ENVIRONMENT AGENCY

Variation Notice with introductory note

Pollution Prevention and Control Regulations 2000

Toyota Motor Manufacturing UK Ltd.
Deeside Industrial Estate
Flintshire
CH5 2TW

Variation Notice number

QP3138MX

Permit number

BK6483

Version 1 - October 2001

Introductory note

This introductory note does not form a part of the Variation Notice.

The following Notice is issued under Regulation 17 of The Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No. 1973 (as amended) (the Regulations) to vary the conditions of a Permit issued under the Regulations to operate an installation.

The Notice comprises Schedule 1 containing conditions to be deleted, Schedule 2 conditions to be amended and Schedule 3 conditions to be added. The Notice is subject to the express conditions set out in Schedules 1 to 3.

The Permit, as amended by this Variation Notice, contains conditions which have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by those conditions are subject to the condition implied by Regulation 12(10) of the PPC Regulations, that the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation. Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

The changes introduced by this Variation are as follows:

1. One additional Low Pressure (LP) Casting Line (6 casting machines) with an associated sand knock out unit to make a new engine type. Emissions from this casting line will be abated via use of the existing odour scrubber. The associated knock-out unit will have a dedicated bag filter dust collector.

2. Five new core making machines dedicated to the new LP casting line. The emissions from this unit will be extracted to air via the existing odour scrubber.

3. Two additional smaller High Pressure (HP) Casting machines to make a new engine type and the removal of one of the current HP casting machines. The two remaining HP machines will continue to be used to make the existing engine types.

4. One additional cooling tower to serve both the new LP line and the 2 new HP machines. Emissions to sewer from this unit will be treated in the existing Effluent Treatment Plant.

5. One new heat treatment oven for treating the blocks from the new HP machines. The emissions from this unit not considered significant and are unabated.

6. A sand reclamation and resin-coating plant for recycling the spent sand from the new LP casting line. This comprises a sand crusher and furnace, sand heating unit and sand coating unit.
The sand entering the sand reclaim process contains residues of phenolic resin and hexamine harders. This sand is crushed in an enclosed unit, and then moves forward to a sand furnace for removal of the residues.
The sand reclaim furnace operates at temperatures designed to destroy Volatile Organic Compounds created in the furnace. Emissions to air from this unit are then abated by a bag filter.
The treated sand is then heated prior to entering the coating unit, where fresh resins and hardners are added to the reclaimed sand. The emissions to air from the sand heater are extracted via a dedicated cyclone. The emissions from the sand coating unit are extracted to air via a dedicated sand coating fume incinerator, designed to operate at temperatures that will destroy any Volatile Organic Compounds present. The emissions from the cooler on the sand coating unit are also emitted via the cyclone on the sand heater unit.

7. The overall production levels of the plant will not change as the new engine production will increase at the same time as the old engine production is decreased. Because of this no change is required to the existing effluent treatment plant or the odour scrubber and the emissions from these are expected to remain within the limits currently imposed.

8. There will be no change in the method of use or disposal of the sand used in the current LP casting line as this unit uses a different type of sand and the two types cannot be mixed without affecting the characteristics of the engines produced.

9. There is an increase in physical size of the installation to house the new units, but the extension remains within the existing PPC installation boundary.

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.

Seven 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 floc-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.

Other PPC Permits relating to this installation		
Permit holder	Permit Number	Date of Issue
Not Applicable		

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

Talking to us

If you contact the Agency about this Permit please quote the Permit Number.

The Operator should use the Emergency Hotline telephone number (0800 80 70 60) or any other number notified to it to give a notification under condition 5.1.1 of the Permit.

Confidentiality

The Permit/Variation requires the Operator to provide information to the Agency. The Agency will place the information onto the public registers in accordance with the requirements of the PPC Regulations. If the Operator considers that any information provided is commercially confidential, it may apply to the Agency to have such information withheld from the register as provided in the PPC Regulations. To enable the Agency to determine whether the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

Variations to the permit

This Permit may be varied in the future. The Status Log within the Introductory Note to any such variation will include summary details of the Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the permit

Before this Permit can be wholly or partially surrendered, an application to surrender the Permit has to be made. For the applicant to be successful, they would have to be able to demonstrate to the Agency, in accordance with Regulation 19 of the PPC Regulations, that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the permit or part of the permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 18 of the PPC Regulations. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit. If the Permit authorises the carrying out of a specified waste management activity, then there is a further requirement that the transferee is considered to be a "fit and proper person" to carry out that activity.

