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A StandardAero Company

Non-Technical Summary for Vector Aerospace International Ltd (A StandardAEro Company)

Non-technical Summary in support of a permit application for:

- **Application for Permit to Operate under the Environmental Permitting Regulations 2016 Surface Treatment of Metals, EPR 2016, Schedule 1, Part 2, Section 2.3, Part B.**
- **Application for Permit to Operate under the Environmental Permitting Regulations 2016 Disposal, recovery or a mix of disposal and recovery of non-hazardous waste, EPR 2016, Schedule 1, Part 2, Section 5.4, Part A.**
- **Application for a Permit to Operate under the Environmental Permitting Regulations 2016 Medium Combustion Plan, EPR 2016, Schedule 25A, Part 1 & Part 2.**

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Vector Aerospace International Ltd (here after referred to as VAIL), specialises in the maintenance, repair and overhaul of jet engines and aircraft components. VAIL is applying for a permit for the installation located at its Fleetlands site on the Fareham Road, Gosport, Hampshire, UK, PO13 0AA. A map of the Feetlands site is depicted within appendix A, including an annotation of the site boundary. VAIL is a legal entity within the StandardAero group of companies and employs approximatley 500 people at it's Fleetlands Site.

The proposed permitted installation has two main functions, the primary function is to undertake metal treatment processes at the 'Clean Bay' located within building 110. The secondary function is to treat effluent routed from the 'Clean Bay' and NDT process within the 'Effluent Treatment Plant' located within building 97. VAIL additionally has 5 boilers that are deemed medium combustion plant, these boilers are directly associated activities to the primary function.

The site's primary activity in relation to its Permit application is the Surface Treatment of Metals (EPR 2016, Schedule 1, Part 2, Section 2.3 Part B. Surface Treatment of Metals)

The 'Clean Bay', located within building 110 comprises four columns of chemical treatment and rinse tanks. These tanks and associated equipment are used to clean aircraft components in accordance with military and engine component supplier specifications. The 'Clean Bay' has a number of tanks assigned for the application of a chromium conversion coating to selected parts. The remainder of the tanks either comprise diluted alkaline or acid cleaning solution, or fresh water for rinsing parts that have been cleaned. The process will typically operate 12 hours per day (6:30am to 6:30pm), Monday to Friday. An LEV system is used to adequately extract vapour and mists from the tank's surface, contaminated air is routed to one of three wet scrubbers to remove contaminants to an acceptable level. All tanks are located over secondary containment. Spent chemical within the tanks is routed through double skinned pipes to double skinned off haul storage tanks for disposal as hazardous waste. Process rinse water is routed to the effluent treatment plant for treatment where approximately 70% of the water is recycled and 30% is treated and discharged to foul sewer on the Fareham Road.

The main environmental impact associated with operating the metal treatment lines would be the potential discharge of emissions to the atmosphere. The metal treatment lines have been evaluated using DEFRA Process Guidance Note 4/01 (13) and EPR 2.07 March 2009. The potential air quality impact from the existing process lines has been assessed by carrying out an air quality impact assessment. The air quality assessment indicated that any emissions to air would not have any significant impact on air quality at the location.

The site's secondary activity in relation to its Permit application for non-hazardous effluent recovery and disposal (EPR 2016, Schedule 1, Part 2, Section 5.4, Part A. Disposal, recovery or a mix of disposal and recovery of non-hazardous waste)

The sites 'Effluent Treatment Plant' is located within building 97. The plant receives effluent rinse water from NDT and 'Clean Bay' process areas within building 110. The capacity of the Effluent treatment plant exceeds the threshold of 50m3 per day and thus a Part A permit is required.

The below diagram depicts the current state water treatment processes within the Effluent Treatment Plant, building 97. Trade effluent is routed from process area sumps via double skinned pipework into receiving tanks for primary treatment to reduce chromates and/ or precipitate metal from the effluent. Clean water is recirculated back to the treatment processes. Precipitated effluent is routed to the settlement tank where cationic and anionic pollys are added to aid in the settlement of sludge. The

