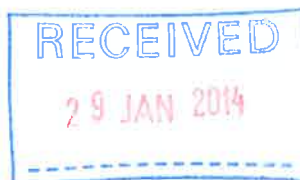


Toyota Motor Manufacturing (UK) Ltd

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United Kingdom
Tel 01332 282121
www.toyotauk.com

TOYOTA



Lara Cubley
Regulatory Officer
Natural Resources Wales
Chester Road
Buckley
Flintshire, CH7 3AJ

Ref: PPC Permit BK6483IU

Date: 17/01/2014

Dear Lara,

Please find enclosed the returns for emissions monitoring and performance during 2013.

If you have any queries, please do not hesitate to contact me.

Yours sincerely,

Keith Martin
Senior Engineer
Facilities and Environment

Enc: Reporting forms Air1a – f, Water1, Sewer1, Waterusage1, Energyusage1, Performance1

MONITORING RETURNS N. WALES	
	INITIALS DATE
CHECKED W/ AUTHORISATION	LC 8.7.14
TRACKING	JB 3.2.14
OK FOR PUBLIC REGISTER	LC 8.7.14
TYPED TO COMPANY'S RECORDS	JB EDCM

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Permit Number: EPR/BK6483IU/V003

Operator: Toyota Manufacturing UK Ltd

Facility: Deeside Engine Casting

Form Number: Air1a / 280709

Reporting of emissions to air for the year ...2013

Emission Point	Substance / Parameter	Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times	Uncertainty ^[3]
		Limit Value						
ST1	Particulate	5 mg/m ³		1 hour	<0.31 mg/m ³ ($<$ limit of detection)	BS EN13284-1	09/10/2013, 1011 – 1111 hrs	0.16 mg/m ³
ST1	VOCs (expressed as Total Organic Carbon)	50 mg/m ³		1 hour	0.44 mg/m ³	BS EN 13526	09/10/2013, 1417 – 1517 hrs	0.013 mg/m ³
ST1	Formaldehyde	1 mg/m ³		1 hour	<0.038 mg/m ³ ($<$ limit of detection)	BS EN 13649	09/10/2013, 1211 – 1311 hrs	0.02 mg/m ³
ST1	Phenol	0.25 mg/m ³		4 hour (required for low limit of detection)	<0.15 mg/m ³ ($<$ limit of detection)	BS EN 13649	09/10/2013, 0900 – 1300 hrs	0.03 mg/m ³
ST1	Ammonia	N/A		1 hour	<0.06mg/m ³ ($<$ limit of detection)	BS EN 14791	09/10/2013, 1404 – 1504 hrs	0.0053 mg/m ³

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed

(Authorised to sign as representative of Operator)

Date 17/01/14

Permit Number: EPR/BK6483IU/V003 Operator: Toyota Manufacturing UK Ltd
 Facility: Deeside Engine Casting Form Number: Air1b / 280709

Reporting of emissions to air for the year ...2013

Emission Point	Substance / Parameter	Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times	Uncertainty ^[3]
		Limit Value						
ST2	Particulate	5 mg/m ³		1 hour	0.44 mg/m ³	BS EN 13284-1	12/09/2013, 0931 – 1031 hrs	0.20 mg/m ³
ST2	Oxides of Nitrogen (as NO ₂)	100 mg/m ³		1 hour	18 mg/m ³	BS EN 14792	12/09/2013, 1220 – 1320 hrs	0.98 mg/m ³
ST2	CO	150 mg/m ³		1 hour	28 mg/m ³	BS EN 15058	12/09/2013, 1220 – 1320 hrs	1.5 mg/m ³
ST2	HCl	10 mg/m ³		1 hour	0.82 mg/m ³	BS EN 1911	12/09/2013, 0931 – 1031 hrs	0.063 mg/m ³
ST2	Fluorides	1 mg/m ³		1 hour	0.066 mg/m ³	BS ISO 15713	12/09/2013, 1045 – 1145 hrs	0.0089 mg/m ³

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed  Date 17/01/14
 (Authorised to sign as representative of Operator)

Permit Number: EPR/BK6483IU/V003

Operator: Toyota Manufacturing UK Ltd

Facility: Deeside Engine Casting

Form Number: Air1d / 280709

Reporting of emissions to air for the year ...2013

Emission Point	Substance / Parameter	Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times	Uncertainty ^[3]
		Limit Value						
ST9	Particulate	5 mg/m ³		1 hour	2.3 mg/m ³	BS EN 13284-1	10/09/2013, 1506 – 1609 hrs	0.31 mg/m ³
ST9	Formaldehyde	7 mg/m ³		1 hour	<0.069 mg/m ³ ($\leq$ limit of detection)	BS EN 13649	10/09/2013, 1237 – 1337 hrs	0.0053 mg/m ³
ST9	Ammonia	10 mg/m ³		1 hour	<0.36 mg/m ³ ($\leq$ limit of detection)	BS EN 14791	10/09/2013, 1351 – 1451 hrs	0.031 mg/m ³
ST9	CO	150 mg/m ³		1 hour	39 mg/m ³	BS EN 15058	10/09/2013, 1216 – 1316 hrs	2.5 mg/m ³
ST9	Oxides of Nitrogen (as NO ₂)	150 mg/m ³		1 hour	14 mg/m ³	BS EN 14792	10/09/2013, 1216 – 1316 hrs	0.56 mg/m ³

