Permitting decisions

Bespoke permit

We have decided to grant the permit for **ExoTec Precison** operated by **Novanta Technolgies UK Limited**

The permit number is **EPR/CP3136YP.**

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

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

Introduction

The operator is planning to commission this new chemical installation facility and then surrender their existing regulated installation operating same fundamental process under existing permit EPR/ZP3933UU at Factory 1. The new installation designated Factory 2 will be housed within an adjacent building to the existing installation.

1. Air emissions

The operator provided a H1 assessment with their schedule 5 response dated 26/09/18. The air emission parameters linked to variation changes are as follows:

- Diethyl ether
- Beryllium and its compounds
- PM10
- Hydrogen chloride
- Chromium VI
- Sulphur Dioxide
- Hydrogen fluoride
- Nitrogen Dioxide

The H1 assessment was based on estimates of emissions for the relevant emission points A1 to A5 from existing process actual monitoring data. The estimates are based on plant operating 24/7 when in practice maximum operational running house per hour of 3758 hours per annum (42.9 %).

The assessment is therefore conservative, as the BAT design of the facility will be as soon as if not better than current design. The schedule 5 provides specific data on A1 beryllium emission reduction (schedule 5 submission dated 15/03/18) and A4 acid scrubber design to minimize solvent, particulates and chromium VI emissions (schedule 5 submission dated 31/08/18).

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
Beryllium and its compounds	0.0002	-	0.00000103	0.518	No	-	-	-
Diethyl ether	12,300	154,000	0.517	0.00421	No	-	-	-
PM 10	40	50	0.0208	0.052	No	0.373	0.745	No
Hydrogen chloride	-	750	-	-	-	0.351	0.0467	No
Chromium VI (compounds as Cr) within PM10 fraction	0.0002	-	0.00002675	13.4	**Yes**	-	-	-
Nitrogen Dioxide (human health)	40	200	0.148	0.369	No	2,68	1.34	No
Nitrogen Dioxide (Ecological)	30	75	0.0746	0.249	No	2.71	3.61	No
Sulphur dioxide (human health 1 hour mean)	-	350	-	-	-	0.290	0.0827	No
Sulphur dioxide (human health 15 minute mean)	-	266	-	-	-	0.290	0.109	No
Sulphur dioxide (human health 24 hour mean)	-	125	-	-	-	0.290	0.232	No
Sulphur dioxide (ecological standard annual level)	10	-	0.160	0.016	No	-	-	-
Hydrogen fluoride (human health)	16	160	0.0163	0.102	No	0.0281	0.0176	No
Hydrogen fluoride (daily mean ecological receptors)	-	5	-	-	-	0.0281	0.562	No
Hydrogen fluoride (weekly mean ecological receptors)		0.5	-	-	-	0.0281	5.62	No

H1 Step 1 Screening Conclusion

Conclusion

From the assessment above it is concluded all the process contributions linked to the variation changes are assessed as having **insignificant environmental impact and no further assessment is required except chromium VI longer term emissions.**

Chromium VI emissions

The actual operational hours for the installation are based on a maximum of 3758 hours per annum (42.9 %).Hence in reality the long term process contribution is more accurately estimated at 0.429 * 0.00002675 =0.0000115 µg/m^3 i.e. 5.27 %.

In practice it is considered in reality the installation process contributions will be < 1 % of the Air Quality Standard of 0.0002 µg/m3 for chromium VI long term based on following reasoning:

- The emissions are based on total chromium emissions data not chromium VI data, hence the process contributions will be overly conservative. From a similar surface treatment process under permit EPR/BW1688IN the chromium VI emissions were less than a third of the total chromium emission levels. These results were from comparative monitoring using Mcerts monitoring standards for chromium VI versus total chromium.
- The emissions data are based on continuous operation at peak emissions where in practice emissions are at a peak when plating materials are added or remove from surface treatment vats but are at significantly lower levels when vat are in steady state plating mode without addition or removal of components.

Final conclusion

Installation atmospheric process contributions for all parameters are concluded to having insignificant environmental impacts and hence not requiring further assessment.

