

Variation Notice with introductory note

The Environmental Permitting (England & Wales) Regulations 2007

Deeside Engine Casting Plant

Toyota Motor Manufacturing UK Ltd.
Deeside Industrial Estate
Flintshire
Ch5 2TW

Variation Notice Number

EPR/BK6483IU/V003

Permit number

BK6483IU

Deeside Engine Casting Plant

Permit number BK6483IU

Introductory note

This introductory note does not form a part of the permit

The following notice, which is issued pursuant to regulation 20 and Part 1 of Schedule 5 of the Environmental Permitting (England and Wales) Regulations S.I.2007 No. 3538 (the Regulations), gives notice of the variation of an environmental permit to operate a regulated facility/facilities

The changes introduced by this Variation are as follows:

The decommissioning and removal of the casting lines for engine type "ZZ" and "SZ", thus removing emission points ST6 and ST7. Installation of a 1 tonne / hour crucible furnace for recovering aluminium from reject engine castings.

The main purpose of the activity at the installation is the production of aluminium castings for car engines, specifically cylinder heads, cylinder blocks and lower cases. Subsequent assembly of the engines is carried out on the same site but not as part of the permitted installation. Production is up to about 480,000 engines per year.

The casting plant has two production lines. Cylinder blocks and lower cases are made by forcing measured amounts of molten aluminium at high pressure into a die which has been pre-coated with a release agent. After solidification, runners and gates are removed (for recycle to melting) and the casting is inspected and stored. Cylinder heads are made using dies with sand cores, into which molten metal is forced at relatively low pressure. Cores are removed, then the castings are put through two stages of heat treatment with a water quench in between.

For "High-Pressure Die Casting" and "Low-Pressure Die Casting", two tower-type furnaces are installed, of 7 tonne and 4 tonne design holding capacity, and 2.5 and 1.5 tonne/hour melting capacity respectively. They are gas-fired, with the combustion gases drawn up the tower where fresh aluminium ingot and clean recycled metal are charged. Dross is only removed with burners at low-fire, and additional air is drawn across the front of the drossing door up into a hood, to capture fugitive emissions.

Five core moulding machines are currently installed, two of which make two moulds at a time. Electrically-heated dies are filled with foundry sand from hoppers, closed, and the sand allowed to cure. After cooling they are inspected and stored pending use in low-pressure casting.

Emissions to air from the melting furnaces pass through fabric bag filters with upstream injection of lime to abate particulate matter and acid gases. Releases from low-pressure casting and core moulding pass to atmosphere via an odour scrubber, which uses Fenton's reagent to abate odorous pollutants such as amines.

Water is used in the process mainly for cooling / quenching, in the die lubricator mixer, die washing and in the odour scrubber. Some evaporates, the rest passes to the waste water treatment plant where, along with waste water from the engine plant, part of it undergoes flocc-treatment prior to discharge to sewer.

Waste streams from the process include spent sand, sludge from the waste water treatment plant, fabric filters, bag house dust and refractory linings.

Schedule 1 of this notice lists any deleted conditions, Schedule 2 lists any amended conditions and Schedule 3 lists any conditions that have been added.

The status of the permit sets out the permitting history, including any changes to the permit reference number.

Status Log of the permit		
Detail	Date	Response Date
Application BK6483	Received 03/12/01	
Response to request for information	Request dated 30/5/02 Response received 27/06/02	
Response to request for information	Request dated 26/06/02 Response received 25/7/02	
Supplementary information provided	Received 09/10/02	
Permit BK6483	Issued 20/12/02	
Variation NP3338LX	Determined 18/07/2006	
Application for Variation	Received 31/11/2006	
Requests for information	Requested 14/12/06, 18/12/06 and 13/02/07.	Consolidated Response received 27 February 2007
Variation QP3138MX	Determined 05/03/2007	
Application for variation (EA/EPR/BK6483IU/V003)	Received 06/11/2008	
Additional correspondence	Received /04/2009	
Request to extend determination	Received 9/02/2009	
Request to extend determination	Received 19/3/2009	
Request to extend determination	Received 6/04/2009	
Request to extend determination	Received 11/05/2009	
Request to extend determination	Received 14/07/2009	
Request to extend determination	Received 19/08/2009	
Request to extend determination	Received 28/09/09	
Variation EA/EPR/BK6483IU/V003	Determined 27/10/2009	

Superseded or Partially Superseded Licenses/Consents/Authorisations relating to this installation		
Holder	Reference Number	Date of Issue
Toyota Motor Manufacturing UK Ltd.	LAAPC Authorisation 0073	Flintshire County Council

End of Introductory Note

Variation Notice

Environmental Permitting
(England and Wales) Regulations 2007

Variation Notice

Permit number

BK6483IU

Variation number

EA/EPR/BK6483IU/V003

The Environment Agency in exercise of its powers under Regulation 20 of the Environmental Permitting (England and Wales) Regulations 2007 (SI 2000 No 3538) varies the permit as set out below.

