



Airbus UK Ltd
Environment Team
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CH4 0DR

31st January 2020

Our reference: **NRW/EPR/01/2020**

Matthew Kelk
Regulatory Officer
Natural Resources Wales
Chester Road
Buckley
CH7 3AJ

Re: Annual Performance Report

Dear Matthew,

In line with the requirements of section 4.2 of our Permit, please find below our annual performance report covering the following.

- **Air emissions (NOx)**
- **Emissions to water**
- **Emissions to Sewer**
- **Noise**
- **2019 Performance review**
- **2020 Environmental targets**
- **REACH Compliance (including Chromium reduction)**
- **Solvent management plan**

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Air Emissions (NOx)

An air emission monitoring survey for oxides of nitrogen (as NOx), as required by Table S3.1, was undertaken between 3rd and 6th December 2019.

During the monitoring period several combustion plant were not operational due to lack of demand and were therefore not sampled. These emission points were as follows

- CHP-A2 Stringer Boiler 2
- CHP-A4 West Factory Boiler 1
- CHP-A5 West Factory Boiler 2
- CHP-A6 West Factory Boiler 3
- CHP-A13 Stringer CHP 2
- CHP-A15 CHP D
- CHP-A17 Boiler 2 D
- CHP-A18 CHP E
- CHP-A21 Boiler 3 E

Results of the NOx monitoring are summarised in form Air 1 which has been submitted separately.

A single emission point, CHP-A3 Skin & Creep Boiler, exceeded the permit limit for a 15 minute average reading (202.11 mg/m³ measured vs 200 mg/m³ limit). An incident report has been submitted for this permit breach.

Emissions to Water

Sampling of emissions to water (Table S3.2) was undertaken up until week 15 2019. At this point, sampling ceased with the agreement of NRW.

During the sampling period there was no breach of the permitted limit.

Emissions to Sewer

Routine sampling of emissions to sewer ceased during 2018 with the agreement of NRW.

Noise

A noise monitoring survey, as required by Table S3.4, was undertaken during 2018 and communicated to NRW. No noise issues related to Airbus operations were identified.

The next noise survey will be undertaken in 2021 in line with the three yearly requirement of the Permit.

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2019 Performance review

Airbus Broughton measured its environmental indicators both as normalised data and as absolute data. For 2019, data was normalised against tonnes of 'built' product (rather than 'delivered' used for 2018).

During 2019, Airbus Broughton built 8267.56 tonnes of finished product, compared with 8736.02 tonnes in 2018. This is a mass reduction of 5.4%. The number of wing sets built (all variants) dropped from 776.69 in 2018 to 769.43 in 2019 (0.9% reduction).

The overall reduction is due to the cessation of A380 production and rate reduction in A330. A320 family and A350 production did increase during 2019.

Airbus has declared the following corporate 2030 environmental targets, based on a 2015 baseline:

- Total waste produced to be reduced by 25% (equivalent to 1.90% per year)
- Non-recycled waste to be reduced by 100% (equivalent to 36.9% per year)
- Reduce CO2 emissions by 60% (equivalent to 5.93% per year)
- No change in absolute VOC emissions (equivalent to a 60% 'performance increase' by 2030 (5.93% per year))
- Reduce water consumption by 50% (equivalent to 4.52% per year)

Actual environmental performance on the Airbus Broughton site during 2019 was measured as follows.

Reduce total waste produced by 1.90% annually

- During 2019 Airbus Broughton increased total waste produced (excluding swarf and inerts) by 24.6% in absolute terms (an increase of 31.68% when normalised), based on 2018 data. This equates to 1605.72 tonnes of waste.

Explanation – The increase in total waste is due to an increase of 1110 tonnes of treatment plant related waste (compared to 2018) and approximately 840 tonnes of tankered waste in May relating to the reported machine coolant spill incident. This adds up to approximately 1950 tonnes of additional waste but the overall increase was only 1606 tonnes so waste reduction was achieved the main manufacturing areas.

Reduce non-recycled waste by 36.9% annually

- During 2019 Airbus Broughton increased non-recycled waste by 53.87%, in absolute terms, (an increase of 62.84% when normalised) based on 2018 data. This equates to 1918.52 tonnes of waste.

Explanation – The increase in non-recycled waste is due to an increase of 1110 tonnes of treatment plant related waste (compared to 2018) and approximately 840 tonnes of tankered waste in May relating to the reported machine coolant spill incident.

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Reduce the total energy consumption [as Tonnes CO₂] on site by 5.93% annually

- During 2019, total energy consumption [as tonnes CO₂] on the Airbus Broughton site reduced by 7.08% in absolute terms (a reduction of 1.81% when normalised), based on 2018 data. This equates to 3721.06 tonnes CO₂.

Explanation – Climatic conditions and the reduction in build may have been factors in the reduction in energy consumption (as CO₂), as well as the continuing benefit of recent improvements such as LED lighting. Reductions were seen in both electricity and gas consumption.

Reduce VOC emissions from Broughton site by 5.93% annually

- During 2019, total VOC emission on the Airbus Broughton site reduced by 1.89% in absolute terms, (an increase of 3.67% when normalised), compared to 2018 data. This equates to 3 tonnes of VOC.

Explanation – The reduction of absolute VOC emission is in part due to the reduction in build. In addition, a new provider of gun-wash and parts cleaning machines was introduced in November. The new provider introduced a new low VOC cleaning solution in all of their machines. The full benefit of this change will be seen in 2020.

