POLLUTION PREVENTION AND CONTROL ACT 1999
POLLUTION PREVENTION AND CONTROL (ENGLAND AND WALES) REGULATIONS 2000

PERMIT OF PROCESS

THIS IS TO CERTIFY THAT **the quarry process and roadstone coating plant**

at: **LAFARGE AGGREGATES LTD, MOUNTSORREL QUARRY, WOOD LANE, QUORN, LEICS LE12 8GE**
(National Grid Ref::Sk.577148)

has been duly permitted in accordance with Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 subject to the conditions outlined in this document.

Name of Operator: LAFARGE AGGREGATES LTD, THE BUSINESS CENTRE
Registered Office WATERMEAD BUSINESS PARK, WANLIP ROAD**,** SYSTON, LEICESTER LE7 1PE

This Permit shall apply only to the premises occupied by the applicant, as specified and described in the Application for Permit submitted to the Borough of Charnwood. This Permit, consisting of seventeen pages, shall be subject to replacement, variation or amendment, as may be considered appropriate by the Borough of Charnwood, at any time, according to provisions of Regulations 12,15 and 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000.

The conditions contained herein shall apply from the date of Permit unless otherwise stated.

Robin A. Fisk

R A Fisk
Head of Environmental Health Services Dated 16 March 2005

Environmental Health Services, Southfields,
Southfields Road, Loughborough LE11 3TX

LAFARGE AGGREGATES LTD, MOUNTSORREL QUARRY, WOOD LANE, QUORN

1.0 Process Description

1.1 Purpose

The purpose of the process is the general quarrying operations associated with the extraction and processing of stone, including:-

a) The production of coated roadstone
b) The crushing and size reduction of hard rock for use within the construction industry

This process is included in Schedule 1, Chapter 3, Section 3.1(a), Part B of the Pollution Prevention and Control (England and Wales) Regulations 2000

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1) 1.2. Plant Operation

Stone is quarried by drilling and blasting. It is transported from the quarry face by dump trucks. A series of screens remove undersize material and the larger stone is conveyed to the primary surge pile. Stone from the surge pile is transported via conveyors to the secondary crusher and the rock is reduced to the following sizes: under-5mm, 5mm, 6mm, 10mm, 14mm, 20mm, 28mm, 40mm and 50mm. The single size products are then conveyed through a tunnel to the coated stone production plant, rail load out facility and precast concrete works at Barrow-upon-Soar. The process boundary is shown on Plan 01/21A attached to this Permit.

1.3 Plant Detail

The layout of plant in phases 1, 2 and 3 is shown on Plan 02/21A attached to this Permit.

1.4 Emission Points

There are three principal emission points from arrestment plant as follows:-

i) Chimney serving the phase 2 crushers (building numbered 9 in phase 1 and 2 locations in plan 02/21A). This exhausts dust-laden air from the phase 2 crushers via bag filtration abatement plant.

ii) Chimney serving the KVM asphalt plant. This exhausts combustion gases from the burner, which heats the rotary drum dryer, and dust-laden air from the rotary drum dryer via bag filtration abatement plant. This is shown as location 9 on plan 02/21A.

iii) Chimney serving the Standard Haven drum mix plant This exhausts combustion gases from the burner, which heats the rotary drum dryer, and dust-laden air from the rotary drum dryer via bag filtration abatement plant. This is shown as location 12 on plan 02/21A.

2.0 Emission Limits

2.1 All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist.

2.2 All emissions to air shall be free from persistent fume except for the loading of lorries with coated roadstone and free from droplets.

2.3 All emissions from combustion processes in normal operation shall be free from visible smoke and in any case should not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742:1969.

2.4 All pollutant concentration shall be expressed at Standard Conditions of 273K, 101.3KPa, without correction for water vapour content.

2.5 The introduction of dilution air to achieve the emission concentration limits in these conditions is not permitted. However, the introduction of air to balance arrestment systems is acceptable.

2.6 Exhaust flow rates shall be consistent with efficient capture of emissions, good operating practice and meeting the requirements of the legislation relating to the work place environment.