Toyota Motor Manufacturing (UK) Limited ("the operator"),

whose registered office is

Burnaston

Derbyshire

DE1 9TA

company registration number **2352348**

to operate an installation at

Deeside Engine Casting Plant

Deeside Industrial Estate

Flintshire

CH5 2TW

to the extent set out in schedules 1 to 3 of this variation notice.

Signed

Date



27th October 2009

David Powell

Authorised to sign on behalf of the Agency

SCHEDULE 1 – CONDITIONS TO BE DELETED

1. Conditions 1 to 10 inclusive and Schedules 1 to 3 inclusive, in PPC Permit number BK6483 issued on 20th December 2002 to Toyota Motor Manufacturing (UK) Ltd and Schedules 1 to 3 inclusive, in PPC variation number QP3138MX issued on 5th March 2007 to Toyota Motor Manufacturing (UK) Ltd.

SCHEDULE 2 – CONDITIONS TO BE AMENDED

2. None.

SCHEDULE 3 – CONDITIONS TO BE ADDED

3. Conditions 1 to 4 inclusive and Schedules 1 to 7 inclusive to be added, as attached, on pages 6 to 25 of this Variation Notice.

1 Management

1.1 General management

- 1.1.1 The activities shall be managed and operated:
- (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances and closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Accident management plan

- 1.2.1 The operator shall:
- (a) maintain and implement an accident management plan;
 - (b) review and record at least every 4 years or as soon as practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;
 - (c) make any appropriate changes to the plan identified by a review.

1.3 Energy efficiency

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every 4 years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.4 Efficient use of raw materials

- 1.4.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;

- (c) review and record at least every 4 years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any appropriate further measures identified by a review.

1.5 Avoidance, recovery and disposal of wastes produced by the activities

1.5.1 The operator shall:

- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
- (b) review and record at least every 4 years whether changes to those measures should be made; and
- (c) take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 2 to this permit.

2.3 Operating techniques

- 2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Agency.
- (b) If notified by the Agency that the activities are giving rise to pollution, the operator shall submit to the Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Agency.
- 2.3.2 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;

- (d) the hazard classification associated with the waste; and
- (e) the waste code of the waste.

2.3.3 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Agency, the operator shall notify the Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

- 2.5.1 There are no pre-operational conditions.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 4 tables S4.1, S4.2 and S4.3.
- 3.1.2 The limits given in schedule 4 shall not be exceeded.
- 3.1.3 Where a substance is specified in schedule 4 table S4.2 and S4.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 3.1.4 For periodic measurements, compliance shall be determined from the measured value after having subtracted the uncertainty error for the selected method of sampling and analysis for each relevant pollutant.

3.2 Fugitive emissions of substances

- 3.2.1 Fugitive emissions of substances (excluding odour, noise and vibration) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including those specified in any approved fugitive emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
 - (a) if notified by the Agency that the activities are giving rise to pollution, submit to the Agency for approval within the period specified, a fugitive emissions management plan;

- (b) implement the approved fugitive emissions management plan, from the date of approval, unless otherwise agreed in writing by the Agency.

- 3.2.3 All liquids, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

- 3.3.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to annoyance outside the site due to odour, submit to the Agency for approval within the period specified, an odour management plan;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Agency, undertake the monitoring specified in the following tables in schedule 4 to this permit:
 - (a) point source emissions specified in tables S4.1, S4.2 and S4.3;
 - (b) process monitoring specified in table S4.4.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 4 tables S4.1, S4.2 and S4.3 unless otherwise specified in that schedule.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 All records, plans and the management system required to be maintained by this permit shall be held on the site.

