



**ENVIRONMENT
AGENCY**

Variation Notice with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

**Barry Silicon Based Manufacturing
Installation**

**Dow Corning Limited
Barry Plant
Cardiff Road
Barry
Vale of Glamorgan
CF63 2YL**

**Variation Notice Number
HP3138UU**

**Permit number
BR9685IX**

Barry Silicon Based Manufacturing Installation

Permit Number BR9685IX

Introductory note

This introductory note does not form a part of the permit

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 part of 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 variation is required to permit;

- an extension to the installation boundary for the installation of an outside storage area for portable flammable containers,
- the elimination of a safety hazard by providing dedicated nitrogen purge vents for two mixers to prevent asphyxiation hazards inside W205 compounding building,
- upgrading of W930 catalyst powder unloading system with the addition of a vacuum dust extraction and filtration unit,
- a change to the reference period for HCl and Cl₂ releases from the Energy Recovery Unit, vent A41,
- removal of the requirement to monitor daily for silanes at A40 in the event that the ERU is not available for periods greater than 6h.

Status Log of the permit

Detail	Date	Response Date
Application BR9685IX	Received 17/08/05	
Response to request for information	Requests dated: 30/09/05, 07/10/05, 21/10/05, 25/10/05, 03/11/05, 09/11/05	Responses dated: 03/11/05, 12/10/05, 25/10/05, 17/11/05, 08/11/05 and 15/11/05, 17/11/05 Summary response 24/01/06 21/02/06, 21/02/06
Request to extend determination	Request dated 14/12/05	Request accepted 09/01/06
Permit determined	06/06/06	
Application HP3138UU	Duly made 01/05/07	
Additional Information received		08/05/07
Response to request for additional information	15/05/07	30/05/07
Variation notice HP3138UU issued	27/06/07	

Other PPC permits relating to this installation

Operator	Permit Number	Date of Issue
Cabot Carbon Ltd.	BU2110IS	31/03/06
Npower Cogen Ltd.	BX4135IJ	30/06/06
Vopak Terminal Windmill Ltd.	KP3734SH	01/06/06

End of Introductory Note

Variation Notice

**Pollution Prevention and Control
(England and Wales) Regulations 2000**

Variation Notice

Permit number

BR9685IX

Variation number

HP3138UU

The Environment Agency (the Agency) in exercise of its powers under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No 1973) hereby varies the permit held by you

Dow Corning Limited ("the operator"),

whose registered office (or principal office) is

Dow Corning Ltd.

Cardiff Road

Barry

Vale of Glamorgan

CF63 2YL

Company registration number 486170

to operate part of an Installation(s) at

Barry Silicon Based Manufacturing Installation

Dow Corning Ltd.

Cardiff Road

Barry

Vale of Glamorgan

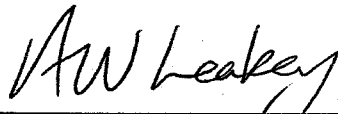
CF63 2YL

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

The notice shall take effect from 27th June 2007

Signed

Date

	<i>27th June 2007</i>
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AW Leakey

