

Variation notice with introductory note

Environmental Permitting (England & Wales) Regulations 2007

IQE Silicon Compounds Limited
Beech House
Cypress Drive
St Mellons
Cardiff
CF3 0LW

Variation notice number
EA/EPR/BJ6968IY/V002

Permit number
BJ6968IY

IQE Silicon Compounds Limited

Permit Number BJ6968IY

Introductory note

This introductory note does not form a part of the permit

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

A description of the installation is included in the introductory note of the original permit BJ6968IY. The reason for the permit variation is as follows:

The variation is required following a review of the abatement systems employed on site. Originally, the emissions to air from the process were abated via two systems in tandem; a wet scrubber and dry (resin) absorption units. The operator has reviewed the Best Available Techniques concerned with abating these emissions and has concluded that the dry absorption units are no longer required. The operator also makes the case that the units are not ideally designed to work after a wet scrubber and involve significant costs due to their shorter than expected life span. An assessment has been carried out to determine the environmental impact of emissions without the dry absorption units in place. These changes refer to emission points A1 to A6 inclusive. The resin absorption units will continue to be used for processes involving germane (GeH_4) and silane (SiH_4) gases, and therefore no change is proposed in this regard.

Following this variation, emissions to air from the process shall continue to be abated by the wet scrubber system. Emissions will be monitored on a 6 monthly basis (for hydrogen chloride) and annually (for other gases) as per the original permit requirements. There are no additional releases to air, water or sewer. Checks of the scrubber system will be carried out to ensure high performance. There are also alarm systems in place to warn of scrubber failure.

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

| Status Log of the permit | | |
|---|---|-----------------------|
| Detail | Date | Response Date |
| Application BJ6968IY | Received 21/12/00 | |
| Response to request for information | Request dated 20/02/01 | 27/03/01 and 06/04/01 |
| Response to request for information | Request dated 18/04/01 | 22/05/01 |
| Permit determined | 06/07/01 | |
| Application for variation EA/EPR/BJ6968IY/V002 | Received 06/08/08 Duly made 20/08/08 | |
| Response to request for information | Request dated 08/08/08 | 21/08/08 |
| Response to request for information | Request dated 15/10/08 | 16/10/08 |
| Response to request for information | Request dated 17/10/08 | 22/10/08 |
| Response to request for information | Request dated 20/10/08 | 22/10/08 |
| Variation EA/EPR/BJ6968IY/V002 determined | 13/11/08 | |
| Other Part A installation permits relating to this installation | | |
| Operator | Permit Number | Date of Issue |
| None | | |

End of Introductory Note

Notice of variation
Environmental Permitting
(England and Wales) Regulations 2007

Permit number

BJ6968IY

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

IQE Silicon Compounds Limited ("the operator"),

of/ whose registered office/or principal office is

**Beech House
Pascal Close
St Mellons
Cardiff
CF3 0LW**


Company registration number; **03986643**

to operate an Installation at

**Beech House
Pascal Close
St Mellons
Cardiff
CF3 0LW**

and that permit is varied to the extent set out in Schedules 1 to 3 of this notice.

The notice shall take effect from 17th November 2008

| Name | Date |
|---|----------|
| A W Leakey  | 13/11/08 |

Authorised on behalf of the Agency

Schedule 1 – conditions to be deleted

1. None.

Schedule 2 – conditions to be amended

2. Condition 2.3.1 shall be amended as follows:

- 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 pages 27 – 45 /section 6 of the application and Appendices 2,& 3.. Excluding Section 6 paragraphs 6.3, 6.5(ii), 6.9 and Appendix 4. | 21/12/00 |
| Application for variation EA/EPR/BJ6968IY/V002 | The response contained in documents 3 and 4 in regard to abatement techniques. | 15/08/08 |
| Request for additional information 07/08/08 | The response to information request, points 1 – 4 inclusive in regard to abatement techniques. | 21/08/08 |
| Request for additional information 11/11/08 | The response to information request, points 1 – 3 inclusive in regard to abatement techniques. | 11/11/08 |