4.2 Reporting

- 4.2.1 All reports and notifications required by the permit shall be sent to the Agency using the contact details supplied in writing by the Agency
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Agency by 31 January (or other date agreed in writing by the Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 5 table S5.2; and
 - (c) the performance parameters set out in schedule 5 table S5.3 using the forms specified in table S5.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 5 table S5.1;
 - (b) for the reporting periods specified in schedule 5 table S5.1 and using the forms specified in schedule 5 table S5.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding 4 years, submit to the Agency, within 6 months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

- 4.3.1 The Agency shall be notified without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in the permit; or
 - (c) any significant adverse environmental effects.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 6 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Agency when the relevant monitoring is to take place. The operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address;
- (b) any change to particulars of the operator's ultimate holding company (including details of an ultimate holding company where an operator has become a subsidiary); and
- (c) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);

- (b) any change in the operator's name(s) or address(es); and
 - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
 - (a) the Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 Where the operator has entered into a climate change agreement with the Government, the Agency shall be notified within one month of:
 - (a) a decision by the Secretary of State and the Welsh Ministers not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State and the Welsh Ministers to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State and the Welsh Ministers to re-certify such an agreement.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 7 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities

Activity reference Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
Section 2.2 A(1)(b), Melting non-ferrous metal at a plant with a melting capacity of more than 20 tonnes per day and a furnace of greater than 5 tonnes design holding capacity.	Two tower furnaces for melting aluminium and one 1 tonne/hour crucible furnace for recovery of aluminium	Receipt of raw materials to production of the finished castings; Abatement equipment and plant used for releases to atmosphere
Directly Associated Activity		
Casting	High and Low Pressure Die Casting and associated machining.	Within the boundary of the installation
Mould preparation	Preparation and curing of sand moulds	Within the boundary of the installation
Effluent Treatment	Collection and treatment of effluents from the installation	Receipt, balancing and treatment of all process waters, including floc treatment, post settlement, sludge removal and discharge to sewer

Table S1.2 Operating techniques

Description	Parts	Date Received
Application	The response to questions 2.1 (pages 3 – 11), 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11 of the corresponding sections of the Application.	03/12/01
Response to Schedule 4 Part 1 Notice	Response to Question 2 to 40.	27/06/02 and 25/07/02
Supplementary Information	Additional Information in response to questions 6,7, 9, 10, 12, 17, 18, 39.	09/10/02
Application for Variation	The response to question 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11 of the Application.	13/11/06
Supplementary Information	Additional Information in response to request made 13/02/07.	27/02/07
Regulation 16 Agreement	All- replacement of cyclones with bag filters	17/03/08
Regulation 16 Agreement	All- relocation of existing melt furnace	14/07/08
Amended Application for Variation	Response to Question C2	20/10/09

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
9.1	The operator shall submit a report detailing the results of the noise monitoring carried out as described in the application.	Closed
9.2	The operator shall submit a report reviewing the effectiveness of equipment for monitoring performance of the bag filtration plant and odour scrubber. If the report identifies improvements that represent BAT, the report shall contain a timetable for implementing by 31 March 2005 the improvements to abatement plant performance monitoring.	Closed
9.3	The operator shall carry out an assessment of the sampling location in ST1 as to whether it is in a suitable position for the monitoring undertaken. If the location is found to be inappropriate the operator shall submit proposals for improving it within a timescale to be agreed with the Agency.	Closed
9.4	The operator shall carry out monitoring of the two discharges to surface water for the following parameters: Chemical oxygen demand (COD) Suspended solids Total hydrocarbon oil Copper and copper compounds expressed as Cu Zinc and zinc compounds expressed as Zn pH A report shall be submitted to the Agency providing the results of the monitoring and an assessment of the likely impact of the discharges on the receiving watercourse.	Closed
9.5	The operator shall carry out a review of analytical methods used to monitor releases to air and water having regard to the standard methods given in current guidance. Where the standards are not met, the operator shall provide a timetable to introduce them.	Closed
9.6	Further to the requirements of condition 4.1.6 of this Permit, the Operator shall carry out additional monitoring to assess releases of particulate matter through release points ST6 and ST7. A report of the findings shall be sent to the Agency, along with proposals for reducing fugitives at source and, if releases exceed indicative BAT concentration limits in relevant published guidance, proposals for monitoring ST6 and ST7 annually. If one of the options represents BAT the report shall contain a timetable for implementing that option by 1 June 2004 .	Closed
9.7	The operator shall carry out an investigation into the potential for re-using process or rainwater within the process. If any of the identified proposals represent BAT then a timetable for implementing them shall be submitted by 1 June 2004.	Closed
9.8	The operator shall carry out an investigation into potential improvements to the method of treating liquid effluents in the waste water treatment plant and submit a report to the Agency. If any of these identified improvements represent BAT a timetable for implementing them shall be provided.	Closed
9.9	The operator shall provide an energy efficiency plan as detailed in Section 2.7 of the sector guidance, S2.03. This shall include diagrams showing energy used and lost in the process.	Closed
9.10	The operator shall provide a report to the Agency comparing the measured levels of NO _x (as NO ₂) releases from ST2 and ST4 with guidance benchmarks. The report shall also incorporate an impact assessment (eg using H1) and an assessment of whether the gas-fired burners in use represent BAT.	Closed
9.11	The operator shall submit a report reviewing advances in casting sand	Closed