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed

Date: 17/01/14

Permit Number: EPR/BK6483IU/V003 Operator: Toyota Manufacturing UK Ltd
 Facility: Deeside Engine Casting Form Number: Air1c / 280709

Reporting of emissions to air for the year ...2013

Emission Point	Substance / Parameter	Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times	Uncertainty ^[3]
		Limit Value						
ST4	Particulate	5 mg/m ³	1 hour		1.8 mg/m ³	BS EN 13284-1	11/09/2013, 1320 – 1420 hrs	0.33 mg/m ³
ST4	Oxides of Nitrogen (as NO ₂)	100 mg/m ³	1 hour		19 mg/m ³	BS EN 14792	11/09/2013, 1255 – 1410 hrs	0.76 mg/m ³
ST4	CO	150 mg/m ³	1 hour		28 mg/m ³	BS EN 15058	11/09/2013, 1255 – 1410 hrs	0.94 mg/m ³

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
 (Authorised to sign as representative of Operator)

Date 17/09/14

Permit Number: EPR/BK6483IU/V003

Operator: Toyota Manufacturing UK Ltd

Facility: Deeside Engine Casting

Form Number: Air1e / 280709

Reporting of emissions to air for the year ...2013

Emission Point	Substance / Parameter	Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times	Uncertainty ^[3]
		Limit Value						
ST11	Particulate	5 mg/m ³		1 hour	1.5 mg/m ³	BS EN 13284-1	11/09/2013, 1150 – 1250 hrs	0.51 mg/m ³
ST11	Formaldehyde	7 mg/m ³		1 hour	1.9 mg/m ³	BS EN 13649	10/09/2013, 1109 – 1209 hrs	0.14 mg/m ³
ST11	Ammonia	10 mg/m ³		1 hour	0.44 mg/m ³	BS EN 14791	10/09/2013, 0900 – 1000 hrs	0.043 mg/m ³
ST11	CO	150 mg/m ³		1 hour	40 mg/m ³	BS EN 15058	10/09/2013, 0955 – 1055 hrs	2.6 mg/m ³
ST11	Oxides of Nitrogen (as NO ₂)	150 mg/m ³		1 hour	56 mg/m ³	BS EN 14792	10/09/2013, 0955 – 1055 hrs	1.9 mg/m ³

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed  (Authorised to sign as representative of Operator)

Date 17/01/14

(Authorised to sign as representative of Operator)

Permit Number: EPR/BK6483IU/V003

Operator: Toyota Manufacturing UK Ltd

Facility: Deeside Engine Casting

Form Number: Air1f / 280709

Reporting of emissions to air for the year ...2013

Emission Point	Substance / Parameter	Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times	Uncertainty ^[3]
		Limit Value						
ST10	Particulate	5 mg/m ³	1 hour		0.61 mg/m ³	BS EN 13284-1	11/09/2013, 0903-1003 hrs	0.31 mg/m ³
ST10	Oxides of Nitrogen (as NO ₂)	150 mg/m ³	1 hour		1.8 mg/m ³	BS EN 14792	11/09/2013, 0947 - 1047hrs	0.38 mg/m ³
ST10	CO	150 mg/m ³	1 hour		15 mg/m ³	BS EN 15058	11/09/2013, 0947 - 1047 hrs	0.62 mg/m ³
ST12	Particulate	5 mg/m ³	1 hour		1.2 mg/m ³	BS EN 13284-1	09/09/2013, 1352 - 1452 hrs	0.33 mg/m ³

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum - maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed

Date...17/01/14.....

Permit Number: EPR/BK6483IU/V003

Operator: Toyota Manufacturing UK Ltd

Facility:

Deeside Engine Casting

Form Number:

Water1 / 280709

Reporting of emissions to water (other than to sewer) and land for the year...2013