2.7 The concentrations of total particulate matter from the KVM asphalt plant and the Standard Haven drum mix plant shall not exceed 100mg/m^3 at standard conditions

2.8 No emission to air from the KVM asphalt plant or the Standard Haven drum mix plant should exceed the following emission concentrations-

Cadmium	0.5mg/m^3
Nickel	1mg/m^3
Chromium) Copper) Vanadium)	1.5mg/m^3
Lead	5mg/m^3
Chloride (expressed as hydrogen chloride)	100mg/m^3
Fluoride (expressed as hydrogen fluoride)	5mg/m^3

In all cases where waste or recovered oil is burned, in order to control emissions of sulphur dioxide and PCBs, the concentration of sulphur and PCBs in the fuel shall not exceed 1% w/w and 10ppm, respectively."

2.9 No non-continuous monitoring of results from either the KVM asphalt plant or the Standard Haven drum mix plant shall exceed the emission concentration limits in conditions 2.7 and 2.8.

An approved method of monitoring must be agreed with the Local Authority prior to any tests being carried out

3.0 Monitoring, Sampling and Measurement of Emissions

3.1 Emissions from the roadstone drying plant shall be tested by sampling the emission annually and continuously monitoring and measuring for particulate matter. The reference test method for particulate matter emissions in chimneys or ducts is that of BS 1S0 9096:2003 and tests shall be carried out according to the main procedural requirements of that standard or another recognised procedure where such exists. This shall be subject to validation and traceability protocols acceptable to Charnwood Borough Council. The confidence limit for the emission level shall be stated.

3.2 The results of all non continuous monitoring and inspections shall be recorded in a log book retained by the operator for a minimum of two years and made available for examination by the Charnwood Borough Council. Adverse results shall be investigated immediately and in all cases shall be recorded in the log book. The operator shall ensure that the cause has been identified and corrective action taken, and this action recorded in the log book.

3.3 The results of all non-continuous emission testing shall be forwarded to the Charnwood Borough Council within 8 weeks of the completion of the testing. A summary of results of all continuous monitoring shall be retained on the operation sites for at least four years.

3.4 Visual assessments of dust, fumes and smoke emissions from the emission points described in condition 1.4 shall be made at least once daily during daylight hours, having regard to the possible sources of emissions. Remedial action shall be taken immediately in the case of abnormal emissions. Records of all visual assessments and of any remedial action taken shall be kept by the operator for at least two years and made available to the local authority inspector.

3.5 Adequate safe facilities for sampling that meet the procedural requirements of BS.ISO 9096:2003 shall be provided on all plant to be monitored.. Care is needed in the safe design and location of sampling systems in order to obtain representative samples.

3.6 The air handling capacity of the arrestment plant serving the emission points described in condition 1.4 are as follows:-

i) Stage 2 crusher - _____m^3/min
ii) KVM asphalt plant - _____m^3/min
iii) Standard Haven drum mix - _____m^3/min

Emissions from all three shall be continuously monitored and recorded for particulates.

The data relating to the air handling capacities shall be forwarded to the local authority inspector by 31 July 2005.

An audible/visual alarm shall be activated in the event of any emission in exceedence of the following limits:-

Plant	***Alarm TriggerLlimit***	***Alarm Type***
Stage 2 crusher	t.b.a.	t.b.a.
KVM asphalt	t.b.a.	t.b.a.
Standard Haven	t.b.a.	t.b.a.

The data relating to alarm activation triggers shall be forwarded to the local authority inspector by 31 July 2005.

Arrestment plant handling below 100m^3/min shall be designed and maintained to minimise visible dust emissions.

3.7 If three or more periodic monitoring exercises, carried out over a period of at least 2 years, indicate consistent compliance with emission limits, an application may be made to allow an increased interval between future monitoring results. Such a relaxation will be considered sooner if the monitoring is supported by continuous indicative monitoring which shows consistent compliance. In determining "consistent compliance" regard should be had to the variability of monitoring results and how close the results are to the specified emission limit. Thus, results which a range from 50-98mg/m^3 against an emission limit of 100mg/m^3 might not qualify for a reduction in monitoring. In considering whether to allow a reduced monitoring frequency, account will also be taken of whether the process has been subject to significant change in the preceding two or more years which might affect the mission being monitored.