Status Log

Detail	Date	Comment
Application BY0364IIB	Received 03/12/04	
Request to extend determination	Requested 18/04/05	Request accepted 11/05/05
Request for information	Requested 28/04/05	Response dated 17/08/05
Permit issued	31/08/05	
Application for variation	Received 13/03/2006	
Request for information	Requested 12/05/2006	Response dated 30/05/2006 and 03/07/2006
Request to extend determination	Requested 21/06/2006	Request accepted 27/06/2006
Request to extend determination	Requested 11/07//2006	Request accepted 11/07/2006
Supplementary information	Received 18/07/2006	
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	

End of Introductory Note

Variation Notice
Pollution Prevention and Control
(England and Wales) Regulations 2000

ENVIRONMENT AGENCY

Variation Notice

Permit number
BK6483

Variation Notice number
QP3138MT

The Environment Agency in exercise of its powers under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I. 2000 No. 1973) (as amended), hereby varies the Permit issued on 31/08/2005 and held by you.
Toyota Motor Manufacturing (UK) Limited ("the Operator"),

whose Registered Office is
Burnaston
Derbyshire
DE1 9TA

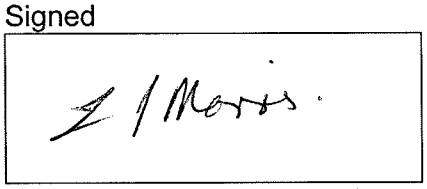
Company registration number **2352348**

which relates to the operation of an Installation at
Deeside Industrial Estate
Flintshire
CH5 2TW

to the extent set out in Schedules 1 to 3 of this Variation Notice.

This Notice shall take effect from 07 March 2007.

