

CASE HISTORY

SEMICONDUCTOR
SOLAR
PHARMA
POWER GENERATION
FOOD & BEVERAGE
PULP AND PAPER
CHEMICAL
OIL AND GAS
MINING
AEROSPACE AND TRANSPORT
METAL FINISHING
MUNICIPAL



Toveko Filters

Vector Aerospace, Almondbank, Perth



Vector Aerospace, at Almondbank, near Perth in Scotland, is a maintenance and repair facility for helicopters. It was previously DARA. Integral to the facility is a metal finishing department that has to handle a wide range of types and sizes of components. A wide variety of different electro-plated and paint finishes are applied.

The facility is served by an effluent treatment plant that discharges into a local stream and, consequently the Discharge Consent issued by SEPA is relatively stringent.

In order to ensure that the treated effluent discharged into the stream is of the best achievable quality, a TOVEKO filter has been installed prior to discharge.



Model S-150 filter at DARA

In any metal finishing department, any suspended solids in the discharged effluent are inevitably metal hydroxides. The filter ensures that all solids are removed, and this is reflected in the high quality of the treated effluent.

The following table details the discharge limits that the plant has to meet and some typical results of the discharge analysed by an independent laboratory, AL Control Laboratories.

Determinand	Discharge Consent	Sample Number		
		99639125	99642783	99645909
pH	5.5 – 9.5	7.6	8.4	8.6
Suspended solids	30	2	<2	3
Ammoniacal nitrogen	5	0.185	<0.1	<0.1
Free cyanide	0.05	<0.05	<0.1	<0.1
Cadmium	0.05	<0.005	0.025	<0.005
Chromium	0.5	<0.1	<0.1	<0.1
Copper	1	<0.1	<0.1	<0.1
Nickel	0.5	<0.1	<0.1	<0.1
Zinc	1	<0.1	<0.1	<0.1

All results are in mg/l.

The TOVEKO filter has ensured that DARA conform to the terms of their Consent comfortably at all times.

H+E provides ongoing process and engineering support to Vector on an ongoing basis and the entire treatment plant has been continually discharging excellent quality effluent since it was originally installed in 1997.

H+E ranks among the world's leading suppliers in the fields of: water & wastewater treatment, and energy efficiency. Based on its global presence, the **H+E GROUP** has completed projects in over 50 countries.



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