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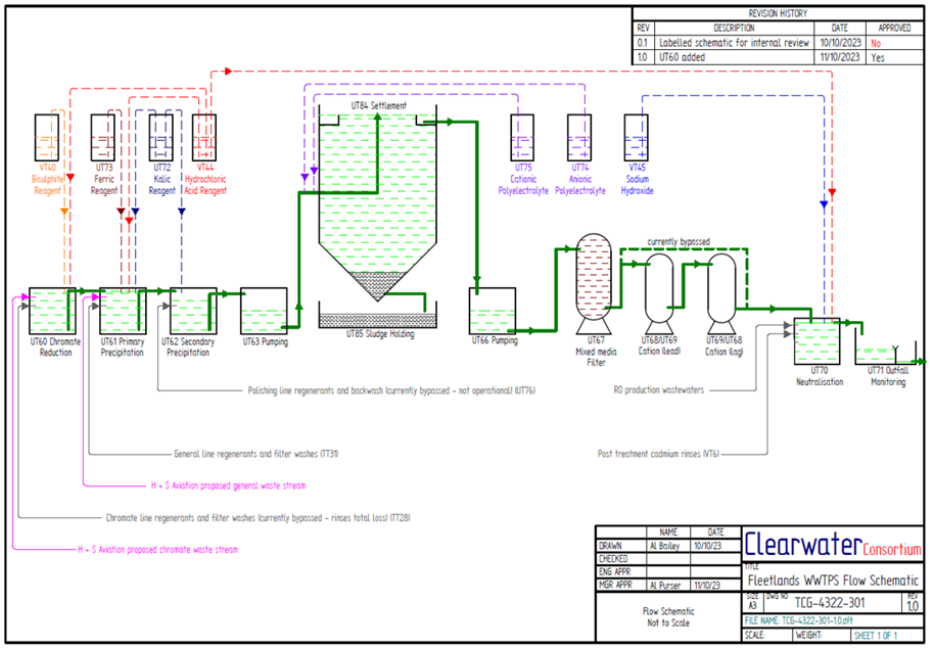
output water from the settlement tank is routed to a mixed media filter then to a tank for PH naturalisation before discharge to outfall. Sludge is pressed to form a waste filter cake.

Coagulants & flocculants are used to aid dewatering and settlement of sludge. The sludge is pumped into the plate and frame filter press, and filtered against a fine weave cloth. The pressure in the system may rise to 10-15bar at which point the pump will stop and the press opened to drop the cake. The press is de-pressurised to enable separation of the filter cloths and to scrape off the cake waste into the bins below. Coagulants i.e. polyamines are also used to create the sludge.

Coagulants & flocculants are used to create the sludge and clarify the remaining water in the settlement chamber. Settled water post proceeding weirs over the top and settled solids are pumped from the bottom of the chamber.

Filtration is used to aid in the removal of remaining solids. Backwashing is used to remove accumulated particles and debris from the filter media. Back washing helps to stop the filter media becoming clogged. The pressure drop and water clarity is monitored across the filter media and back washing cycles are completed as required. Anionic flocculants are used where effluents contain minerals or metals. The metals are dropped out by adjusting the pH of the effluent to the pH required for optimum precipitation (lowest solubility) of the specific metal.

Chemical tank numbers (A13, A14 and rinse waters) are used to treat parts that may contain cadmium. Treated parts may contaminate the chemical tank and subsequent rinse tanks with traces of cadmium. Effluent rinse water from these rinse tanks is routed to the off-haul tanks adjacent to the Effluent treatment Plant Building 97.



The main environmental impact associated with operating the effluent treatment plant, located within building 97, would be the potential discharge of effluent to foul sewer and loss of containment from the plant or associated processes to soil. The effluent treatment plant has been evaluated using DEFRA Process Guidance Note 4/01 (13) and EPR 2.07 March 2009. The potential impacts of discharge to sewer from the existing process has been assessed by carrying out an H1 screening assessment. The H1

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screening assessment indicated that any effluent discharge to sewer would not exceed any limit value imposed by the water system undertaker.

The site's directly associated activity in relation to its Permit application (medium combustion plant)
(Medium Combustion Plant, EPR 2016, Schedule 25A, Part 1 & Part 2)

The site operates five gas fired boilers that are within the scope of permitting requirements. The main function of these boiler is to provide conform heating to VAIL buildings and to provide process heating to various chemical and rinse water tanks within the 'Clean Bay', building 110.

The main environmental impact associated with operating the medium combustion plant would be the potential discharge of emissions to the atmosphere. The medium combustion plant has been evaluated using appropriate BAT and the potential air quality impact from the existing medium combustion plant has been assessed by carrying out an air quality impact assessment. The air quality assessment indicated that any emissions to air would not have any significant impact on air quality at the location.

General Monitoring
As part of the permit application, the Operator has undertaken an assessment of ground condition, no significant legacy pollution associated with former land uses were identified. Ongoing soil and groundwater testing will be undertaken periodically to verify the effectiveness of containment controls. All data collected over the life of the activity will be used at the time of permit surrender, in order to demonstrate that the operation of the installation has not resulted in any risk of significant harm to the environment. It is envisaged that the Environment Agency will undertake at least an annual inspection to confirm compliance with permit conditions, to review emissions testing reports and other annual reports to confirm that the installation is operating to Best Available Techniques.

Environmental Management System (EMS)
For day-to-day compliance with permitted activities, the Operator has established a documented Environmental Management System (EMS). Key elements of this EMS include:
(i) Operation and training procedures;
(ii) Maintenance plan and schedule;
(iii) Emergency response plan;
(iv) Procedures for dealing with leaks and spills and training.
(v) Annual emissions testing.
(vii) Periodic testing of effluent.
(vi) Annual statutory reporting.

Note: This non-technical summary is intended as an overview of the permit application. If you require more detailed information, please refer to the technical application and the Best Available Techniques (BAT) assessment documents.

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Appendix A