Emission Point	Substance / Parameter	Emission		Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times	Uncertainty ⁽³⁾
		Limit Value						
W1	Total Hydrocarbon Oil	N/A		1 Week Average as permit requirement	0.37 mg/l	Solvent extract of the sample / GCFID	16/10/2013 - 23/10/2013	0.13 mg/l
W1	pH	N/A			7.8	Based "The Measurement of Electrical Conductivity and Laboratory Determination of the pH Value of Natural, Treated and Wastewaters 1978".	16/10/2013 - 23/10/2013	0.14
W1	COD	N/A			<5.0 mg/l	Dichromate oxidation / digestion.	16/10/2013 - 23/10/2013	0.89 mg/l
W2	Total Hydrocarbon Oil	N/A		1 Week Average as permit requirement	0.124mg/l	Solvent extract of the sample / GCFID	16/10/2013 - 23/10/2013	0.04 mg/l
W2	pH	N/A			7.6	Based "The Measurement of Electrical Conductivity and Laboratory Determination of the pH Value of Natural, Treated and Wastewaters 1978".	16/10/2013 - 23/10/2013	0.14
W2	COD	N/A			9.0 mg/l	Dichromate oxidation / digestion.	16/10/2013 - 23/10/2013	1.59 mg/l

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum - maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
(Authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/BK6483IU/V003

Operator: Toyota Manufacturing UK Ltd

Facility: Deeside Engine Casting

Form Number: Sewer1 / 280709

Reporting of emissions to sewer for the year ...2013

Emission Point	Substance / Parameter	Emission		Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
		Limit Value						
S1	Instantaneous flow	20 m ³ per hour		Per annum	15.78 m ³ per hour	Flow meter	23/08/2013	Uncertainty is reported for accredited analysis, conducted quarterly.
S1	Daily Flow	400 m ³ per day		Per annum	147.65 m ³ per day	Flow Meter	31/07/2013	
S1	Minimum pH	5		Per annum	7.04	pH meter	01/11/2013	
S1	Maximum pH	10		Per annum	8.11	pH meter	04/01/2013	
S1	Total suspended solids	200 mg/l		Per annum	65 mg/l	Filter paper/balance	14/06/2013	
S1	COD	1500 mg/l		Per annum	1038 mg/l	Titration	19/04/2013	
S1	Total hydrocarbon oil	150 mg/l		Per annum	77 mg/l	Gravimetric	19/04/2013	
S1	Sulphate	1000 mg/l		Per annum	390 mg/l	AA spectrophotometer	07/06/2013	
S1	Copper	1 mg/l		Per annum	0.1 mg/l	AA spectrophotometer	All dates	
S1	Zinc	2 mg/l		Per annum	0.69 mg/l	AA spectrophotometer	15/02/2013	
S1	Lead	1 mg/l		Per annum	0.16 mg/l	AA spectrophotometer	11/01/2013	
S1	Nickel	1 mg/l		Per annum	0.1 mg/l	AA spectrophotometer	All dates	

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum - maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed Date 17/01/14

(Authorised to sign as representative of Operator)

Permit Number: EPR/BK6483IU/V003 Operator: Toyota Manufacturing UK Ltd
 Facility: Deeside Engine Casting Form Number: energyusage1 / 280709

Reporting of Energy Usage for the year ...2013

Energy Source	Energy Usage		Primary Energy (MWh)	Specific Usage (MWh/unit output)
	Quantity			
Electricity *				
Natural Gas	7,421 MWh		19,295 MWh	2.29 MWh/tonne of cast aluminium
	15,640 MWh		15,640 MWh	1.86 MWh/tonne of cast aluminium
TOTAL				
	23,061MWh		34,935 MWh	4.15 MWh/tonne of cast aluminium

* Conversion factor for delivered electricity to primary energy = 2.6

Operator's comments :

To standardise consumption, the specific usage units are measured in m3/metric tonne of cast aluminium. This makes consumption units independent of engine production mix.

Signed
 (Authorised to sign as representative of Operator)

Date: 17/01/14

Permit Number: EPR/BK64831U/V003 Operator: Toyota Manufacturing UK Ltd
 Facility: Deeside Engine Casting Form Number: Waterusage1 / 280709

Reporting of Water Usage for the year ...2013

Water Source	Usage (m ³ /year)	Specific Usage (m ³ /unit output)
Mains water	7566 m3/annum	0.90 m3/tonne of cast aluminium
Site borehole	N/A	
River abstraction	N/A	
TOTAL WATER USAGE	7566 m3/annum	0.90 m3/tonne of cast aluminium

Operator's comments :

To standardise consumption, the specific usage units are measured in m3/metric tonne of cast aluminium. This makes consumption units independent of engine production mix.

Signed
 (authorised to sign as representative of Operator)

Date 17/01/14

Permit Number: **EPR/BK6483IU/V003** Operator: **Toyota Manufacturing UK Ltd**
 Facility: **Deeside Engine Casting** Form Number: **performance1 / 280709**

Reporting of other performance indicators for the year....2013

Parameter	Units	Result
Total raw material used	Tonnes	6324 Tonnes
Dross removed from site	Tonnes	238 Tonnes
Bag filter dust	Tonnes	11.6 Tonnes
Furnace linings	Tonnes	4 Tonnes
Total swarf recycled	Tonnes	390 Tonnes
Total 3 rd party scrap recycled	Tonnes	0 Tonnes

Operator's comments :

Signed Date...17/07/14.....
 (Authorised to sign as representative of Operator)