3.8 Compliance with the requirements of condition 2.9 above shall be demonstrated by calculation from an analysis of waste or recovered oil delivered to the site. For the KVM asphalt and Standard Haven plant, this analysis shall give details of the concentration of cadmium, nickel, chromium, copper, vanadium, lead, chlorides, fluorides, PCBs and sulphur present in the oil delivered.

Such an analysis, with the necessary calculations, shall be submitted to the local enforcing authority at least once every three months where the oil supplier remains constant, and as soon as possible following a change in oil supplier. In the event of a change in oil supplier, the local enforcing authority shall be notified in writing forthwith. To enable calculation of the emission to be carried out from the analysis, it will be necessary to undertake annual stack gas sampling for metals, chlorides and fluorides, when an oil of known analysis is being burned, to enable the proportions of metals, chlorides and fluorides that are retained in the appliance and subsequent arrestment plant, to be established. Where percentage retention of metals, chlorides and fluorides in the appliance is found to be high, the requirement for annual testing may be dispensed with. When the percentage retention in the appliance and subsequent arrestment plant is established usually by one or two monitoring exercises, it will be possible to set maximum concentrations of metals, chlorides and fluorides which can be present in the waste or recovered oil burned.

3.9 Charnwood Borough Council should be advised at least 7 days in advance of any periodic monitoring exercise to determine compliance with emission limit values of the provisional time and date of monitoring pollutants to be tested and the methods to be used.

3.10 For the purposes of establishing the impact on the locality surrounding Mountsorrel Quarry, the quarry management shall undertake a monitoring screening survey. The exercise must monitor real time levels of PM_{10} at least over a three month period around the quarry source. Samples shall be located close to the nearest point of public exposure.

Within four months of the date of this Variation Notice, the quarry management shall have completed the data gathering and presented a report to Charnwood Borough Council regarding the initial assessment of the impact of PM_{10} on the locality.

3.11 Incidents or alleged incidents of odorous emissions outside the installation boundary shall be investigated by the operator. The nature of and conclusions arising from the investigation shall be retained by the operator and made available to the local authority inspector for a period of at least two years.

4.0 Materials Handling

4.1 In order to minimise visible dust emissions from the handling of materials other than fume arising from the loading of vehicles with coated roadstone:

a) The loading to stockpiles and the construction and management of stockpiles shall be undertaken using suppressing and/or containment techniques so as to minimise wind entrainment of dust.

b) Drop heights from conveyors shall be kept to a minimum.

4.2 In order to minimise visible dust emission from the handling of materials, other than fume arising from the loading of vehicles with coated roadstone the following shall apply as from the date of this Permit:

a) The internal transportation of processed material in vehicles likely to generate dust shall be carried out in closed tankers or sheeted lorries or the material being transported shall be conditioned with water.

b) The loading of vehicles shall be carried out in such manner as to minimise the generation of airborne dust.

c) Road vehicles carrying stone shall at the earliest opportunity after loading, and before leaving the site, be sheeted or otherwise totally enclosed.

- This requirement shall not extend to vehicles loaded with stone which is:-
- Single sized, above 75mm, and washed;
- Armour and sea wall stone;
- Hand selected stone, such as that used for walling or housing.

d) Dust emissions arising from the loading of lorries with stone at the loading bays marked on Plan 2/21A ???shall be minimised by water suppression, using large volume spray rings.

4.3 Roadways shown on Plan 2/21A including loading bays normally used by road going vehicles, shall be hard-surfaced and kept clean or wet to avoid the dissemination of dust and should be adequately drained to avoid ponding of water. Wheel cleaning facilities located on the access route onto Granite Way shall be maintained in effective working condition for vehicles leaving the works to prevent material being deposited onto roads beyond the site boundary.