Authorised to sign on behalf of the Agency

SCHEDULE 1 - CONDITIONS TO BE DELETED

1. None.

SCHEDULE 2 - CONDITIONS TO BE AMENDED

2. Condition 2.2.1.2 to be amended 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 point reference or description	Source	Location of emission point
A1	W424 Grinding Plant bag filter vent	Point A1 on site plan B2.2.2 in Application
A2	W424 Grinding Plant bag filter vent	Point A2 on site plan B2.2.2 in Application
A3	W424 Grinding Plant bag filter vent	Point A3 on site plan B2.2.2 in Application
A4	W940 Grinding Plant bag filter vent	Point A4 on site plan B2.2.2 in Application
A5	W940 Grinding Plant bag filter vent	Point A5 on site plan B2.2.2 in Application
A6	W940 Grinding Plant bag filter vent	Point A6 on site plan B2.2.2 in Application
A7	W940 Grinding Plant bag filter vent	Point A7 on site plan B2.2.2 in Application
A8	W714 Fluidised Bed Reactor bag filter vent, located on W709	Point A8 on site plan B2.2.2 in Application
A9	W714 Fluidised Bed Reactor bag filter vent, located on W709	Point A9 on site plan B2.2.2 in Application
A10	W714 Fluidised Bed Reactor bag filter vent	Point A10 on site plan B2.2.2 in Application
A11	W714 Fluidised Bed Reactor bag filter vent	Point A11 on site plan B2.2.2 in Application
A12	W714 Fluidised Bed Reactor vent via condenser	Point A12 on site plan B2.2.2 in Application
A13	W930 Fluidised Bed Reactor catalyst filter vent	Point A13 on site plan B2.2.2 in Application
A14	W930 Fluidised Bed Reactor bag filter vent	Point A14 on site plan B2.2.2 in Application
A15	W930 Fluidised Bed Reactor bag filter vent	Point A15 on site plan B2.2.2 in Application
A16	W930 Fluidised Bed Reactor bag filter vent	Point A16 on site plan B2.2.2 in Application
A17	W930 Fluidised Bed Reactor bag filter vent	Point A17 on site plan B2.2.2 in Application
A18	W930 Fluidised Bed Reactor bag filter vent	Point A18 on site plan B2.2.2 in Application
A19	W705 Hydrolysis Plant vent via condenser	Point A19 on site plan B2.2.2 in Application
A20	W716 Hydrolysis Plant vent via condenser	Point A20 on site plan B2.2.2 in Application
A21	W705 Hydrolysis Plant vent via absorber	Point A21 on site plan B2.2.2 in Application
A22	W716 Hydrolysis Plant vent via absorber	Point A22 on site plan B2.2.2 in Application
A23	W705 Hydrolysis Plant vent via scrubber	Point A23 on site plan B2.2.2 in Application
A24	W716 Hydrolysis Plant vent via scrubber	Point A24 on site plan B2.2.2 in Application
A25	W705/W716 Hydrolysis Plant vent via scrubber	Point A25 on site plan B2.2.2 in Application
A26	W920 Hydrolysis Plant vent via scrubber	Point A26 on site plan B2.2.2 in Application
A27	W920 Hydrolysis Plant vent via condenser	Point A27 on site plan B2.2.2 in Application
A28	W920 Hydrolysis Plant tanker loading vent	Point A28 on site plan B2.2.2 in Application
A29	W343 Rearranger Plant vent via scrubber	Point A29 on site plan B2.2.2 in Application
A30	W718 Chloromethane Plant sulphuric acid tank vent	Point A30 on site plan B2.2.2 in Application
A31	W802 Tank Farm tank vent	Point A31 on site plan B2.2.2 in Application
A32	W802 Tank Farm tank vent	Point A32 on site plan B2.2.2 in Application
A33	W718 Chloromethane Plant vent via condenser and absorber	Point A33 on site plan B2.2.2 in Application
A34	W931 Chloromethane Plant vent via condenser and absorber	Point A34 on site plan B2.2.2 in Application
A35	W1206 Quench Treatment Area bag filter vent	Point A35 on site plan B2.2.2 in Application
A36	W1206 Quench Treatment Area vent via scrubber	Point A36 on site plan B2.2.2 in Application
A37	W1206 Quench Treatment Area vent via scrubber	Point A37 on site plan B2.2.2 in Application
A38	W1205 Quench Treatment Area vent via scrubber	Point A38 on site plan B2.2.2 in Application
A39	W1205 Quench Treatment Area vent via scrubber	Point A39 on site plan B2.2.2 in Application
A40	W946 Chlorosilane Recovery Unit vent via W806 scrubber	Point A40 on site plan B2.2.2 in Application
A41	W949 Energy Recovery Unit via 30m stack	Point A41 on site plan B2.2.2 in Application
A42	Waste Water Treatment Plant bag filter vent	Point A42 on site plan B2.2.2 in Application