Reduce water consumption on Broughton site by 4.52% annually

- During 2019 total water consumption on the Airbus Broughton site increased by 105.36% in absolute terms (an increase of 111.05% when normalised), compared to 2018 data. This equates to 155110 m³ of water.

Explanation – In 2019 the increase in total water consumption was due to a number of leaks in the Broughton site fire sprinkler ring main. The leaks were addressed in December 2019.

2020 Environmental Targets

During 2020, as in previous years, each business unit will contribute to the site Environmental Management Programme (EMP) with specific projects to reduce the environmental impact of Airbus Broughton activities. These programmes are a requirement of every Airbus site as part of the Airbus Global Certification to ISO14001.

The specific Airbus corporate environmental targets detailed above will apply each year up until 2030.

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REACH Compliance (including Chromium reduction)

The following report is provided by the Engineering Function

Chromate loaded structural primers are used on metallic substrates only as part of the corrosion protection scheme that includes anodising. Chromate free alternatives are used for composite structures as such corrosion resistance is unnecessary on these parts. For paint layers above structural primer – which do not contribute to corrosion resistance – chromate free alternatives are available and widely used.

Chromate free primer

As reported in the 2019 report Airbus's approach to Chromate free structural primer has been co-ordinated trans-nationally for the whole of Airbus by the Engineering function who are responsible to ensure that the technical capabilities of the paint are achieved.

Together with Manufacturing Engineering and Procurement we have partnered with the main aerospace paint suppliers to develop a Chromate free corrosion suppressing structural primer to use in conjunction with our chromate free anodising processes.

Following an extensive project and multimillion pound investment carried out during 2018 the authorisation conditions were met by the sunset date of 22 January 2019.

To develop a chromate free primer The BPax (Basic Primer Acceleration) project was launched by Airbus in March 2018 with the aim of delivering a qualified basic primer in time for implementation prior to the authorisation expiry in 2026 date.

Since last year this project has advanced to the point that 3 basic primer systems and one rework scheme have advanced to Industrial test status, that will conclude in spring 2020. An initial qualification of the paint is anticipated by late summer 2020. This will enable a fleet of test aircraft to enter long term (3 year plus) in service testing ahead of potential manufacturing adoption of the paint systems. These 'lead aircraft' are expected in service during 2022 to demonstrate that corrosion protection levels can be achieved in service.

This innovation does have an environmental impact. It has not been possible to develop the required chemistry with a water based carrier system, a return to solvent based technology has therefore become inevitable. At current rates this will increase VOC emissions by 5-6 tonnes per annum. Continued effort over the next 5 – 6 years are therefore required in reducing VOC emissions from other sources within the Broughton factory to mitigate this increase (see below)

Alodine replacement

As reported previously supply chain attempts to develop a suitable alternative to this product have failed and an authorization document has been accepted by ECHA in 2017. The authorisation conditions imposed by ECHA were implemented in time for the sunset date for chromates 21/09/2017. In late 2019 a project very much along the lines of the BPax project has launched lead by the Airbus Engineering function to develop a chromate free alternative to Alodine. At this stage planning is underway



and initial market analysis to see what products nearing the required specification could be available to develop. No timescales have yet been defined.

Borate Free Degreasers

Qualification of Degreasers for use in Broughton's process lines was completed in late 2019. Subject to the necessary environmental approval processes, implementation of these degreasers into SMC and LCM plants are planned for summer shutdown and Christmas 2020 respectively.

Soivent Management Plan

IED calculations

Industrial Emissions Directive (IED) reduction scheme target calculation using 2019 data

Airbus Broughton - 2019 Coating activities*

Solids	287.70	Tonnes		
Factor (PG6-40)	0.58			
Target VOC value	166.87	Tonnes		
Coating VOC (gross)	105.46	Tonnes	Equates to	63.20% of target
VOC Waste	5.96	Tonnes		
Coating VOC (net)	99.50	Tonnes	Equates to	59.63% of target

* Coating activities = Paint application, Sealant application, Cleaning of Equipment (as agreed with NRW)

The calculation shows that in 2019 VOC emissions from coating activities on the Broughton site, even before deduction of the waste figure, were significantly below the IED target value.

As required by the IED, the target VOC calculation utilises site total data representing coating activity across the whole installation. A breakdown of coating activity data and surface cleaning activity data, by paint shop, can be provided to NRW if requested.

VOC reduction projects

For 2020 two VOC reduction projects are planned

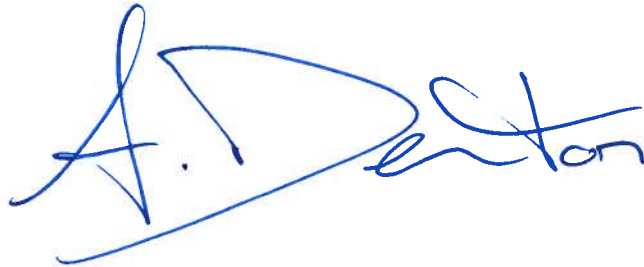
1. Replacement of VOC containing Line flush for LCM paint shop, annual saving 3.4 tonnes
2. Replacement of 50% of solvent based touch up paint in East factory with water based touch up paint. Annual benefit 2 tonnes VOC

These projects will implement during 2020 so the expected benefits will only accrue in full from 2021.

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Should you have any further questions please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'A. Denton', with a large, stylized 'A' and 'D'.

Andy Denton

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