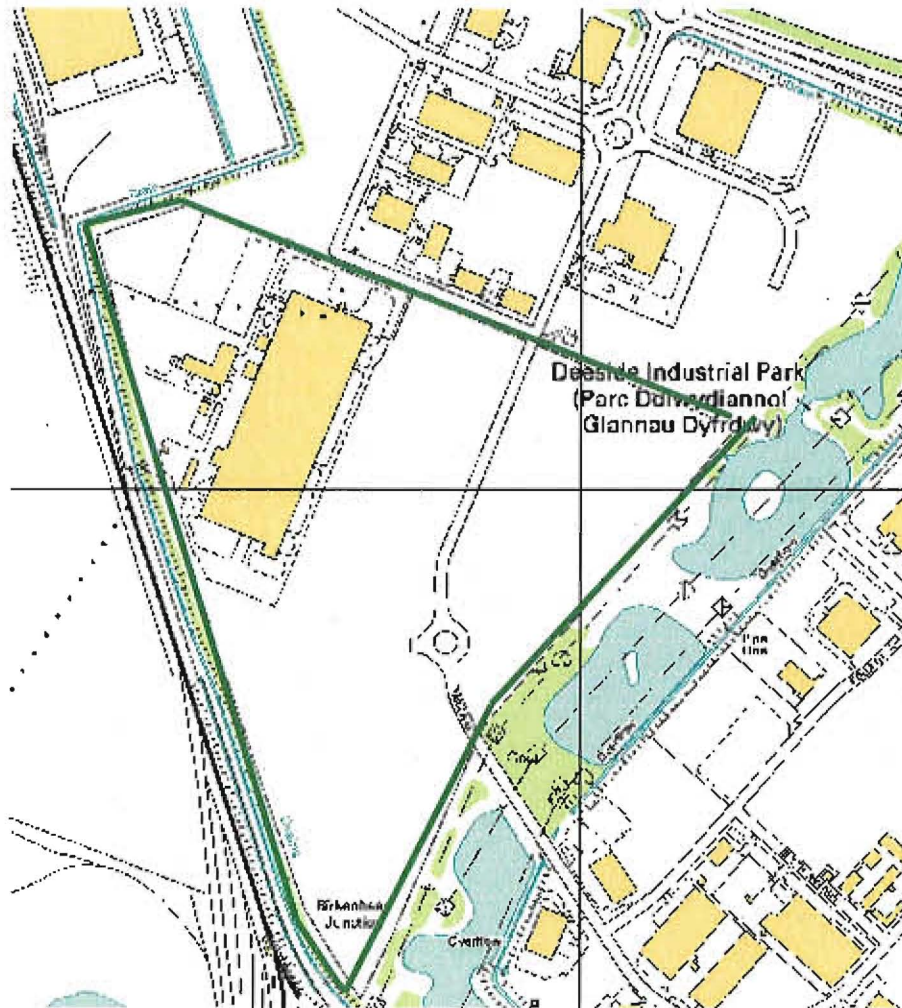
	technologies with the aim of reducing the potential impact from resins and curing agents. If any of the identified technologies represents BAT the operator shall submit a timetable for introducing it to the casting plant by 1 June 2006.	
9.12	The Operator shall submit updated plans to show the location of both internal and external storage of wastes.	Closed
9.13	The Operator shall undertake monitoring of emissions to determine the emissions of total volatile organic compounds (as carbon) from emission point ST10. The Operator shall use BS EN 13526:2001 for Total VOCs, unless otherwise agreed in writing by the Agency. A report detailing the results of the monitoring shall be submitted in writing to the Agency.	Closed
9.14	The Operator shall undertake a programme of monitoring during commissioning of equipment detailed in the Variation for Application to establish that this equipment is operating as described in the Application for Variation. A report of the outcome of the commissioning and the associated monitoring shall be submitted in writing to the Agency.	Closed
9.15-see Note 1.	The Operator shall undertake a programme of monitoring to determine the levels of releases from points ST9 –13. The programme will include, but need not be exclusive to, all substances stated to be released from these points in both the H1 impact assessment and the response to question C2.2.11 of the Application for Variation. A report of the outcome of the monitoring and an assessment of the impacts of these emissions shall be submitted in writing to the Agency.	Closed
9.16	The Operator shall investigate suitable methods for demonstrating on a continuous basis that the sand reclaim furnace and sand coating thermal oxidation unit are operating as detailed in the Variation for Application. The investigation shall include, but need not be exclusive to, provision of continuous carbon monoxide monitoring of the emissions from these units. A report of the outcome of the investigation, including indicative timescales for implementation of these methods shall be submitted in writing to the Agency.	Closed
9.17 – see Note 1.	The Operator shall conduct monitoring to confirm the levels of release of dioxins from emission points ST9 and ST11. A report of the outcome of the monitoring and an assessment of the impacts of these emissions shall be submitted in writing to the Agency.	Closed
9.18	The Operator shall conduct an investigation to determine how operation of the scrubber can be optimised to ensure that it is operated in accordance with the principles of Best Available Techniques. The investigation shall take into account both the measures required during phase in of ZR engine production, and those required following complete change over to production of the ZR engine. A report of the outcome of the investigation, including indicative timescales for implementation of any measures identified shall be submitted in writing to the Agency.	Closed
9.19	The Operator shall submit justification that the proposed dust extraction and HEPA filter constitute the Best Available Techniques for control of fugitive emissions from the dross skip.	Closed
9.20	The Operator shall conduct a noise survey to BS 4142 to confirm the noise levels at the boundary of the Installation.	Closed
9.21	The operator shall conduct an investigation into how to manage firewaters that could arise at the Installation. A report detailing the investigation and outcomes, with indicative timescales for any actions required to minimise impacts to the environment in the event of the fire shall be submitted to the Agency.	Closed
9.22	The Operator shall review the current practices for monitoring the discharges to water. This shall include a review of the current analytical methods having regard to technical guidance note M18 and the use of suitably accredited laboratories. Where standards are not met the	31 st January 2010