2. Effluent emissions

The Operator has carried out a H1 environmental assessment to effluent (final version within schedule 5 response dated 26/09/18.

The following is a summary of basis of assessment:

- Total daily limit of 86 m^3/day
- Maximum peak flow of 5 litres/seconds
- For key parameters of copper, zinc, lead, chromium and nickel all the emission limit values in our Surface Metal Treatment TGN (EPR 2.07) are complied with.
- Discharge is via Ham Sewage Treatment Works (Wessex Water) and hence relevant Sewage Treatment Reduction Factors have been utilized in line with our 17_13 "*Permitting of hazardous pollutants in discharges to surface waters"* Guidance
- Final discharge is to River Tone at NGR ST 2817124912; Q95 fresh water river flow of 0.595 m^3/second
- Effluent treatment plant maximum usage 42.9% per annum

Assessment

For river discharges our guidance 17_13 "*Permitting of hazardous pollutants in discharges to surface waters"* states that *the process contributions can be considered insignificant if***:**

- ***The process contribution is < 4% of the EQS Maximum Admissible Concentration (MAC) and***
- ***The process contribution is < 4 % of the EQS Annual Average.***

Parameter	EQS Annual Average µg/l	PC LT µg/l	PC/EQS %	>4% EQS	EQS MAC	PC ST µg/l	PC/EQS%	>4% EQS MAC
Boron	2000	0.868	0.043	No	-	-	-	-
Chromium VI (dissolved)	3.4	0.000746	0.0220	No	-	-	-	-
Chromium III	4.7	0.00336	0.71	No	32	0.167	0.521	
Copper	1	0.02089	2.089	No	-	-	-	**-**
Nickel and its compounds	4	0.119	2.969	No	34	0.786	2.311	
Zinc	10.9	0.0374	0.343	No	-	-	-	

Conclusion

Overall all the parameters screen out as insignificant and therefore no further assessment is required.

Beryllium

There is no official Environmental Quality Standard for Beryllium. In addition both the TGN EPR 2.07 for surface treatment and EPR 4.03 for Inorganic Chemicals do not specify benchmark emission limit values for the discharge from the installation itself.

The operator has optimized their new effluent treatment plant to minimize beryllium lower than those currently permitted in EPR/ZP3933UU

At present within EPR/ZP3933UU installation waste water treatment is minimal, beryllium waters from machine shops are passed through a coarse particulate filter prior to discharge to sewer. Under the new system the water is treated to a very high standard prior to discharge. Treatment processes include flocculation, DAF and particulate matter filtration.

We agree that the new effluent treatment has been designed to minimize beryllium emissions well below the levels of the current permitted facility. As such we consider operating techniques as robust BAT measures for beryllium emissions minimization.

3. Containment

Bunding

The BAT assessment within the schedule 5 response dated 15/03/18 clarified that the containment facilities for all the external bulk storage facilities meet the following requirements:

- Bunds are in place with containment volumes >110% of individual container and >25% of total stored volumes – based on information provided without assessment of space taken up by tankage/pipework within the bunds.
- Details of all tanks/raw material containers provided

A final pre-operational condition PO1 has been included in the permit to ensure full compliance with relevant bunding standard CIRIA 736 entitled "Containment systems for the prevention of pollution."

4. Fire water management

We were unclear from the initial application supplementary information whether controls were in place to manage and contain fire water from the installation.

The operator provided a summary of their operating procedures in their schedule 5 response dated 15/03/18.

In brief they provided a summary of an operating procedure for fire water management including details of fire water usage volumes, means of containing such waste fire water including usage of shut off valves to prevent discharge to surface water.

The operator has committed to update their fire water management procedure to cover:

- Full details of storage facilities and volume available to ensure adequate storage of fire water.
- Testing/assessment of fire water quality and criteria for deciding disposal route.
- Fire water disposal procedures.

Conclusion

We are satisfied that key measures will be designed into the installation facility. However to ensure the completion of a final fire water management plan and relevant operation procedures we have include pre-operational condition PO4 within the permit.