Signed



J.I. Morris

Authorised to sign on behalf of the Environment Agency

Date

05 March 2007

SCHEDULE 1 - CONDITIONS TO BE DELETED

1. All

SCHEDULE 2 - CONDITIONS TO BE AMENDED

2. None

SCHEDULE 3 - CONDITIONS TO BE ADDED

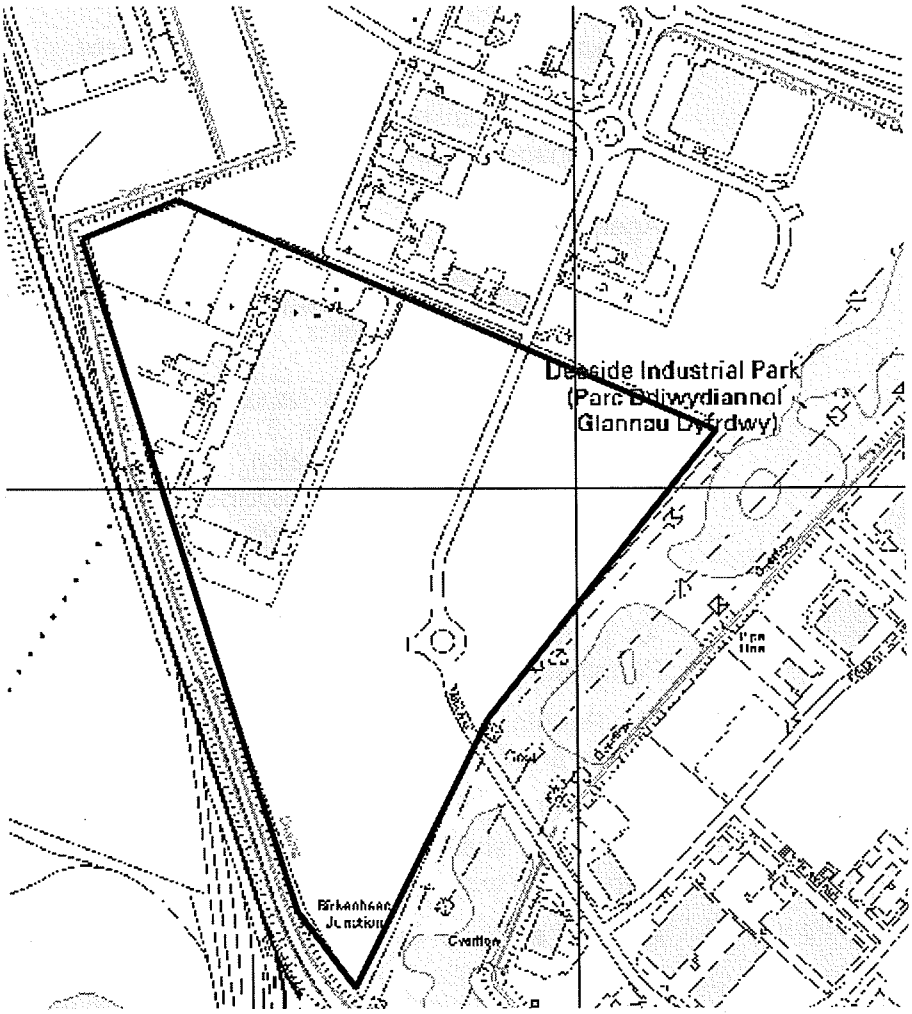
1 The permitted installation

1.1.1 The Operator is authorised to carry out the activities and/or the associated activities specified in Table 1.1.1.

Table 1.1.1

Activity under Schedule 1 of the Regulations / Associated Activity	Description of specified activity	Schedule 1 Activity Reference (if applicable)	Limits of specified activity
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	2.2 A(1) (b)	Receipt of raw materials to production of the finished castings; Abatement equipment and plant used for releases to atmosphere
Casting	High and Low Pressure Die Casting and associated machining.	Directly Associated Activity	Within the boundary of the installation
Mould preparation	Preparation and curing of sand moulds	Directly Associated Activity	Within the boundary of the installation
Effluent Treatment	Collection and treatment of effluents from the installation	Directly Associated Activity	Receipt, balancing and treatment of all process waters, including floc treatment, post settlement, sludge removal and discharge to sewer

1.1.2 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the area shown edged in red on the plan below:



Reproduced from the Ordnance Survey map with the permission of the Controller of her Majesty's Stationary Office ©Crown Copyright 2000. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.

1.1.3 There are no pre-operation conditions

2 Operational Matters

2.1 Management techniques and control

2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be managed and controlled as described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency.

Table 2.1.1 : Management and control

Description	Parts	Date Received
Application	The response to question 2.1 given in pages 3 - 11 of section 2.1 of the application.	03/12/01
Application for Variation	The response to question 2.3 of the Application.	13/11/2006

2.1.2 All plant, equipment and technical means used in operating the Permitted Installation shall be maintained in good operating condition.

2.1.3 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.

2.1.4 A copy of this Permit and those parts of the application referred to in this Permit shall be available, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

2.1.5 All staff shall be fully conversant with those aspects of the Permit conditions, which are relevant to their duties and shall be provided with appropriate training and written operating instructions to enable them to carry out their duties.

2.2 Raw materials (including water)

2.2.1 The Operator shall, subject to the conditions of this Permit, use raw materials (including water) as described in the documentation specified in Table 2.2.1, or as otherwise agreed in writing by the Agency.

Table 2.2.1 : Raw materials (including water)		
Description	**Parts**	**Date Received**
Application	The response to question 2.2 given in section 2.2 of the application	03/12/01
Response to Schedule 4 Part 1 Notice	Response to questions 2 to 8	27/06/02
Supplementary Information	Additional information in response to questions 6 and 7	09/10/02
Application for Variation	The response to question 2.4 of the Application.	13/11/2006
Supplementary information	Additional information in response to request made 13/02/07.	27 February 2007

2.2.2 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.

2.3 Operating Techniques

2.3.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.3.1, or as otherwise agreed in writing by the Agency.

Table 2.3.1: Operating techniques		
Description	**Parts**	**Date Received**
Application	The response to questions 2.3 given in section 2.3 of the application	03/12/01
Response to Schedule 4 Part 1 Notice	Response to questions 9 to 16 and question 37	27/06/02 and 25/07/02
Supplementary Information	Additional information in response to questions 9, 10 and 12	09/10/02
Application for Variation	The response to questions 2.1 and 2.2 of the Application.	13/11/2006
Supplementary information	Additional information in response to request made 13/02/07	27/02/07

2.4 Groundwater protection

2.4.1 The Permitted Installation shall, subject to the conditions of this Permit, be controlled as described in the documentation specified in Table 2.4.1, or as otherwise agreed in writing by the Agency.

Table 2.4.1: Groundwater protection

Description	Parts	Date Received
Application	The response to questions 2.4 given in section 2.4 of the application.	03/12/01

2.5 Waste handling and storage

2.5.1 The Operator shall, subject to the conditions of this Permit, handle and store waste as described in the documentation specified in Table 2.5.1, or as otherwise agreed in writing by the Agency.

Table 2.5.1: Waste handling and storage

Description	Parts	Date Received
Application	The response to question 2.5. given in section 2.5 of the application	03/12/01
Response to Schedule 4 Part 1 Notice	Response to questions 17 and 38	27/06/02 and 25/07/02
Supplementary Information	Additional information provided in response to question 17	09/10/02
Application for Variation	The response to question 2.5 of the Application	13/11/2006

2.5.2 Waste materials specified in Table 2.5.2 shall only be stored on the site in the location and manner specified in that Table, or as otherwise agreed in writing by the Agency.