A43	W922 Methylhydrogen Cyclics Process vent via scrubber	Point A43 on site plan B2.2.2 in Application
A44	W922 Methylhydrogen Cyclics Process tank vent	Point A44 on site plan B2.2.2 in Application
A45	W922 Methylhydrogen Cyclics Process tank vent	Point A45 on site plan B2.2.2 in Application
A46	W922 Methylhydrogen Cyclics Process tanker vent	Point A46 on site plan B2.2.2 in Application
A47	W420 Hot Oil Unit vent via 18.3m stack	Point A47 on site plan B2.2.2 in Application
A48	W948 Hot Oil Unit vent via 30m stack	Point A48 on site plan B2.2.2 in Application
A49	W1206 Quench Treatment Area vent via scrubber	Point A49 on site plan B2.2.2 in Application
A50	W957 Hydrogen Plant vent via 19m stack	Point A50 on site plan B2.2.2 in Application
A51	W940 Grinder Plant bag filter vent	Point A51 on site plan B2.2.2 in Application
A52	W920 Hydrolysis vent via scrubber	Point A52 on site plan B2.2.2 in Application
A53	W922 Methylhydrogen Cyclics Process separator vent	Point A53 on site plan B2.2.2 in Application
A54	Not in existence at time of application	Point A54 on site plan B2.2.2 in Application
A55	W348 TCS Process bag filter vent	Point A55 on site plan B2.2.2 in Application
A56	W348 TCS Process bag filter vent	Point A56 on site plan B2.2.2 in Application
A57	W348 TCS Process vent via scrubber	Point A57 on site plan B2.2.2 in Application
A58	W306 Fluids GIC Process vent	Point A58 on site plan B2.2.2 in Application
A59	W306 Fluids HVF Process vent	Point A59 on site plan B2.2.2 in Application
A60	W306 Fluids DC1107 Process vent via condenser	Point A60 on site plan B2.2.2 in Application
A61	W404 Tank Farm vent	Point A61 on site plan B2.2.2 in Application
A62	W404 Tank Farm vent	Point A62 on site plan B2.2.2 in Application
A63	W404 Tank Farm vent	Point A63 on site plan B2.2.2 in Application
A64	W406 Fluids Process vent	Point A64 on site plan B2.2.2 in Application
A65	W406 Fluids Splitter Process vent via condenser	Point A65 on site plan B2.2.2 in Application
A66	W406 Tank Farm vent	Point A66 on site plan B2.2.2 in Application
A67	W406 Tank Farm vent	Point A67 on site plan B2.2.2 in Application
A68	W422 Polymerisation Process vent via condenser	Point A68 on site plan B2.2.2 in Application
A69	W322 Hot Oil Unit vent via 15m stack	Point A69 on site plan B2.2.2 in Application
A70	W322 Hot Oil Unit vent via condenser	Point A70 on site plan B2.2.2 in Application
A71	W322 Hot Oil Unit tank vent	Point A71 on site plan B2.2.2 in Application
A72	W410 Batch Vinyl Polymer Process vent via condenser	Point A72 on site plan B2.2.2 in Application
A73	W410 Batch Vinyl Polymer Process vent via condenser	Point A73 on site plan B2.2.2 in Application
A74	W410 Amino Polymer Process (Textiles) vent via condenser	Point A74 on site plan B2.2.2 in Application
A75	W410 Acetoxysilane/ CHU Process vent via scrubber	Point A75 on site plan B2.2.2 in Application
A76	W410 Acetoxysilane Process bag filter vent	Point A76 on site plan B2.2.2 in Application
A77	W410 Release Modifier Process vent via condenser	Point A77 on site plan B2.2.2 in Application
A78	W410 Release Modifier Process vent via condenser	Point A78 on site plan B2.2.2 in Application
A79	W407 Continuous Vinyl Polymer Process vent via condenser	Point A79 on site plan B2.2.2 in Application
A80	W407 Continuous Vinyl Polymer Process vent via 25m stack	Point A80 on site plan B2.2.2 in Application
A81	W408 Tank Farm vent	Point A81 on site plan B2.2.2 in Application
A82	W414 Tank Farm vent	Point A82 on site plan B2.2.2 in Application
A83	W414 Tank Farm vent	Point A83 on site plan B2.2.2 in Application
A84	W414 Tank Farm vent	Point A84 on site plan B2.2.2 in Application
A85	W307 Multipurpose/Development Process vent via scrubber	Point A85 on site plan B2.2.2 in Application
A86	W309 Silicone Fluids Process vent	Point A86 on site plan B2.2.2 in Application
A87	W309 Silicone Fluids Process vent	Point A87 on site plan B2.2.2 in Application
A88	W309 Silicone Fluids Process vent	Point A88 on site plan B2.2.2 in Application

