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**ENVIRONMENT  
AGENCY**

## Variation Notice with introductory note

Pollution Prevention and Control Regulations 2000

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**Ruabon Electroceramics**

**Morgan Electro Ceramics Limited  
Vauxhall Industrial Estate  
Ruabon  
Wrexham  
LL14 6HY**

Variation Notice number

NP3338LX

Permit number

BY0364IB

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# 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:

- i) Increased production through the current powder preparation line (25 tonnes per annum) and operation of an additional powder preparation line (55 tonnes per annum). The new line consists of a weigh scale, main mix blunger, a drying oven, a granulator, a calcination kiln, a pin mill, a jet mill, binder production, a pre-mix blunger, a spray drier and a cone blender. Powders produced will be stored at the Ruabon site prior to use in the Ruabon process or transport to the Southampton facility. Additional abatement of air emissions is required for the additional line. This consists of solid sintered filters followed by HEPA filters.
- ii) Operation of an additional bead mill
- iii) Operation of an additional electrically powered oxygen atmosphere sinter firing kiln.
- iv) Replacement of existing bag filters with solid sintered filters followed by HEPA filters and minor relocation of emission point (within 5m of previous emission point)
- v) A number of minor changes to emission points at the site: increase in stack height of emission points B2, B3, B6 and B7 to 3m above the building roof, and combining the laboratory kiln and spray drier emission points into one new point following relocation to the new laboratory.

The main purpose of the activity at the installation is:-

Morgan Electro Ceramics Limited operates two PPC installations at their site in Ruabon, Wrexham. These are (i) a 'Part A(1)' Installation (regulated by the Environment Agency) and (ii) a 'Part B' Installation (regulated by the local authority). This permit relates to the Part A Installation, and allows the Operator to manufacture electroceramic materials. The Part B activity involves solvent cleaning in the production of electroceramic components for various electronic and electrical devices.

The manufacture of electroceramic materials is relevant under Part A(1) of Schedule 1 of the PPC Regulations due to the use of lead, gallium and antimony in manufacture of the electroceramic materials. The process includes receipt and storage of raw materials including lead oxide, antimony trioxide and gallium oxide, preparation of powder, powder milling, drying, calcine firing, spray drying and blending, powder pressing, binder burn-out, sinter firing, cleaning of equipment, and waste storage. Associated activities include laboratory and process support activities and effluent treatment. Maximum annual production of electroceramic materials is in the region of 250 tonnes. Releases are made to air (particulates including lead), to sewer (from effluent treatment plant to Five Fords Sewage Treatment Works) and to a controlled water. The release to the latter is uncontaminated surface water drainage via a drainage ditch to Aberderfyn Brook. Releases to air are via 21 stacks, of which 4 give rise to the majority of the air emissions. These 4 release points are abated.

The nearest Site of Special Scientific Interest (SSSI) is Nant-y-Belan and Prynella Woods, which is at a distance of 4.3 km from the Installation. There are a further 7 SSSI's within a distance of 10km. There are two Special Area of Conservation within 10 km of the site, one at 113 m (Johnstown Newt Sites) and one at 4.3 km (Berwyn a Mynyddoedd De Clwyd/Berwyn and South C1). Despite the close proximity of these sites, the Agency has concluded that the operation has no adverse effect on any Natura 2000 sites and is not considered to have an adverse effect on any important ecological sites.

#### **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
IPC Authorisation (as varied)	AO0164LMN/999	30/11/94

## 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	

*End of introductory Note*

**Variation Notice**

Pollution Prevention and Control  
(England and Wales) Regulations 2000



**ENVIRONMENT  
AGENCY**

## Variation Notice

Permit number

**BY0364IB**

Variation Notice number

**NP3338LX**

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.

Morgan Electro Ceramics Limited ("the Operator"),

whose Registered Office is

**Bursledon Road  
Thornhill  
Southampton  
Hampshire  
SO19 7TG**

Company registration number **112286**

which relates to the operation of an Installation at

**Vauxhall Industrial Estate  
Ruabon  
Wrexham  
LL14 6HY**

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

This Notice shall take effect from 18 July 2006.

Signed

A rectangular box containing a handwritten signature in black ink that reads "Paul Nash".

**Paul Nash**

Authorised to sign on behalf of the Environment Agency

Date

**18 July 2006**

Effective from 18 July 2006

## SCHEDULE 1 - CONDITIONS TO BE DELETED

1. None

## SCHEDULE 2 - CONDITIONS TO BE AMENDED

2. Condition 1.4.1 to be amended to

1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement.