4.4 No material shall be stored in the open except for:-

a) Material that has been screened to remove material 3mm and under;
b) Sand;
c) Scalpings;
d) Material used for road sub-bases (commonly known as 'MOT material') that has been conditioned before deposition.
e) Crusher run material or blended material that has been conditioned before deposition:
f) Material under 3mm that is in excess of the internal storage capacity (the internal storage capacity is 200 tonnes in phase II and 2000 tonnes in Phase III).

4.5 All conveyor, other than deep trough ground-level conveyors carrying primary crusher material, shall be enclosed in order to minimise wind-whipping (i.e. at least on one side and above), unless the material has already been screened to remove material under 3mm size. Transfer points between such conveyors shall be enclosed and fitted with flexible seals on inlet and exits. No dried material shall be handled other than through the roadstone coating plant.

Conveyors shall be fitted with an effective means of cleaning to minimise dust droppings off the returning conveyor. Belt scrapers shall be fitted and kept in working order at all head drum returns.

4.6 Screen houses and transfer houses shall be as dust-tight as is reasonably practicable with self-closing doors and close-fitting entries and exists for conveyors. Where containment of dust within screen houses and transfer houses is not successful, then extraction shall be provided to minimise visible dust emissions.

4.7 Phase I crushing plant shall be fitted with water suppression at the hopper and at feeders coming from beneath the crusher. The water suppression shall be in working condition and in use at all times when the crusher is in operation.

Phase 2 crusher plant shall be contained within a suitably dust-tight building and dust-laden air extracted to the bag-house filters. The extraction plant shall be operational and in good working order whenever the crushers are operational.

4.8 Wherever water is used as a method of dust suppression, processes shall have an adequate supply of water and all water suppression systems shall have adequate frost protection in the form of frost stats.

4.9 Filter dust collected by the abatement plant on the KVM asphalt plant and Standard Haven drum mix is usually returned back into the aggregate via an enclosed system.

Where dust cannot be recycled due to customer specifications, it must be moistened in the designated conditioning plant and stored and disposed of in a manner which prevents fugitive emission of the material.

Dust collected by the stage 2 crusher abatement plant shall be stored in a silo prior to loading via an enclosed system to tanker for resale or disposal.

4.10 Tankers carrying dusty non-waste materials should be discharged only into silos fitted with an effective dust collecting system.

4.11 Storage silos and hoppers for powders or filler dust shall be enclosed and vented to air through arrestment plant. Arrestment plant fitted to silos shall be of sufficient size (and kept clean) to avoid over-pressurisation during delivery. This is particularly important where pressure relief valves are not fitted.

Visual assessment of emissions from arrestment plant to the silo shall be undertaken during all bulk deliveries. Storage silos shall be equipped with audible or visual high-level alarms to warn of overfilling. The correct operation of such alarms shall be checked weekly.

4.12 The fitting of pressure relief valves will help to minimise damage to arrestment plant if the silo becomes pressurised due to the blinding of filters. Seating of pressure relief vales, where fitted to silos, shall be checked at least once a week or before a delivery takes place whichever is the longer interval. Immediately, it appears that the valve may have become unseated, the delivery should cease and no further delivery shall take place. The valve should be examined and re-seated if necessary. Tanker drivers shall be informed of the correct procedure to be followed.

4.13 All filter bags shall be inspected once every four weeks. If defects or significant blinding are detected, corrective action should be taken promptly, and normally before another delivery occurs. Operators should record in the log book any cases where deliveries are made prior to corrective action being taken.

4.14 Care shall be taken during delivery of powders and filler dusts from tankers to avoid venting of air through silos at a rate which is likely to result in over-pressurisation of the silos. Particular problems may arise during the release of air from tankers at the end of deliveries and care should therefore also be taken to avoid over-pressurisation of silos when venting air from tankers at this stage. (It is envisaged that the only practicable means of venting at the end of deliveries will be through a silo). These can be alleviated by the use of tankers with sufficient valve work to allow a gradual release to occur and by carefully controlled venting. In order that fugitive emissions are minimised during the charging of silos, care should be taken to ensure that the transfer lines are securely connected to the tanker discharge point and the silos delivery inlet point. Tanker drivers must be informed of the correct procedures to be followed and that they are operating at a pressure of not more than 4 bar.