3. Condition 2.8.1 shall be amended as follows:

- 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 pages 55-59 /section 10 of the application. Excluding Section 2.8 paragraphs 10.7 and 10.9. | 21/12/00 |
| Response to request from 1 st Schedule 4 Information Notice. | Response to questions within section 2.8. | 27/03/01 06/04/01 |
| Request for additional information 07/08/08 | Response to information request, points 2 and 3 in relation to scrubber control. | 21/08/08 |
| Request for additional information 20/10/08 | Response to information request regarding scrubber failure and power failure. | 22/10/08 |
| Request for additional information 11/11/08 | The response to information request, points 1 – 3 inclusive in regard to abatement control. | 11/11/08 |

4. Condition 2.10.1 shall be amended as follows:

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 pages 67-69/ section 12 of the application. | 21/12/00 |
| Response to request from 1 st Schedule 4 Information Notice. | Response to questions within section 2.10. | 27/03/01 |
| Application for variation EA/EPR/BJ6968IY/V002 | The information contained in document 3 in relation to ongoing monitoring and assessment. | 15/08/08 |
| Request for additional information 07/08/08 | The response to information request, point 2 in relation to scrubber operational monitoring. | 21/08/08 |
| Request for additional information 11/11/08 | The response to information request, points 1 – 3 inclusive in regard to abatement monitoring. | 11/11/08 |

5. Condition 6.1.1 shall be amended as follows:

6.1.1 Emissions to air from the emission point(s) specified in Table 6.1.1 shall only arise from the sources specified in that Table.

| Table 6.1.1: Emission points into air Table 6.1.1: Emission points | | | |
|--|---|--|--|
| Emission point reference/ description | Operator markings (as per drawing number 1345 100) | Source | Location of emission point |
| A1-A6 | CE1 – CE6 (renamed RSE1 – RSE6) | Scrubbed reactor vents from 6 reactors. | As per drawing No 1345 100 submitted in letter of 26 th June 2001. Reference to “Chemsorb extracts CE1 to CE6” are now renamed as “Reactor stack Extract RSE1 to RSE6” as per document “Variation query #3/4 received on 22 nd October 2008. |
| A26-A37 | CE7 – CE18 | Scrubbed reactor vents from 12 reactors. | To be advised to Agency and agreed before installation. |
| A7,A8 | R1,R2 | Reactor cooling/purge air vents | As per drawing No 1345 100 submitted in letter of 26 th June 2001 |
| A9 | S1 | Wet bench extract system. | As per drawing No 1345 100 submitted in letter of 26 th June 2001 |
| A10 | G1 | Extract from toxic/flammable gas bottle cabinets in 1 st gas hut. | As per drawing No 1345 100 submitted in letter of 26 th June 2001 |
| A11 | G2 | Extract from toxic/corrosive gas bottle cabinets in 2 nd gas hut. | As per drawing No 1345 100 submitted in letter of 26 th June 2001 |
| A12 | G3 | Extract from toxic/corrosive gas bottle cabinets in 3 rd gas hut. | As per drawing No 1345 100 submitted in letter of 26 th June 2001 |
| A13 | G4 | Extract from Trichlorosilane gas bottle cabinets in 4 th gas hut. | As per drawing No 1345 100 submitted in letter of 26 th June 2001 |
| A14-A25 | V1 – V12 | Extract from valve manifold box | As per drawing No 1345 100 submitted in letter of 26 th June 2001 |
| A38-A65 | V13 – V40 | Extract from valve manifold box | To be advised to Agency and agreed before installation. |

6. Condition 9.1.1 shall be amended as follows:

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 e 9.1.1: Improvement programme | | |
|--|---|--|
| Reference | Requirement | Date |
| 9.3 | 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 and the measures taken to reduce them. | 31/01/2002 and annually thereafter |
| 9.12 | The Operator shall use the emissions monitoring data specified in Table 6.1.2 of the permit to conduct an assessment having regard to the horizontal guidance H1, or an equivalent appropriate assessment. This shall be carried out following the removal of the resin absorption units at emission points A1 – A6 inclusive and use at least 2 sets of monitoring data. A report detailing the assessment shall be submitted to the Agency. | 31/12/2010 |
| 9.13 | Any increase in the number of reactors, for example A26 to A27, shall be agreed with the Agency in advance of their installation. The impact of the increase shall be assessed using actual emissions data from A1 to A6 (if appropriate) and using the H1 tool or similar. Additional controls should be investigated if appropriate, with reference to the Sector Guidance. A report detailing the assessment shall be submitted to the Agency. | Prior to the installation of additional reactors |

Schedule 3 – conditions to be added

7. None.