Table 2.5.2: Waste stored on site			
Description of Waste	**Location of Storage on Site Plan - Appendix 8 Map 8 in Additional Information received on 9 October 2002**	**Manner of Storage**	**Storage Conditions**
Dross	Position 1 (in casting building)	Dedicated skip	Under cover
Waste sand, spent lime and waste refractory	Position 2 (in casting building)	Dedicated skip	Under cover
Spent filters	Position 3 (SW of WWTP); also used for Drummed waste and other hazardous waste	Dedicated skip	In a bunded area
WWTP sludges	Position 4 (WW treatment plant)	Within tank	In a bunded area
General Waste	Position 5 (SW corner of Engine Plant)	Dedicated skip	
Reject Parts and Swarf	Position 6 (SW of WWTP)	Dedicated skip	

2.6 Waste recovery and disposal

2.6.1 The Operator shall, subject to the conditions of this Permit, recover and dispose of waste as described in the documentation specified in Table 2.6.1, or as otherwise agreed in writing by the Agency.

Table 2.6.1: Waste recovery and disposal		
Description	**Parts**	**Date Received**
Application	The response to question 2.6 given in section 2.6 of the application.	03/12/01
Application for Variation	The response to question 2.6 of the Application	13/11/2006

2.7 Energy Efficiency

2.7.1 The Operator shall, subject to the conditions of this Permit, use energy as described in the documentation specified in Table 2.7.1, or as otherwise agreed in writing by the Agency.

Table 2.7 1: Energy efficiency		
Description	**Parts**	**Date Received**
Application	The response to question 2.7 given in section 2.7 of the application	03/12/01
Response to Schedule 4 Part 1 Notice	The response to questions 39 and 40	25/07/02
Supplementary information	Additional information provided in response to question 39	09/10/02
Application for Variation	The response to question 2.7 of the Application	13/11/2006

2.7.2 The Operator shall prepare an energy efficiency plan by 1 April 2003 and shall update this plan annually thereafter.

2.8 Accident prevention and control

2.8.1 The Operator shall, subject to the conditions of this Permit, prevent and limit the consequences of accidents as described in the documentation specified in Table 2.8.1, or as otherwise agreed in writing by the Agency.

Table 2.8.1 : Accident prevention and control		
Description	**Parts**	**Date Received**
Application	The response to question 2.8 given in section 2.8 of the application	03/12/01
Response to Schedule 4 Part 1 Notice	Response to Question 18	27/06/02
Supplementary Information	Additional information provided in response to question 18	09/10/02
Application for Variation	The response to question 2.8 of the Application	13/11/2006

2.9 Noise and vibration

2.9.1 The Operator shall, subject to the conditions of this Permit, control noise and vibration as described in the documentation specified in Table 2.9.1, or as otherwise agreed in writing by the Agency.

Table 2.9.1 : Noise and vibration		
Description	**Parts**	**Date Received**
Application	The response to question 2.9 given in section 2.9 of the application	03/12/01
Response to Schedule 4 Part 1 Notice	Response to Question 19	27/06/02
Application for Variation	The response to question 2.9 of the Application	13/11/2006

2.10 Monitoring

2.10.1 The Operator shall, subject to the conditions of this Permit, carry out, evaluate and assess monitoring as described in the documentation specified in Table 2.10.1, or as otherwise agreed in writing by the Agency.

Table 2.10.1 : Monitoring		
Description	**Parts**	**Date Received**
Application	The response to question 2.10 given in section 2.10 of the application.	03/12/01
Response to Schedule 4 Part 1 Notice	Response to questions 20 to 29	27/06/02
Application for Variation	The response to question 2.10 of the Application	13/11/2006

2.10.2 Where requested in writing by the Agency, the Operator shall provide at least 14 days advance notice of undertaking monitoring / spot sampling.

2.10.3 There shall be provided:

a safe and permanent means of access, together with all other facilities necessary, to enable sampling / monitoring to be carried out in relation to the emission points specified in Schedule 2 (except ST2), unless otherwise specified in that Schedule;

b safe means of access, together with all other facilities necessary, to enable sampling / monitoring to be carried out in relation to ST2 sampling / monitoring points, within 48 hours of receiving an appropriate request by the Agency; and

c safe means of access, together with all other facilities necessary, to enable sampling / monitoring to be carried out in relation to other sampling / monitoring points, when required by the Agency.

2.10.4 Every year, for a duration covering at least one week's normal production, the operator shall take daily samples, representative of the site's surface water discharges, and shall prepare separate composite samples for emission points W1 and W2. The samples are to be analysed for those substances listed on the Reporting Form (W1) referred to in Schedule 3.

2.10.5 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme specified in conditions 6.1.3 and 6.4.4 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Agency.

2.11 Decommissioning

2.11.1 The Operator shall, subject to the conditions of this Permit, make provision for decommissioning the installation as described in the documentation specified in Table 2.11.1, or as otherwise agreed in writing by the Agency.