**Table 1.4.1: Improvement programme**

Ref	Requirement	Date
1	The Operator shall review the existing pollution prevention measures in place for the drummed waste storage area, having regard to Section 2.2.5 of the Sector Guidance Note S4.03. A written report shall be submitted to the Environment Agency for approval, summarising the review, including any necessary improvements and timescales.	Complete
2	The Operator shall undertake a programme of monitoring of emissions of lead, total particulate matter and volatile organic chemicals to estimate the total release of these substances from the emission points listed in section B2.2.2 of the Application, excluding points B2, B3, B6 and B7. The Operator shall use the following monitoring standards: BS EN 13284-1 for particulate, BS EN 14385 for lead and BS EN 13526:2001 for Total VOCs, unless otherwise agreed in writing by the Agency. The methodology used to estimate the releases, together with an impact assessment of these emissions shall be submitted in writing to the Agency.	31/10/06
3	The Operator shall provide a written report detailing the status of the improvements identified in Section B9.0.1 of the Application.	31/08/06
4	The Operator shall review the pollution prevention measures in place for the effluent treatment plant, having regard to Section 2.2.2 of the Agency Guidance Note S4.03. The Operator shall provide the Environment Agency with a written copy of the review for approval, which shall include timescales for the implementation of improvements.	30/09/06
5	The Operator shall submit a written report to the Environment Agency for approval, outlining the scope for a noise assessment and any further assessments, having regard to Environment Agency Cross Sector Guidance Note H3 (Part 1 and Part 2). This report shall include those aspects of operation detailed in both the PPC Permit Application and the subsequent Application for Variation.	31/08/06
6	The Operator shall investigate options for de-watering sludge on-site, having regard to Section 2.6 of the Agency Guidance Note S4.03. A written report summarising the options shall be submitted to the Agency for approval. The report shall include a timescale for the implementation of improvements.	31/10/06
7	The Operator shall investigate options for reusing treated effluent for use in low-grade applications, having regard to Section 2.4.3 of the Agency Guidance Note S4.03. A written report summarising the techniques shall be submitted to the Agency for approval. The report shall include a timescale for the implementation of improvements.	31/10/06
8	The Operator shall investigate the options for the recovery and recycling of waste powder in the process, having regard to Section 2.6 of the Environment Agency Guidance Note S4.03. A written report summarising the techniques identified shall be submitted to the Agency for approval. The report shall include a timescale for the implementation of improvements.	31/12/06

**Table 1.4.1: Improvement programme cont**

Ref	Requirement	Date
9	The Operator shall undertake a programme of monitoring of emissions of lead, total particulate matter and volatile organic chemicals to quantify the releases of these substances from emission points B6, B7, B13, B22, B23, B24 and B25. The Operator shall use the following monitoring standards: BS EN 13284-1 for particulate, BS EN 14385 for lead and BS EN 13526:2001 for Total VOCs, unless otherwise agreed in writing by the Agency. The methodology used to estimate the releases, together with an impact assessment of the emissions from the Installation as a whole shall be submitted in writing to the Agency.	31/10/2006

### 3. Amend condition 2.1.1 to

- 2.1.1 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 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

**Table 2.1.1: Operating techniques**

Description	Parts	Date received
Application	The response to questions 2.1 given in Section 4 of the application (In-process controls) and 2.2 given in Section 5 of the application (Emissions control and abatement).	03/12/04
Application for Variation	The response given in sections C2.1 (In-process controls) and C2.2 (Emissions control and abatement) of the Application for Variation.	13/03/2006
Resubmission of Schedule 7 response in response to letter dated June 27 2006 requesting further clarification of original response made May 30 2006.	The response to questions 1 to 6 of the Schedule (pages 1 – 27) and the response to question 10 of the letter.	03/07/2006
Supplementary information provided by the Operator.	Points 1, 5 and 6	18/07/2006

7. Amend Schedule 2 – Reporting of Monitoring Data to

Parameters for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

<b>Table S2: Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission point</b>	<b>Reporting period</b>	<b>Period begins</b>
Lead mg/m <sup>3</sup>	B3, B6, B7, B22, B23, B24	Annual	01/01/06
Particulates mg/m <sup>3</sup>	B3, B6, B7, B22, B23, B24	Annual	01/01/06
Lead mg/l	S1	6 Months	01/07/05
Zinc mg/l	S1	6 Months	01/07/05
Water usage	Permitted Installation	Annual	01/01/05
Energy usage	Permitted Installation	Annual	01/01/05
Waste disposal and recovery	Permitted Installation	Annual	01/01/05

8. Amend Schedule 3 – Forms to be used to

<b>Table S3: Reporting Forms</b>		
<b>Media / parameter</b>	<b>Form number</b>	<b>Date of form</b>
Air	A1	08/06
Sewer	S1	08/06
Energy	E1	08/06
Waste disposal and recovery	R1	08/06
Water usage	WU1	08/06
Performance indicators	PI1	08/06

**SCHEDULE 3 - CONDITIONS TO BE ADDED**

9. None

4. Amend condition 2.2.1.2 to

2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the sources specified in that Table.