	Operator shall provide a timetable to introduce them.	
9.23	The Operator shall review the operation of the scrubber to ensure that it has been optimised and is operated in accordance with the principles of best available techniques. The investigation shall take into account the removal of the casting lines for engine type "ZZ" and "SZ". A report detailing the findings shall be submitted to the Agency.	30 th November 2009
9.24	The Operator shall review the existing operating temperature ranges for the sand reclamation furnace and the coating fume incinerator (reference response to improvement condition 9.16). A report detailing the findings and timescales for any improvements highlighted shall be submitted to the Agency.	31 st December 2009

Note 1. Monitoring methods shall use standards in the following order of priority, unless equivalent methods have been agreed with the Environment Agency in writing:

- . Comité Européen de Normalisation (CEN)
- . British Standards Institution (BSI)
- . International Standardisation Organisation (ISO)
- . United States Environmental Protection Agency (US EPA)
- . American Society for Testing and Materials (ASTM)
- . Deutsches Institut für Normung (DIN)
- . Verein Deutscher Ingenieure (VDI)
- . Association Française de Normalisation (AFNOR)

Schedule 2 - Site plan



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Schedule 3 - Waste types, raw materials and fuels

N/A

Schedule 4 – Emissions and monitoring

Table S4.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
ST1	Particulate	Odour scrubber – emissions from core moulding & casting	5 mg/m ³	Hourly average	annually	BS EN 13284-1
	VOCs (expressed as Total Organic Carbon)		50 mg/m ³			BS EN 13526
	Formaldehyde		1 mg/m ³			US EPA Method 316 or BS EN 13649, analysis to NIOSH 2016 or NIOSH 2541 for formaldehyde
	Phenol		0.25 mg/m ³			Sampling BS EN 13649 and OSHA 32 or NIOSH 2546 for analysis
	Ammonia		-			BS EN14791, adapted for ammonia
ST2	Particulate	Bag filter – emissions from both melting furnaces and crucible furnace	5 mg/m ³	Hourly average	annually	BS EN 13284-1
	Oxides of Nitrogen (as NO ₂)		100 mg/m ³			BS EN 14792
	CO		150 mg/m ³			BS EN 15058
	HCl		10 mg/m ³			BS EN 1911
	Fluorides		1 mg/m ³			BS ISO 15713
ST4	Particulate	Heat treatment	5 mg/m ³	Hourly average	annually	BS EN 13284-1
	Oxides of Nitrogen (as NO ₂)		100 mg/m ³			BS EN 14792
	CO		150 mg/m ³			BS EN 15058
ST9 & ST11	Particulate	Sand reclamation furnace	5 mg/m ³	Hourly average	annually	BS EN 13284-1
	Oxides of Nitrogen (as NO ₂)	Sand coating fume incinerator	150 mg/m ³			BS EN 14792
	CO		150 mg/m ³			BS EN 15058
	Formaldehyde		7 mg/m ³			BS EN 13649, analysis to NIOSH 2016 or NIOSH 2541 for formaldehyde
	Ammonia		10 mg/m ³			BS EN 14791, adapted for ammonia
ST10	Particulate	Sand heater dust collector	5 mg/m ³	Hourly average	annually	BS EN 13284-1
	Oxides of Nitrogen (as NO ₂)		150 mg/m ³			BS EN 14792

	CO		150 mg/m ³			BS EN 15058
ST12	Particulate	Sand heater dust collector	5 mg/m ³	Hourly average	annually	BS EN 13284-1