TABLE 2.11.1 – DECOMMISSIONING

Description	Parts	Date Received
Application	The response to question 2.11 given in section 2.11 of the application	03/12/01
Application for Variation	The response to question 2.11 of the Application	13/11/2006

2.12 Multi-operator installations

2.12.1 This is not a multi-operator installation

3 Records

3.1.1 A record (a "Specified Record") shall be made of:-

a any malfunction, breakdown or failure of plant, equipment or techniques (including down time and any short term and long term remedial measures) that may have, has had or might have had an effect on the environmental performance of the Permitted Installation. These records shall be kept in a log maintained for that purpose;

b all monitoring and sampling taken or carried out in accordance with the conditions of this permit and any assessment or evaluation made on the basis of such data;

c for all waste received at or produced from the Permitted Installation:-

i its composition, or as appropriate, description;

ii the best estimate of the quantity produced;

iii its disposal routes; and

iv the best estimate of the quantity sent for recovery.

3.1.2 There shall be made available for inspection by the Agency at any reasonable time:

a Specified Records;

b any other records made by the Operator in relation to the operation of the Permitted Installation ("Other Records").

3.1.3 A copy of any Specified or Other Records shall be supplied to the Agency on demand and without charge.

3.1.4 Specified Records and Other Records shall:-

a be legible;

b be made as soon as reasonably practicable; and

c indicate any amendments which have been made and shall include the original record wherever possible.

3.1.5 Specified Records and Other Records shall be retained for a minimum period of 4 years from the date when the records were made.

3.1.6 A record shall be made at the Permitted Installation of any complaints concerning the Installation's effect or alleged effect on the environment. The record shall give the date of complaint, time of complaint, a summary of any investigation and the results of such investigation. Such records shall be made in a log kept for this purpose.

4 Reporting

4.1.1 All reports and notifications required by this Permit, or by Regulation 16 of the PPC Regulations, shall be sent to the Environment Agency at the address notified in writing to the Operator by the Agency.

4.1.2 The Operator shall report the parameters listed in Table S2 to Schedule 2 as follows:

a in respects of the emission points specified;

b for the reporting periods specified in Table S2 to Schedule 2 and using the forms specified in Table S3 to Schedule 3;

c giving the information from such results and assessments as may be required by the forms specified in those Tables; and

d sending the report to the Agency within 28 days of the end of the reporting period.

4.1.3 The Operator shall, within 36 months of the issue of this Permit, submit a report on potential environmental improvements to the Permitted Installation. For each of the subject areas identified in Section 2 of the appropriate technical guidance, the report shall assess the costs and benefits of alternative techniques that may provide environmental improvement. This shall include, but not be limited to, those techniques listed in guidance. The methodologies used should be based on those given in Agency guidance note IPPC H1 (Environmental Assessment and Appraisal of BAT) and should justify, against the Best Available Techniques criteria, where potential improvements are not planned to be implemented. As part of their management system the Operator shall submit an updated report every 36 months.

4.1.4 The Reports described in paragraph 4.1.3 above shall include reassessments of the options for disposal of sludge from the effluent treatment plant and BAT justifications for the chosen option.

4.1.5 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 30 April in each year, starting in 2004, provide a summary report of the previous year's progress against such targets.

4.1.6 Fugitive emissions shall be reviewed on an annual basis and a summary report on this review shall be sent to the Agency detailing such releases, their likely environmental significance, and the measures taken to reduce them.

4.1.7 The Operator shall submit a detailed site closure plan to the Agency by 31 October 2003 and shall ensure that it remains current thereafter.

4.1.8 The Operator shall produce a report annually on the energy consumption of the installation, and shall send a copy of each such report to the Agency. The report shall contain, as a minimum, the information specified in the form listed in Schedule 3.

4.1.9 The Operator shall produce a report annually, summarising the quantities of waste removed from the site for recovery / disposal, and shall send a copy of each such report to the Agency. The report shall contain, as a minimum, the information specified in the form listed in Schedule 3.

4.1.10 The Operator shall produce a report once every 4 years summarising the outcome of the reviews of raw material and water use required by condition 2.2.2

5 Notifications

5.1.1 The Operator shall notify the Agency **without delay** of:-

a the detection of an emission of any substance which exceeds any limit or criteria in this Permit specified in relation to the substance;

b the detection of any fugitive emission which has caused or may cause pollution unless the quantity emitted is so trivial that it would be incapable of causing pollution;

c the detection of any malfunction, breakdown or failure of plant or techniques which has caused or may have the potential to cause pollution; and

d any accident which has caused or may have the potential to cause pollution.

5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1 of this Permit by sending:-

a the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and

b the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;

and such information shall be in accordance with that Schedule.