**Table 2.2.1 : Emission points to air**

Emission reference or description	point or Source	Location of emission point (as per Drawing PPC 05, Issue 3 - Permit Variation Proposal)
B1	Calcine Kiln – PZT material	PZT preparation enclosure - Bay 1
B3	General dust collector	External to building
B4	Calcine kiln – Flue No. 1	Powder Preparation Production Area - Bay 1
B5	Calcine kiln – Flue No. 2	Powder Preparation Production Area - Bay 1
B6	Wet Process Spray Dryer	Bay 1, Powder Preparation
B7	Press area dust collector	External to building
B8	Binder burn-off oven	Bay 3 kilns
B9	Binder burn-off oven	Bay 2 kilns
B10	Binder burn-off oven	Bay 3 kilns
B11	Sinter fire kiln	Bay 2 kilns
B12	Sinter fire kiln	Bay 2 kilns
B13	Sinter fire kiln + O <sub>2</sub> firing kiln	Bay 3 kilns
B14	Calcine kiln	Bay 3 kilns
B15	Calcine kiln	Bay 3 kilns
B16	Calcine kiln	Bay 2 kilns
B17	Sinter fire kiln	Bay 3 kilns
B18	Sinter fire kiln	Bay 2 kilns
B22	Lead dust collector for 'wet process'.	External to Bay 1, Powder Preparation
B23	Lead dust collector for bead mill and 'dry process'.	External to Bay 1, Powder Preparation
B24	Dry Process Spray Dryer	Bay 1, Powder Preparation
B25	2 laboratory kilns and laboratory spray drier	Laboratory

5. Amend condition 2.2.1.3 to

2.2.1.3 The limits for emissions to air for the parameters and emission points set out in Table 2.2.2 shall not be exceeded.

**Table 2.2.2 : Emission limits to air and monitoring**

Emission point reference	Parameter	Limit (including reference period) - see Notes 1 and 2	Monitoring frequency	Monitoring method
B3	Lead	0.1 mg/m <sup>3</sup>	Annual	BS EN 14385
B3	Particulates	1 mg/m <sup>3</sup>	Annual	BS EN 13284-1:2002
B6	Lead	0.5 mg/m <sup>3</sup>	Annual	BS EN 14385
B6	Particulates	20 mg/m <sup>3</sup>	Annual	BS EN 13284-1:2002
B7	Lead	0.3 mg/m <sup>3</sup>	Annual	BS EN 14385
B7	Particulates	10 mg/m <sup>3</sup>	Annual	BS EN 13284-1:2002
B22	Lead	0.1 mg/m <sup>3</sup>	Annual	BS EN 14385
B22	Particulates	1 mg/m <sup>3</sup>	Annual	BS EN 13284-1:2002
B23	Lead	0.1 mg/m <sup>3</sup>	Annual	BS EN 14385
B23	Particulates	1 mg/m <sup>3</sup>	Annual	BS EN 13284-1:2002
B24	Lead	0.5 mg/m <sup>3</sup>	Annual	BS EN 14385
B24	Particulates	20 mg/m <sup>3</sup>	Annual	BS EN 13284-1:2002

Note 1: See Section 6 for reference conditions

Note 2: These limits shall be reviewed following completion of improvement programme item 9.

6. Amend condition 2.2.1.3 to

2.2.2.1 Emissions to water from the emission point specified in Table 2.2.4 shall only arise from the source specified in that Table.

**Table 2.2.4: Emission point to water**

Emission Reference description	Point or Source	Receiving Water
W1	Uncontaminated Site surface water drainage	Aberderfyn Brook via drain, as shown in Fig. 11 of Application.

Permit Reference Number: BY0364IB

Installation: Ruabon Electroceramics

Operator: Morgan Electro Ceramics Limited

Form Number: P11

**Environmental Performance Indicators**

Parameter	Annual Average	Units
Hazardous waste disposal		
Non hazardous waste disposal		

Trends in Environmental Performance		
Year	Parameter	
	Hazardous waste disposal (t) / Electroceramic product (t)	Non hazardous waste disposal (t) / Electroceramic product (t)
2005		
2006		
2007		

Operator's comments :

Signed .....  
 (authorised to sign as representative of the Operator)

Date.....

