

Report for Periodic Monitoring of Emissions to Atmosphere

Part 1: **Executive Summary**
Permit Number: **PPC/156**
Operator: **Meggitt**
Installation: **Dunlop Aerospace Braking Systems**
Emission Point: **Main Stack**
Monitoring Date(s): **2nd August 2007**



Contract Reference: **FTA 6467**

Operator: **Meggitt**

Address: **Dunlop Aerospace Braking Systems
Holbrook lane
Coventry
CV6 4AA**

Monitoring Organisation: **RPS Health, Safety & Environment**

Address: **Steadings Barn, Pury Hill Business Park, Alderton Road,
Towcester, Northamptonshire, NN12 7LS**

Report Date: **8th October 2007**

Report Approved By: **Matthew Sumner**

Position: **Consultant**

MCERTS Registration No.: **MM 05 622**

Signature:

RPS Health, Safety and Environment has produced this report within the term of the contract with the client and taking account of the resources devoted to it by agreement with the client.

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Part 1: Executive Summary

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Monitoring Objectives

At the request of Mr D Warrington of Dunlop Aerospace Braking Systems, RPS Health, Safety and Environment conducted air emission monitoring at the Coventry site in August 2007.

The monitoring programme at this installation was carried out to provide data on emissions to atmosphere for comparison with the limits specified in the air emission criteria for this site.

The parameters requested for monitoring at each emission point and the actual monitoring conducted are detailed below.

Table 1

| Parameters Requested to be Monitored | Emission Point |
|--|-----------------------------|
| | Main Stack |
| Oxides of nitrogen (as NO ₂) | ✓ |
| Fluoride (as HF) | ✓ |
| Specific Requirements | Normal Operating Conditions |

Notes:

✓ Represents the actual parameters monitored

Monitoring Results

Table 2 – Monitoring Results from the Main Stack at Dunlop Aerospace Braking Systems, Coventry in August 2007

| Substance Monitored | Emission Limit Value | Periodic Monitoring Result | Units | Uncertainty (mg/m ³) # | Reference Conditions 273K, 101.3kPa.... | Sampling Date | Sampling Times | Monitoring Reference Method | Accreditation Status | Operating Status |
|--|----------------------|----------------------------|-------------------|------------------------------------|---|---------------|----------------|-----------------------------|----------------------|------------------|
| Oxides of Nitrogen (as NO ₂) | 10 | 6.0 | mg/m ³ | ± 0.8 | wet gas, without correction for oxygen | 2-Aug-07 | 10:40 – 11:40 | US EPA Method 7d | - | Normal |
| Fluoride (as HF) | 400 γ | <0.36 | mg/m ³ | ± 0.05 | wet gas, without correction for oxygen | 2-Aug-07 | 12:00 – 13:00 | USEPA Method 26a | MCERTS | Normal |

Notes:

- # The uncertainty associated with the quoted result is at the 95% confidence interval
- γ 400 mgm³ as a 1-hour mean emission concentration.

Operating Information

Table 3 – Operating Information During Monitoring of the Main Stack at Dunlop Aerospace Braking Systems, Coventry in August 2007

| Parameter | Result |
|--|---------------------------------|
| Sample Date | 02-Aug-07 |
| Process Type | Continuous |
| Process Duration | N/A |
| If 'Batch', was monitoring carried out over the whole batch? | N/A |
| If 'No', give details | N/A |
| Abatement/Operational? | Sodium Hydroxide Scrubber / Yes |
| Fuel Type | N/A |
| Feedstock | N/A |
| Load | N/A |
| Throughput | N/A |
| Continuous Rating | N/A |

Monitoring Deviations

Table 4 – Monitoring Deviations During Monitoring of the Dunlop Aerospace Braking Systems, Coventry in August 2007

| Substance Deviations | Monitoring Deviations | Other Relevant Issues |
|----------------------------|---|--|
| Gas Flows and Temperatures | Flows and temperatures were only taken from one of the 4-inch BSP sample ports. The other sample port is inaccessible as it is positioned some 3m above the platform. | It is recommended to build a suitable platform to allow safe access to the sample port that is currently inaccessible. |

Report for Periodic Monitoring of Emissions to Atmosphere

Part 2: **Supporting Information**
Permit Number: **PPC/156**
Operator: **Meggitt**
Installation: **Dunlop Aerospace Braking Systems**
Emission Point: **Main Stack**
Monitoring Date(s): **2nd August 2007**