5.1.3 The Operator shall give written notification, as soon as practicable, of any of the following:

a permanent cessation of the operation of any part of or all of the Permitted Installation;

b cessation of the operation of any part of or all of the Permitted Installation for a period, likely to exceed 1 year; and

c resumption of the operation of any part of or all of the Permitted Installation after a cessation notified under 5.1.3(b).

5.1.4 The Operator shall notify the following matters to the Agency, in writing, within 14 days of their occurrence:

i any change in the Operator's trading name, registered name or registered office address;

ii a change to any particulars of the Operator's ultimate holding company (including details of an ultimate holding company where the Operator has become a subsidiary);

iii any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up.

5.1.5 Where the Operator has entered into a Climate Change Levy Agreement with the Government, the Operator shall, within 14 days, notify the Agency, in writing, in the event that the Secretary of State has not re-certified that agreement.

6 Emissions

6.1 Emissions into air

6.1.1 Emissions to air from the emission points specified in Table 6.1.1 shall only arise from the sources specified in that Table.

Table 6.1.1: Emission points into air

Emission point reference / description	Source	Location of emission point on Appendix 4 Casting Installation Layout in Variation Application.
ST1	Odour scrubber – emissions from core moulding & casting	ST1
ST2	Bag filter – emissions from both melting furnaces	ST2
ST3	None	ST3
ST4	Heat treatment	ST4
ST5	None	ST5
ST6	Casting – general ventilation	ST6
ST7	Casting – general ventilation	ST7
ST8	None	ST8
ST9	Sand Reclamation Furnace	NS1
ST10	Sand Heater Dust Collector	NS2
ST11	Sand Coating Fume Incinerator	NS3
ST12	LP line Knockout Dust Collector	NS4
ST13	HP Heat Treatment Oven	NS5

6.1.2 The limits for emissions into air for the parameters and emission points set out in Table 6.1.3 shall not be exceeded.

6.1.3 The Operator shall carry out monitoring of the parameters listed in Table 6.1.3 and 6.1.3a, from the emission points and at least at the frequencies specified in that Table.

Table 6.1.3: Emission limits into air

Parameters	Emission Point			
	ST1	ST2	ST4	ST6 & ST7
Particulate, mg m^{-3} (min 4 hour sample) Frequency of monitoring	5 annually	5 annually	5 annually	5 every four years
Oxides of nitrogen (as NO_2), mg m^{-3} Frequency of monitoring	- -	100 annually	100 annually	- -
Carbon monoxide, mg m^{-3} Frequency of monitoring	- -	150 annually	150 annually	- -
Hydrogen Chloride, mg m^{-3} Frequency of monitoring	- -	10 annually	- -	- -
Fluorides, mg m^{-3} Frequency of monitoring	- -	1 annually	- -	- -
Volatile Organic Compounds (as Carbon), mg m^{-3} Frequency of monitoring	50 annually	- -	- -	- -
Formaldehyde, mg m^{-3} Frequency of monitoring	1 annually	- -	- -	- -
Phenol, mg m^{-3} Frequency of monitoring	0.25 annually	- -	- -	- -
Ammonia, mg m^{-3} Frequency of monitoring	- annually	- -	- -	- -

Table 6.1.3a: Emission limits into air

Parameters	Emission Point		
see Notes 1 & 2	ST9, 11	ST10	ST12
Particulate, mg m^{-3}	5	5	5
Frequency of monitoring	annually	annually	annually
Oxides of nitrogen (as NO_2), mg m^{-3}	150	150	
Frequency of monitoring	quarterly	annually	
Carbon monoxide, mg m^{-3}	150	150	
Frequency of monitoring	quarterly	annually	
Volatile Organic Compounds (as Carbon), mg m^{-3}	50		
Frequency of monitoring	quarterly		
Phenol, mg m^{-3}	10		
Frequency of monitoring	annually		
Amines, mg m^{-3}	5		
Frequency of monitoring	annually		
Formaldehyde, mg m^{-3}	7		
Frequency of monitoring	annually		
Ammonia, mg m^{-3}	10		
Frequency of monitoring	annually		

Note 1. All emission limits to be reviewed following completion of Improvement Programme Item 9.15

Note 2. Monitoring frequencies for ST9 and ST11 to be reviewed following completion of Improvement Programme Item 9.16 .

6.1.4 Where an annual mass limit for a substance is stated in Table 6.1.4, the aggregate emission of such substance from the Permitted Installation into air from the emission points specified in Table 6.1.2 shall not exceed that limit in any year.

Table 6.1.4 Annual mass limits

No annual mass limits are set.

