12/17 provided a review of fire water management within the installation. Such fire water would be directed to an existing settling tank with 60 m3 storage volume and 114 m3 bund storage volume.

<u>The schedule 5 notice response confirmed</u>

- Fire water volume requirement could be up to a typical maximum of 20 m3.
- The available containment volume is 114 m3 as a conservative basis assuming all tankage is full at the time of the incident.
- The operator has now added an isolation valve on final settling tank to prevent uncontrolled emissions of fire water to surface water. In terms of general fugitive emissions control this valve will also be closed at the time of tanker offloading to provide an additional control measure.
- The operator has presented a summary operating procedure for fire water containment, sampling, assessment and appropriate disposal

The improvement programme 4 has been added to the permit to ensure the finalisation of formal fire water management procedure.

Other Improvements

The BAT improvements are detailed in operator schedule 5 responses dated 19/12/17 and 22/12/17.

ETP Design Improvements

During the first half of 2018 the following improvements are to be included in the new Effluent Treatment Plant (ETP) Design:

- Maximum flow rate control- alarms are to be added into ETP process controls to ensure maximum consented discharge flow rate to sewer not exceeded.
- Install electric mixer for continuous effluent liquor agitation to ensure more consistent effluent treatment via separation of effluent precipitate stream from effluent liquors.
- Commissioning of ETP to be completed with relevant parameter monitoring to show emissions are insignificant as currently concluded within H1 assessment submitted within the application. The commissioning report will be covered under improvement programme 3. The operator has committed to put forward an action plan with timescales if the insignificance criteria is not complied with.

Further proposals being investigated by January 2019 include:

- Assessing effectiveness of primary treatment efficiency in new ETP and review requirement for a batch filter for sludge filtration
- Effluent Recycling– feasibility study in parallel with recycling of rinse water for use in less critical stages of the process to be assessed.

Improvement programme 1 has been added to ensure completion of all relevant actions by end of June 2018.

Improvement programme 2 has added to ensure completion of all further reviews by February 2019.

Ventilation System Improvements

The operator has detailed the following ventilation improvements:

- Maintenance of current local exhaust ventilation to ensure optimum air flow to balance human health and environmental emissions controls – to be completed Q1 2018.
- Review of whether to add a mist eliminator prior to main caustic scrubber for A1 –A3 air emissions abatement, for optimum abatement of Hydrogen Fluoride emissions

Improvement programme 1 has been added to ensure completion of all above actions/reviews by end of June 2018.

Pickling Process Improvements

The operator has detailed the following improvements and feasibility studies:

- Assess feasibility of using ion exchange for recirculation of process rinse waters to less critical parts of the process by January 2019.
- Spent acid will be used for pH control in the new ETP plant, which will be installed in the first half of 2018. There will still be a reduced level of spent acid treatment and disposal in future. The current H1 acts as a conservative assessment.

Improvement programme 1 has been added to ensure completion of actions by end of June 2018. Improvement programme 2 has added to ensure completion of all further reviews by February 2019.

Decision checklist

Aspect considered	Decision
Receipt of application	
Confidential information	A claim for commercial or industrial confidentiality has not been made.
Identifying confidential information	We have not identified information provided as part of the application that we consider to be confidential.
Consultation	
Consultation	The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement. The application was publicised on the GOV.UK website. We have consulted with • HSE • Plymouth Council Environmental Health Department • Public Health England/Director of Public Health. The comments and our responses are summarised in the consultation section.
Operator	
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with our guidance on legal operator for environmental permits.
The facility	
The regulated facility	We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN 2 'Defining the scope of the installation'. The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.
The site	
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit.
Site condition report	The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive. The site condition report consists of the Applicant completion of our H5 site condition report template (dated 20/07/17) which includes references to specific site plans and baseline monitoring. In more detail the H5 template references the following Annexes dated 11/07/17 • Annex A Historical Maps • Annex F,H,M and Q Baseline reports

Aspect considered	Decision
	Additional information provided during the determination linked to site condition report includes: • Organic solvents usage information both historically and within the new installation going forward - response dated 09/08/17 and 10/08/17. It is confirmed that trike (Trichloroethylene) is no longer utilised within installation. • On-going remedial work for solvent emissions dated 07/09/17. • Environmental Intrusive Investigation Report April 2016 – response provided 20/09/17 • The operator has committed to an Annual report on progress of remedial work, in the form of an update to their site condition report (response dated 22/12/17) • The operator has committed to monitoring of organic substances to ensure no fugitives emissions pollution from installation of the surface water system and off site Sisna Pond. This monitoring is to take place monthly and the details of the monitoring plan and techniques are within their additional information responses dated 11/01/18 and 12/01/18. Conclusion We are satisfied that the April 2016 report groundwater and soil monitoring specifically satisfactorily represents baseline conditions. In addition the operator has committed to supply the Environment Agency with an annual update on the progress of scope of remedial works as defined in response dated 07/09/17 above.
Biodiversity, heritage, landscape and nature conservation	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process. We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified. We have not consulted Natural England on the application but have sent a Stage 1 Habitats Regulations Assessment (dated 12/12/17) to Natural England for information only. The decision was taken in accordance with our guidance.
Environmental risk assessment	
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory.
Operating techniques	
Operating techniques for emissions that screen out as insignificant	Emissions of all atmospheric and effluent parameters listed above after H1 assessment and detailed modelling have been screened out as insignificant, and so we agree that the applicant's proposed techniques are BAT for the installation. We consider that the emission limits included in the installation permit reflect the BAT for the sector.

Aspect considered	Decision
Permit conditions	
Improvement programme	Based on the information on the application, we consider that we need to impose the following improvement programmes. We have imposed four improvement programmes to ensure that all relevant BAT measures are actioned (IP 1-2 and IP4) plus submission of effluent treatment plant commissioning report (IP3)
Emission limits	We have decided that emission limits are not required in the permit.
Monitoring	We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified. These monitoring requirements have been imposed in order to confirm hydrogen fluoride emissions are in line with those submitted within application EPR/WP3930DL/A001 within dispersion modelling report received 22/12/17. Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.
Reporting	We have specified reporting in the permit.
Operator competence	
Management system	There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions. The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit. Paragraph 1.3 of the guidance says: "The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation." We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections. We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Consultation

Responses from organisations listed in the consultation section

Response received from Public Health England dated 16/08/17
Brief summary of issues raised
Hydrogen Fluoride Air Emissions , Waste Storage and Fire Water Management
Summary of actions taken or show how this has been covered
All the above issues were covered in operator schedule 5 notice responses 19/12/17 and 22/12/17. Specific control measures have been listed by the Applicant to cover all three areas • Hydrogen Fluoride Emissions – specific improved emission control measures have been listed. • Chemical Storage –external bulk storage facilities are bunded as discussed above • Fire Water Management – procedures have been improved and new storage areas proposed. Final compliance with action plan ensured via our usage of permit improvement programme 4.

There were no other responses from organisations to our consultation and no responses from the public to our www.gov.uk website advertising.