Table S4.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1	pH	Casting building roof and roadways	N/A	Sampled over a week and bulked to form composite sample	Annual	As per agreed response to IC22
	COD					
	Total Hydrocarbon Oil					
W2	pH	WWTP roof	N/A	Sampled over a week and bulked to form composite sample	Annual	As per agreed response to IC22
	COD					
	Total Hydrocarbon Oil					

Table S4.3 Point Source emissions to sewer, effluent treatment plant or other transfers off-site- emissions limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
S1	Flow	Wastewater treatment plant	20m ³ per hour 400m ³ per day		Continuous whilst discharging	As per agreed response to IC22
	pH		5 - 10		Continuous whilst discharging	
	Suspended Solids		200 mg/l		Daily composite sample	
	Chemical Oxygen Demand		1500 mg/l		Daily composite sample	
	Total hydrocarbon oil		150 mg/l		Daily composite sample	
	Copper		1 mg/l		Daily composite sample	
	Zinc		2 mg/l		Daily composite sample	
	Lead		1 mg/l		Daily composite sample	
	Nickel		1 mg/l		Daily composite sample	
	Sulphate		1000 mg/l		One daily composite sample per week	

Table S4.4 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Sand reclamation furnace, ST9	Temperature	Continuous		To be agreed as per IC 24
Coating fume incinerator, ST11	Temperature	Continuous		To be agreed as per IC 24

Schedule 5 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S5.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	ST1, ST2, ST4, ST9, ST10, ST11, ST12	Every 12 months	01/01/09
Emissions to water Parameters as required by condition 3.5.1	W1, W2	Every 12 months	01/01/09
	S1	Every 12 months	01/01/09

Table S5.2: Annual production/treatment	
Parameter	Units
Castings produced	tonnes

Table S5.3 Performance parameters		
Parameter	Frequency of assessment	Units
Dross removed from site	Annually	Tonnes
Bag filter dust	Annually	Tonnes
Furnace linings	Annually	Tonnes

Table S5.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form air 1a, b, c, d, e, f or other form as agreed in writing by the Agency	28/07/09
Water	Form water 1 or other form as agreed in writing by the Agency	28/07/09
Sewer	Form sewer 1 or other form as agreed in writing by the Agency	28/07/09
Water usage	Form water usage1 or other form as agreed in writing by the Agency	28/07/09
Energy usage	Form energy 1 or other form as agreed in writing by the Agency	28/07/09
Other performance indicators	Form performance 1 or other form as agreed in writing by the Agency	28/07/09

Schedule 6 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution

To be notified within 24 hours of detection

Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit

To be notified within 24 hours of detection unless otherwise specified below

Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of *Toyota Motor Manufacturing UK Ltd*

Schedule 7 - Interpretation

"*accident*" means an accident that may result in pollution.

"*annually*" means once every year.