6.1.5 There shall be no odour from the activities at the installation detectable beyond the site boundary.

6.2 Emissions to land

6.2.1 There shall be no emission to land from the Permitted Installation.

6.2.2 The Operator shall notify the Agency, as soon as practicable, of any information concerning the state of the Site which affects or updates that provided to the Agency as part of the Site Report submitted with the application for this Permit.

6.3 Emissions to water [other than emissions to sewer]

6.3.1 Emissions to water from the emission points specified in Table 6.3.1 shall only arise from the sources specified in that Table.

Table 6.3.1: Emission points into water

Emission Point Reference	Source	Receiving Water
W1	Casting building roof and roadways	Un-named tributary of the river Dee, east of site.
W2	WWTP roof	Un-named tributary of the River Dee, west of site

6.3.2 There shall be no emission into water from the Permitted Installation of any substance prescribed for water for which no limit is specified, except in a concentration which is no greater than the background concentration.

6.4 Emissions to sewer

6.4.1 Emissions into sewer from the emission point specified in Table 6.4.1 shall only arise from the sources specified in that table.

Table 6.4.1: Emission points into sewer

Emission Point Reference	Source	Sewer
S1	Wastewater treatment plant	Dŵr Cymru Welsh Water

6.4.2 The limits for the emissions into sewer for the parameters and emission points set out in Table 6.4.2 shall not be exceeded.

Table 6.4.2: Emission limits into sewer

Parameter	Emission point S1	Monitoring requirement
Flow	20 m^3 per hour 400 m^3 per day	Continuous during discharge
Minimum pH	5	
Maximum pH	10	
Total Suspended Solids, mg/l	200	Daily composite samples
Chemical Oxygen Demand, mg/l	1500	
Total hydrocarbon oil, mg/l	150	
Copper, mg/l	1	
Zinc, mg/l	2	
Lead, mg/l	1	
Nickel, mg/l	1	
Sulphate, mg/l	1000	One daily composite sample per week

6.4.3 There shall be no emission into sewer from the Permitted Installation of any substance prescribed for water for which no limit is specified in Table 6.4.2 except in a concentration which is no greater than the background concentration.

6.4.4 The Operator shall carry out monitoring of the parameters listed in Table 6.4.2 from the emission points and at least at the frequencies specified in that Table.

6.5 Emissions of heat

6.5.1 No conditions are specified

6.6 Emissions of noise and vibration

6.6.1 No conditions are specified

6.7 Fugitive emissions of substances

6.7.1 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 have been taken to prevent or where that is not practicable, to minimise, those emissions.

6.7.2 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.

7 Transfer to effluent treatment plant

7.1.1 The waste water treatment plant forms part of the installation, and no conditions relating to transfers to that plant are specified.

8 Off site conditions

8.1.1 There are no off-site conditions.

9 Improvement programme

9.1.1 The Operator shall complete the requirements specified in Table 9.1.1 by the date specified in that Table, and shall send written notification of the date of completion of each requirement to the Agency, at the Reporting Address, within 14 days of the completion of each such requirement.

Table 9.1.1: 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

Table 9.1.1: Improvement programme requirements - continued

Reference	Requirement	Date
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 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.	Closed
9.12	The Operator shall submit updated plans to show the location of both internal and external storage of wastes.	01 June 2007
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.	3 months from completion of commissioning.
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	Within 2 months of completion of commissioning.

Table 9.1.1: Improvement programme requirements - continued

Reference	Requirement	Date
	submitted in writing to the Agency.	
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.	Within 3 months completion of commissioning
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.	01 September 2007.
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.	Within 3 months of completion of commissioning
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.	01 September 2007.
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.	01 June 2007
9.20	The Operator shall conduct a noise survey to BS 4142 to confirm the noise levels at the boundary of the Installation.	Within 12 months from completion of commissioning
9.21	The operator shall conduct an investigation into how to manage firewaters that could arise at the Installation. A	01 October 2007.

Table 9.1.1: Improvement programme requirements - continued

Reference	Requirement	Date
	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 Agency	

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)
. Deutches Institut für Normung (DIN)
. Verein Deustcher Ingenieure (VDI)
. Association Française de Normalisation (AFNOR)

10 Interpretation

10.1.1 In this Permit, the following expressions shall have the following meanings:

"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, powers specified in Section 108(4) of that Act.

"Background concentration"
means the same as "background quantity" as defined in paragraph 11 to Part 2 to Schedule1 of the PPC Regulations.

"Fugitive emission"
means an emission from any point other than those specified in the Tables in part 6 of this Permit.

"Monitoring"
includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"Permitted Installation"
means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

"PPC Regulations"
means the Pollution Prevention and Control Regulations 2000 (S.I. 2000 No. 1973) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit.

"Staff"
includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

"Substances prescribed for water"
means those substances mentioned in paragraph 13 of Part 2 of Schedule 1 to the PPC Regulations.