Permit Reference Number: BY0364IB

Operator: Morgan Electro Ceramics Limited

Installation: Ruabon Electroceramics

Form Number: E1

**Reporting of Energy Usage for the year .....**

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	CO <sub>2</sub> Produced (tonnes)
Electricity *	MWh		
Gas	MWh		
<b>TOTAL</b>	-		

\* Conversion factor for delivered electricity to primary energy =

Year	Primary Energy usage	CO <sub>2</sub> produced	CO <sub>2</sub> per tonne Electroceramic product
2005			
2006			
2007			

Operator's comments :

Signed .....  
(authorised to sign as representative of the Operator)

Date.....

Permit Reference Number: BY0364IB

Operator: Morgan Electro Ceramics Limited

Installation: Ruabon Electroceramics

Form Number: WU1

Reporting of Water Usage for the year .....

Water Source	Usage (m <sup>3</sup> )	Specific Usage (m <sup>3</sup> /t)
Mains water		
<b>TOTAL WATER USAGE</b>		

Trends in Water Usage Year	Parameter	Total Water usage	Water per tonne electroceramic product
2005			
2006			
2007			

Operator's comments :

Signed ..... Date.....  
 (authorised to sign as representative of the Operator)

Permit Reference Number: BY0364IB

Operator: Morgan Electro Ceramics Limited

Installation: Ruabon Electroceramics

Form Number: R1

**Reporting of Waste Disposal and Recovery for the year .....**

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
Named haz. Waste			
Other hazardous wastes			
Total hazardous waste			
2) Non-Hazardous Wastes			
Named non-haz. Waste			
Other non-hazardous wastes			
Total non-hazardous waste			
<b>TOTAL WASTE</b>	-		

Year	Hazardous waste (t) / PVC compound (t)	Non hazardous waste (t) / PVC compound (t)	Total waste (t) / PVC compound (t)
2005			
2006			
2007			

Operator's comments :

Signed ..... Date.....  
 (authorised to sign as representative of the Operator)

Operator: Morgan Electro Ceramics Limited

Permit Reference Number: BY03641B

Form Number: S1

Installation: Ruabon Electroceramics

Reporting of Emissions to Sewer for the period from .....to.....

Emission Point	Substance / Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
S1	Lead	0.5 mg/l		UKAS approved method			
S1	Zinc	2 mg/l		UKAS approved method			

[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. colorimetry.  
 [3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements, or flow/time proportional samples, the percentage of the process operating time covered by the monitoring is given.  
 [4] The accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.  
 [5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated. The following uncertainties are quoted on a different basis (basis as stated) - {The basis of any other uncertainty figure needs to be stated. Where no figure is available the Agency will need to agree an appropriate uncertainty value.}

Signed ..... Date.....  
 (authorised to sign as representative of the Operator)

Permit Reference Number: BY0364IB

Operator: Morgan Electro Ceramics Limited

Installation: Ruabon Electroceramics

Form Number: A1

Reporting of Emissions to Air for the period from .....to.....

Emission Point	Substance / Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
B3	Lead	0.1 mg/m <sup>3</sup>		BS EN 14385			
B3	Particulates	1 mg/m <sup>3</sup>		BS EN 13284-1:2002			
B6	Lead	0.5 mg/m <sup>3</sup>		BS EN 14385			
B6	Particulates	20 mg/m <sup>3</sup>		BS EN 13284-1:2002			
B7	Lead	0.3 mg/m <sup>3</sup>		BS EN 14385			
B7	Particulates	10 mg/m <sup>3</sup>		BS EN 13284-1:2002			
B22	Lead	0.1 mg/m <sup>3</sup>		BS EN 14385			
B22	Particulates	1 mg/m <sup>3</sup>		BS EN 13284-1:2002			
B23	Lead	0.1 mg/m <sup>3</sup>		BS EN 14385			
B23	Particulates	1 mg/m <sup>3</sup>		BS EN 13284-1:2002			
B24	Lead	0.5 mg/m <sup>3</sup>		BS EN 14385			
B24	Particulates	20 mg/m <sup>3</sup>		BS EN 13284-1:2002			

[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 accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.

[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated. The following uncertainties are quoted on a different basis (basis as stated) - {The basis of any other uncertainty figure needs to be stated. Where no figure is available the Agency will need to agree an appropriate uncertainty value.}

Signed ..... Date.....  
 (authorised to sign as representative of the Operator)