1709



1709

Contract Reference: **FTA 6467**
Operator: **Meggitt**
Address: **Dunlop Aerospace Braking Systems
Holbrook lane
Coventry
CV6 4AA**
Monitoring Organisation: **RPS Health, Safety & Environment**
Address: **Steadings Barn, Pury Hill Business Park, Alderton Road,
Towcester, Northamptonshire, NN12 7LS**
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APPENDIX 1: General Information

Monitoring Organisation Staff Details

Table 5

| Site Team | Position | MCERTS Level | Technical Endorsements | MCERTS Registration Number |
|----------------|-------------------|--------------|------------------------|----------------------------|
| Richard Harvey | Senior Consultant | 2 | 1, 2, 3 & 4 | MM 02 020 |
| Bradley Atkins | Technician | 1 | - | MM 05 780 |

| Report Author | Position | MCERTS Level | Technical Endorsements | MCERTS Registration Number |
|---------------|--------------------|--------------|------------------------|----------------------------|
| Brett Durden | Technical Director | 2 | 1, 2, 3 & 4 | MM 03 167 |

| Report Reviewer | Position | MCERTS Level | Technical Endorsements | MCERTS Registration Number |
|-----------------|------------|--------------|------------------------|----------------------------|
| Matthew Sumner | Consultant | 2 | 1, 2, 3 & 4 | MM 05 622 |

Monitoring Organisation Method Details

Table 6

| Emission Parameter | Standard Method | Monitoring Procedure No. | Monitoring Accreditation Status | Analysis Technique | Analysis Procedure No. | Analytical Laboratory | Analysis Accreditation Status |
|--|---------------------------|--------------------------|---------------------------------|--------------------|------------------------|------------------------------|-------------------------------|
| Practical Considerations Prior to Monitoring | N/A | RPSCE/1/1 | MCERTS | N/A | N/A | N/A | N/A |
| Gas Flows | BS-EN 13284-1:2001 | RPSCE/1/2 | MCERTS | N/A | N/A | N/A | N/A |
| Gas Temperatures | BS-EN 13284-1:2001 | RPSCE/1/2 | MCERTS | N/A | N/A | N/A | N/A |
| Hydrogen Fluoride | USEPA Method 26a | RPSCE/1/8a | MCERTS | IC | C27 | RPS Laboratories, Manchester | UKAS |
| Oxides of Nitrogen (as NO ₂) | Based on US EPA Method 7d | RPSCE/1/8 | - | IC | C27 | RPS Laboratories, Manchester | UKAS |

APPENDIX 2: Emission Point- Main Stack

Stack Gas Measurements

Table 7 - Temperature and Velocity Profile

Results of Gas Flows and Gas Temperatures Measured from the Main Stack at Dunlop Aerospace Braking Systems, Coventry on the 2nd August 2007

| Traverse Point (m) | Sample Line A | | | | Sample Line B | | | |
|--------------------|---------------|---------|------------|-----------|--|---------|------------|-----------|
| | T (°C) | ΔP (Pa) | Neg. Flow? | Spin <15° | T (°C) | ΔP (Pa) | Neg. Flow? | Spin <15° |
| 0.094 | 23 | 75 | No | <15 | | | | |
| 0.35 | 23 | 50 | No | <15 | Flows and temperatures were only taken from one of the 4-inch BSP sample ports. The other sample port is inaccessible as it is positioned some 3m above the platform | | | |
| 1.05 | 23 | 17 | No | <15 | | | | |
| 1.306 | 23 | 15 | No | <15 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| | |
|---------------------------------------|-------|
| Barometric pressure (kPa) | 100.2 |
| Static Pressure (mm H ₂ O) | -25 |
| Stack Dimension Ø (m) | 1.4 |

Table 8 - Gas Measurements (continued)

Results of Total Particulate Matter and General Emission Parameters Measured from the Main Stack at Dunlop Aerospace Braking Systems, Coventry on the 2nd August 2007

| Emission Parameter | Units | Mean Result |
|---|----------------------|-----------------------------|
| Sample Date | - | 2 nd August 2007 |
| Barometric Pressure | kPa | 100.2 |
| Internal Area Of Duct | m ² | 1.54 |
| Stack Moisture Content | % | 1.1 |
| Stack Temperature | °C | 23 |
| Gas Velocity (as measured at sampling plane) | m/sec | 7.7 |
| Volumetric Flowrate (as measured) | m ³ /sec | 12 |
| Volumetric Flowrate (at reference conditions) | m ³ /sec* | 11 |