"*application*" means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

"*authorised officer*" means any person authorised by the Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

"*background concentration*" means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

"*emissions to land*", includes emissions to groundwater.

"*EP Regulations*" means The Environmental Permitting (England and Wales) Regulations SI 2007 No.3538 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

"*fugitive emission*" means an emission to air, water or land from the activities which is not controlled by an emission or background concentration limit.

"*groundwater*" means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"*MCERTS*" means the Environment Agency's Monitoring Certification Scheme.

"*quarter*" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"*year*" means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- (b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

END OF PERMIT

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

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						
ST1	VOCs (expressed as Total Organic Carbon)	50 mg/m ³						
ST1	Formaldehyde	1 mg/m ³						
ST1	Phenol	0.25 mg/m ³						
ST1	Ammonia	N/A						

[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
Facility: Deeside Engine Casting

Operator: Toyota Manufacturing UK Ltd
Form Number: Air1b / 280709

Reporting of emissions to air for the year

Emission Point	Substance / Parameter	Emission		Result ^[1]	Test Method ^[2]	Sample Date and Times	Uncertainty ^[3]
		Limit Value	Reference Period				
ST2	Particulate	5 mg/m ³					
ST2	Oxides of Nitrogen (as NO ₂)	100 mg/m ³					
ST2	CO	150 mg/m ³					
ST2	HCl	10 mg/m ³					
ST2	Fluorides	1 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.....

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

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						
ST4	Oxides of Nitrogen (as NO ₂)	100 mg/m ³						
ST4	CO	150 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.....

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

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						
ST9	Formaldehyde	7 mg/m ³						
ST9	Ammonia	10 mg/m ³						
ST9	Carbon Dioxide	150 mg/ m ³						
ST9	Oxides of Nitrogen (as NO ₂)	150 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.....

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

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						
ST11	Formaldehyde	7 mg/m ³						
ST11	Ammonia	10 mg/m ³						
ST11	Carbon Dioxide	150 mg/ m ³						
ST11	Oxides of Nitrogen (as NO ₂)	150 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.....

Permit Number: EPR/BK6483IU/V003
Facility: Deeside Engine Casting

Operator: Toyota Manufacturing UK Ltd
Form Number: Air1f / 280709

Reporting of emissions to air for the year

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					
ST10	Oxides of Nitrogen (as NO ₂)	150 mg/m ³					
ST10	CO	150 mg/m ³					
ST12	Particulate	5 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.....

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.....

Emission Point	Substance / Parameter	Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times	Uncertainty ^[3]
		Limit Value						
W1	Total Hydrocarbon Oil							
W1	pH							
W1	COD							
W2	Total Hydrocarbon Oil							
W2	pH							
W2	COD							

[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

Facility: Deeside Engine Casting

Operator: Toyota Manufacturing UK Ltd

Form Number: Sewer1 / 280709

Reporting of emissions to sewer for the year

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						
S1	Daily Flow	400 m ³ per day						
S1	Minimum pH	5						
S1	Maximum pH	10						
S1	Total suspended solids	200 mg/l						
S1	COD	1500 mg/l						
S1	Total hydrocarbon oil	150 mg/l						
S1	Sulphate	1000 mg/l						
S1	Copper	1 mg/l						
S1	Zinc	2 mg/l						
S1	Lead	1 mg/l						
S1	Nickel	1 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] 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
(Authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/BK6483IU/V003
Facility: Deeside Engine Casting

Operator: Toyota Manufacturing UK Ltd
Form Number: Waterusage1 / 280709

Reporting of Water Usage for the year

Water Source	Usage (m ³ /year)	Specific Usage (m ³ /unit output)
Mains water		
Site borehole		
River abstraction		
TOTAL WATER USAGE		

Operator's comments :

Signed
(authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/BK6483IU/V003
Facility: Deeside Engine Casting

Operator: Toyota Manufacturing UK Ltd
Form Number: energyusage1 / 280709

Reporting of Energy Usage for the year

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	MWh		
Natural Gas	MWh		
TOTAL	-		

* Conversion factor for delivered electricity to primary energy = 2.6

Operator's comments :

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: performance1 / 280709

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

Parameter	Units
Total raw material used	tonnes
Dross removed from site	tonnes/tonnes of product
Bag filter dust	tonnes/tonne of product
Furnace linings	tonnes/tonne of product

Operator's comments :

Signed
(Authorised to sign as representative of Operator)

Date.....