"Year"
means calendar year ending 31 December.

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

10.1.3 Unless stated otherwise, any references in this Permit to concentrations of substances in emissions into air mean;

a in relation to gases from combustion processes, the concentration in dry air at a temperature of 273 K, 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 gases from non-combustion sources, the concentration at a temperature of 273 K and at a pressure of 101.3 kPa, with no correction for water vapour content.

11 Written agreement to changes

11.1.1 When the qualification "or as otherwise agreed in writing" is used in a condition of this Permit, the Operator shall seek such agreement in the following manner:

a the Operator shall give the Agency written notice of the details of the proposed change, indicating the relevant part(s) of this Permit; and

b such notice shall include an assessment of the possible effects of the proposed change (including waste production) on risks to the environment from the Permitted Installation.

11.1.2 Any change, proposed according to condition 11.1.1 and agreed in writing by the Agency, shall not be implemented until the Operator has given the Agency prior written notice of the implementation date for the change. As from that date, the Operator shall operate the Permitted Installation in accordance with that change, and any relevant documentation referred to in this Permit shall be deemed to be amended.

Schedule 1

Confirmation of condition 5.1.1 notifications, in accordance with condition 5.1.2

This Schedule outlines the information that the Operator must provide to the Agency to satisfy condition 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements must 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 PPC Regulations.

Returns should contain:

Part A

- ☐ Name of Operator.
- ☐ Permit Number
- ☐ Location of Installation
- ☐ Date information provided
- ☐ Time, date and location of the emission
- ☐ Identity and details of the substance[s] emitted to include:-
  - ☐ Best estimate of the quantity or the rate of emission, and the time during which the emission took place
  - ☐ Environmental medium into which the emission took place
  - ☐ Measures taken, or intended to be taken, to stop the emission

Part B

- ☐ Date and time of emission
- ☐ Any more accurate information on the matters notified 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 or harm which has been or may be caused by the emission
- ☐ The dates of any Part A notifications within the previous 24 months

☐ Name ☐ Post.....

☐ Signature ☐ Date

☐ Statement that signatory is authorised to sign on behalf of Toyota Motor Manufacturing Ltd.

Schedule 2

Reporting of monitoring data

Parameters for which reports shall be made, in accordance with condition 4.1.2 of this Permit, are listed in Table S2 below.

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
Volatile organic compounds, mg m^{-3}	ST9, ST11	Every 3 months	1 April 2007
Carbon monoxide, mg m^{-3}	ST9, ST11	Every 3 months	1 April 2007
Oxides of nitrogen, mg m^{-3}	ST9, ST11	Every 3 months	1 April 2007
Particulates, mg m^{-3}	ST1, ST2, ST4, ST9, ST10, ST11, ST12	Every 12 months	1 January 2003
Oxides of nitrogen, mg m^{-3}	ST2, ST4, ST10		
Carbon monoxide, mg m^{-3}	ST2, ST4, ST10		
Hydrogen chloride, mg m^{-3}	ST2		
Fluorides, mg m^{-3}	ST2		
Volatile organic compounds, mg m^{-3}	ST1		
Formaldehyde, mg m^{-3}	ST1, ST9, ST11		
Phenol, mg m^{-3}	ST1, ST9, ST11		
Ammonia, mg m^{-3}	ST1, ST9, ST11		
Amines, mg m^{-3}	ST9, ST11	Every 12 months	1 April 2007
Particulates, mg m^{-3}	ST6 & ST7	Every four years	1 January 2003
Flow Rate, m^3/hour	S1	Every 12 months	1 January 2003
Daily Flow, m^3/day	S1		
pH	S1		
Suspended solids, mg/l	S1		
Chemical Oxygen Demand, mg/l	S1		
Total Hydrocarbon Oil, mg/l	S1		
Sulphate, mg/l	S1		
Copper, mg/l	S1		
Zinc, mg/l	S1		
Lead, mg/l	S1		
Nickel, mg/l	S1		
Total Hydrocarbon Oil, mg/l	W1, W2	Every 12 months	1 January 2003
pH	W1, W2		
Chemical Oxygen Demand, mg/l	W1, W2		
Water usage, m^3 engine^{-1}	-	Every 12 months	1 January 2007

Schedule 3

Forms to be used

Unless otherwise agreed in writing between the Agency and the Operator, the Operator shall use the Agency forms specified in Table S3 for reports submitted to the Agency.

Table S3:Reporting Forms		
Medium / parameter	**Form Number**	**Date of Form**
Air	A1	February 2007
Water – Releases to sewer	S1	February 2007
Water (releases from W1 and W2)	W1	February 2007
Energy	E1	February 2007
Waste Return	R1	February 2007
Water Usage	WU1	February 2007