A89	W115 Elastomers Mixing Process vent via scrubber	Point A89 on site plan B2.2.2 in Application
A90	W115 Elastomers Mixing Process vent via dust cartridge	Point A90 on site plan B2.2.2 in Application
A91	W115 Elastomers Mixing Process vent via dust cartridge	Point A91 on site plan B2.2.2 in Application
A92	W115 Elastomers Mixing Process vent via dust cartridge	Point A92 on site plan B2.2.2 in Application
A93	W115 Elastomers Catalyst Unit vent	Point A93 on site plan B2.2.2 in Application
A94	W115 Elastomers Gum Unit vent via condenser	Point A94 on site plan B2.2.2 in Application
A95	W115 Elastomers Mixing Plant bag filter vent	Point A95 on site plan B2.2.2 in Application
A96	W115 Elastomers Mixing Plant bag filter vent	Point A96 on site plan B2.2.2 in Application
A97	W115 Elastomers Mixing Plant bag filter vent	Point A97 on site plan B2.2.2 in Application
A98	W115 Elastomers Mixing Plant bag filter vent	Point A98 on site plan B2.2.2 in Application
A99	W115 Elastomers Mixing Plant bag filter vent	Point A99 on site plan B2.2.2 in Application
A100	W115 Elastomers Mixing Plant bag filter vent	Point A100 on site plan B2.2.2 in Application
A101	W115 Elastomers Mixing Plant bag filter vent	Point A101 on site plan B2.2.2 in Application
A102	W115 Elastomers Mixing Plant bag filter vent	Point A102 on site plan B2.2.2 in Application
A103	W115 Elastomers Mixing Plant bag filter vent	Point A103 on site plan B2.2.2 in Application
A104	W115 Elastomers Mixing Plant bag filter vent	Point A104 on site plan B2.2.2 in Application
A105	W115 Elastomers Mixing Plant bag filter vent	Point A105 on site plan B2.2.2 in Application
A106	W115 Elastomers Mixing Plant bag filter vent	Point A106 on site plan B2.2.2 in Application
A107	W115 Elastomers Mixing Plant bag filter vent	Point A107 on site plan B2.2.2 in Application
A108	W410 Amino Polymer Process vent	Point A108 on site plan B2.2.2 in Application
A109	W805 Spent Bed Encapsulation Process vent	Point A109 on site plan B2.2.2 in Application
A110	W805 Spent Bed Encapsulation Process vent	Point A110 on site plan B2.2.2 in Application
A111	W930 FBR Catalyst Powder Unloading System Vent	Point A111 on revised Air vent drawing
A112	W205 3401 Tilt Mixer Vent	Point A112 on revised Air vent drawing
A113	W205 301 Small Tilt Mixer Vent	Point A113 on revised Air vent drawing