4.15 In order to minimise emissions of fume, all bitumen and tar must be stored and handled within the appropriate temperature range for its grade. Details of suitable storage and handling temperatures are given in the table below.

RECOMMENDED BITUMEN* HANDLING AND STORAGE TEMPERATURES

Grade (BS 3690)	Minimum Pumping Temperature (°C)	Maximum Handling & Storage Temperature (°C)
Penetration Grades		
450 pen	90	190
350 pen	95	190
200 pen	100	190
100 pen	105	200
70 pen	110	200
50 pen	115	200
40 pen HD	125	200
35 pen	125	220
25 pen	135	220
15 pen	140	220
Hard Grades		
H80/90	160	230
H100/120	190	230
Oxidised Grades		
75/30	150	230
85/25	165	230
85/40	165	230
95/25	175	230

105/35	190	230
115/15	205	230
Cutback Grades		
50 secs	65	160
100 secs	70	170
200 secs	80	180
*** These figures do not apply to coal tars**		

4.16 Bulk bitumen and tar storage tanks shall be fitted with a high-level alarm or volume indicator to warn of overfilling.

4.17 Emissions from displaced air vents on the bulk waste oil storage tanks must not cause offensive odours beyond the process boundary.

4.18 Bulk waste oil storage tanks shall be fitted with a high-level alarm or volume indicator to warn of and thereby prevent overfilling.

4.19 Above ground bulk waste oil storage tanks shall be completely contained by bunding which is impervious and resistant to the fuels in storage and capable of holding 110% of the capacity of all storage tanks within the bund.

5.0 Chimneys, Vents and Process Exhausts

5.1 Chimneys or vents shall not be fitted with any restriction at the final opening such as a plate, cap or cowl. However, the use of eductor cones at stack exits is permitted.

5.2 Chimneys or vents shall normally be designed for an efflux velocity of not less than 15m/s at full load operation.

5.3 The stack height on the standard Haven plant shall remain at 45.6m.

5.4 The stack height on the KVM asphalt plant shall remain at 30m.

6.0 General Operations

6.1 Supplies of essential spares and consumables for the aforementioned plant and equipment shall be readily available for use.

6.2 Any malfunction or breakdown leading to abnormal emissions shall be dealt with immediately it arises and process operations shall be so adjusted as to restore normal operating procedures

All malfunction and breakdowns shall be recorded in the log book required to be kept by virtue of specific condition of this Permit.

Where such a malfunction or breakdown is of such nature that it is likely to have an effect on the local community, the enforcing authority shall be notified without delay.

6.3. All water suppression sprays shall be maintained in an operational condition, shall have provided to them an adequate supply of water, and where practicable, be adequately protected against frost using frost stats

New Plan 01/21A attached
New Plan 02/21A attached

EXPLANATORY NOTES

These notes do not comprise part of Permit Serial No.021A but contain guidance relevant to the Permit.

1. You should note that Regulation 12(10) of the Regulations provides that in relation to any aspect of the process not regulated by conditions 1.1 to 6.3 the best available techniques ('BAT') shall be used for the purpose of preventing or, where that is not practicable, reducing emissions into the air.

   Section 3(1) of the Regulations describes 'BAT' as meaning the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.

2. This Permit is issued under the Pollution Prevention and Control (England and Wales) Regulations 2000. The responsibility you have under legislation for Health, Safety and Welfare in the workplace remains in force. In addition, the Permit does not relieve you of your obligations to obtain planning permission, hazardous substances consent, discharge consent from the Environment Agency, Building Regulations approval, or a Waste Disposal licence.

3. Any proposed 'change in operation' in the process (within the meaning of Regulation 2(1)) shall be notified to Charnwood Borough Council as required by Section 16(1) of the Regulations.