Annex 1 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	
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with our Public Participation Statement and our Working Together Agreements. For this application we consulted the following bodies: • Local Council Environmental Health Department • HSE *No consultation responses or public responses were received.*
Responses to consultation, web publicising and newspaper advertising	The web publicising and consultation and newspaper advertising responses (Annex 2) were taken into account in the decision. No such responses were received.
The site	
Extent of the site of the facility	The operator has provided plans which we consider are satisfactory, showing the extent of the site of the facility including air and sewer discharge points. The site plan is included in the permit. There is no change to the installation boundary introduced with this variation.
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 final site condition report was received as an additional information response dated 12/09/17 (Applicant Document Revision 2) The original baseline ground water and soil monitoring report is dated April 2017 and referenced (WIE 12431-100-R1-1-6-GQERA). This was received 31/08/17 as an additional information response. The report does contain soil and water sample analysis results from five boreholes around the perimeter of the new building which were tested for a wide range of substances. The site appears to be underlain by impermeable building floors or concrete/tarmac externally and there are no direct discharges to land from within the installation. Our internal review confirmed in principle we could accept this baseline report but conditional on an update if remedial work completed to clean up the land linked to the installation ,as is expected to be the case as a local council planning agreement condition. The Applicant has confirmed subsequently that remedial work will be completed (their additional information response dated 11/09/18). The specific concerns

Aspect considered	Decision
	are linked to trichloroethene (TCE) and its breakdown products cis 1, 2 dichloroethene. We have ensured we received relevant reports via inclusion of two pre-operational conditions as follows in the permit: • PO2 – Ground water and soil remedial work – report of work completed • PO3- Final site condition report baseline line monitoring report post remedial work completion.
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 have any significant effect on any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified. The nearest European Site is approximately 4.3 km from the installation boundary. We have sent a Stage 1 Habitats Regulations Assessment (previously Appendix 11) dated 24/10/18 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. The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment [or similar methodology supplied by the operator and reviewed by ourselves], all emissions may be categorised as environmentally insignificant The key issues section of this document provides H1 assessment to air and summary of reasoning why no additional surface water impacts in more detail.
Operating techniques	
General operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility. The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit. The key operating techniques include: • Process description within Applicant application supporting information • Duly Making responses including room design, ventilation designs and floor layouts.

Aspect considered	Decision
	• Tank storage volumes within schedule 5 15/03/18 response • Atmospheric Scrubber and Effluent Treatment Plant Design within schedule 5 response dated 31/08/18.
Permit conditions	
Improvement programme	Based on the information on the application, we consider that we need to impose one improvement programmes. <u>We have three imposed improvement programmes to ensure that:</u> • IP1 – Commissioning plan report including atmospheric and effluent monitoring.
Pre-operational condition	Based on the information in the application, we consider that we need to impose four pre-operational conditions as follows: • PO1 – Operational techniques final design • PO2 – Ground water and soil remedial work – report of work completed • PO3- Final site condition report baseline line monitoring report post remedial work completion. • PO4- Fire water management plan final submission.
Incorporating the application	We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process. These descriptions are specified in the Operating Techniques table in the permit.
Emission limits	We have decided that emission limits should be set for the parameters listed in the permit. The emission limits include those for the critical emission of beryllium to atmosphere and flow limits for S1 sewer discharge. The effluent S1 actual emission for all parameters are all below those set as benchmarks in our Surface Metal Treatment Guidance EPR 2.07 and all the emission screen out as leading to insignificant impact on the final receiving water course the River Tone. Hence we have no set emission limits deliberately to ensure Applicant complies with the levels set in their H1 assessment dated 26/09/18.
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. The monitoring requirements are based on experience from similar process within existing permit EPR/ZP3933UU to ensure relevant controls are in place to ensure installation operation to minimize impact of air and effluent emissions The request for information response dated 31/10/18 confirmed that the final discharge flow meter will be Mcerts certified. 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.

Aspect considered	Decision
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.
Relevant convictions	The Case Management System and National Enforcement Database has been checked to ensure that all relevant convictions have been declared. No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.
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 vary 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.