3. Condition 2.2.1.3 to be amended to:

2.2.1.3 The limits for emissions to air for the parameter(s) and emission point(s) 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) ⁽¹⁾	Monitoring frequency	Monitoring method
A12	Chloromethane	1000 kg/day, ⁽²⁾ 250 kg/h ⁽²⁾	Continuous when ERU not available	US EPA Method 18
A27, A85	Siloxanes	An agreed limit ⁽⁴⁾	Quarterly	An agreed methodology ⁽⁶⁾
A26, A65, A68, A79	Siloxanes	An agreed limit ⁽⁴⁾	Quarterly	An agreed methodology ⁽⁶⁾
A33	Chloromethane	1000 kg/day, ⁽²⁾ 250 kg/h ⁽²⁾	Continuous when ERU not available	US EPA Method 18
A33	Methanol	60 kg/h	Continuous when ERU not available	US EPA Method 18
A34	Chloromethane	1000 kg/day, ⁽²⁾ 250 kg/h ⁽²⁾	Continuous when ERU not available	US EPA Method 18
A34	Methanol	60 kg/h	Continuous when ERU not available	US EPA Method 18
A41	Particulates	10 mg/m ³ hourly average	Annually	BS EN 13284-1
A41	Hydrogen chloride	10 mg/m ³ annual average ⁽⁶⁾	Monthly	BS EN 1911:1998
A41	Chlorine	10 mg/m ³ annual average ⁽⁶⁾	Monthly	US EPA Method 26
A41	Carbon monoxide	50 mg/m ³ hourly average	Annually	ISO 12039
A41	Oxides of nitrogen, as NO ₂	100 mg/m ³ hourly average	Annually	ISO 10849
A41	Dioxins and furans	0.1 ng/m ³	Annually	BS EN 1948:1997
A43	Hydrogen chloride	10 mg/m ³ hourly average	Quarterly	BS EN 1911:1998
A44	Hydrogen chloride	10 mg/m ³ ⁽⁶⁾ hourly average	Quarterly	BS EN 1911:1998
A50	Oxides of nitrogen, as NO ₂	200 mg/m ³ hourly average	Annually	ISO 10849
A50	Carbon monoxide	200 mg/m ³ hourly average	Annually	ISO 12039
A57	Hydrogen chloride	10 mg/m ³ hourly average	Quarterly	BS EN 1911:1998
A57	Chloromethane	2 kg/h	During each spent bed transfer to W348	BS EN 13649
A60, A68	Class B VOCs	An agreed limit ⁽⁷⁾	Quarterly	BS EN 13649
A78	Class A VOCs	100 g/h ⁽⁵⁾	Quarterly	BS EN 13649
A85	Hydrogen chloride	10 mg/m ³ ⁽³⁾ hourly average	Annually	BS EN 1911:1998

Note 1: See Section 6 for reference conditions.

Note 2: Limit is cumulative for A12, A33, A34 and A40.

Note 3: During phosphonitrile production.

Note 4: Following completion of the improvements identified and approved by the Environment Agency in response to Improvement Programme 14.

Note 5: Following completion of the improvements identified and approved by the Environment Agency in response to Improvement Programme 16.

Note 6: Following completion of Improvement Programme 19.

Note 7: Following completion of the improvements identified and approved by the Environment Agency in response to Improvement Programme 4.

Note 8: Methodology agreed in writing with the Environment Agency.

Note 9: No monthly value to exceed 150% (15mg/m³) of annual average limit.

4. Condition 2.2.8.1 to be amended to:

2.2.8.1 The Operator shall comply with the requirements specified in Table 2.2.11, which supplement or replace emission limit values in accordance with Regulation 12(8) of the PPC Regulations.

Table 2.2.11 Equivalent parameters and technical measures

Parameter or measure	Requirement or description of measure, and frequency if relevant
Particulates from release points A1-A11, A13-A18, A29, A35, A38, A39, A42, A49, A51, A55, A56, A76, A90-92, A95-A107, A108 ⁽¹⁾ , A111-A113	No visible releases of dust with no evidence of deposition in vicinity of stack discharge.
Smoke from A47, A48, A69	No visible smoke except for the first 15 minutes of start up from cold.

Note 1: Following completion of Improvement Programme 22.

5. Schedule 5 to be amended to:

Schedule 5 - Site Plan

The site plan comprises one view as follows:

Figure 1 – Overview of complete installation showing the Dow Corning boundary edged in green and all sites that comprise the installation edged in red.

Figure 1 has been reproduced from the Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office ©Crown Copyright 2000. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.

6. Condition 2.10.2 to be amended to:

2.10.2 The Operator shall carry out environmental or other specified substance monitoring to the frequencies and methods described in Table 2.10.1

Table 2.10.1: Other monitoring requirements

Emission point reference or source or description of point of measurement	Substance or parameter	Monitoring frequency	Monitoring method	Other specifications
A12	Methane	Continuous	US EPA Method 18	Only when ERU not available
A12	Non-methane hydrocarbons	Continuous	US EPA Method 18	Only when ERU not available
A26	Class B VOCs	Annually	BS EN 13649	
A48	Oxides of nitrogen as NO ₂	Annually	ISO 10849	
A48	CO	Annually	ISO 12039	
ERU	Process availability ⁽¹⁾	Continuous	Process monitoring	To be reported to Environment Agency annually

Note 1: Based on the availability to process 100% of W714 FBR vent.

SCHEDULE 3 - CONDITIONS TO BE ADDED

7. None