Notes:

* Reference conditions expressed as 273 K, 101.3 kPa, without correction for moisture content

Table 9 - Gas Measurements (continued)

Result of Oxides of Nitrogen (as NO₂) Concentration Measured from the Main Stack at Dunlop Aerospace Braking Systems, Coventry on the 2nd August 2007

| Emission Parameter | Units | Result |
|--|-------------------|--------------|
| Sample Date | - | 2-Aug-07 |
| Sample Period | - | 10:40 -11:40 |
| Mean Concentration of Oxides of Nitrogen (as NO ₂) | mg/m ³ | 6.0 |

Notes:

* Reference conditions expressed as 273 K, 101.3 kPa, without correction for moisture content.

Table 10 - Gas Measurements (continued)

Result of Fluoride (as HF) Concentration Measured from the Main Stack at Dunlop Aerospace Braking Systems, Coventry on the 2nd August 2007

| Emission Parameter | Units | Result |
|--|-------------------|---------------|
| Sample Date | - | 2-Aug-07 |
| Sample Period | - | 12:00 - 13:00 |
| Mean Concentration of Fluoride (as HF) | mg/m ³ | < 0.36 |

Notes:

* Reference conditions expressed as 273 K, 101.3 kPa, without correction for moisture content.

Reportable Blank Results

Table 11 - Results of the Reportable Blank Concentrations for Fluoride (as HF) and Oxides of Nitrogen (as NO₂) Main Stack at Dunlop Aerospace Braking Systems, Coventry on the 2nd August 2007

| Emission Parameter | Sample Date | Units | Concentration |
|--|-------------|-------------------|---------------|
| Fluoride (as HF) | 2-Aug-07 | mg/m ³ | <0.31 |
| Oxides of Nitrogen (As NO ₂) | 2-Aug-07 | mg/m ³ | 2.2 |

Notes:
Reference conditions expressed as 273 K, 101.3 kPa, without correction for moisture content.

Certificate(s) of Analyses

RPS Laboratories



Date 10/08/2007

Test Certificate

| | | | |
|--------|--|-----------------|-----------|
| Client | RPS Toxcoast Standings Barn Pury Hill Business Park Nr Alderton Toxcoast NN12 7LS | Order No. | FTA6467 |
| | | Certificate No. | WK07-4724 |
| | | Issue No. | 1 |

| | | | |
|-------------|--------------------|---------------|--------------------|
| Contact | Richard Harvey | Date Received | 08/08/2007 |
| Description | 2 solutions for MF | Technique | Ion Chromatography |

| Sample No. | 402861 | T100767 | Method |
|-------------------|------------|---------|--------|
| Hydrofluoric acid | <0.5 µg/ml | 60 ml | C27(U) |
| Sample No. | 402862 | T100768 | Method |
| Hydrofluoric acid | <0.5 µg/ml | 51 ml | C27(U) |

Tested By Paul Robertson Date 10/08/2007

Approved By [Redacted] Date 10/08/2007

Journe Desautel
Laboratory Manager

For and on authority of RPS Laboratories Ltd.
Standard terms and conditions are applicable, a copy is available on request.

- Method Symbols
- (U) Analysis is UKAS Accredited
 - (N) Analysis is not UKAS Accredited
 - (S) Analysis is Subcontracted

Concentration values (mg/l and ppm) are provided to assist with interpretation only, they are not covered by the scope of UKAS accreditation.

Analysis carried out on samples as received.
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Date 08/10/2007

Test Certificate

| | | | |
|--------------------|--|-----------------|--------------------|
| Client | RPS Towcester Steedings Barn Pury Hill Business Park Nr Alderton Towcester NN12 7LS | Order No. | FTA0467 |
| | | Certificate No. | W107-4723 |
| | | Issue No. | 2 |
| Contact | Richard Harvey | Date Received | 08/08/2007 |
| Description | 2 solutions for oxides of nitrogen | Technique | Ion Chromatography |
| Sample No. | 462978 | T108766 | Method |
| Oxides of Nitrogen | 4.8 µg/ml | 114 ml | C27(U) |
| Sample No. | 462980 | T108764 | Method |
| Oxides of Nitrogen | 3.2 µg/ml | 63 ml | C27(U) |

This is an amended certificate that replaces the one issued on 16/08/07. Results amended.

Tested By Paul Robertson Date 16/08/2007
Approved By [Redacted] Date 08/10/2007
Joanna Dawhurst
Laboratory Manager

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