



# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2010**

---

Sembcorp Utilities (UK) Limited

Package Boiler Island  
Sembcorp UK Headquarters  
Wilton International  
Middlesbrough  
TS90 8WS

**Variation application number**

EPR/LP3531UL/V003

**Permit number**

EPR/LP3531UL

# Package Boiler Island

## Permit number EPR/LP3531UL

### Introductory note

#### **This introductory note does not form a part of the notice.**

Under the Environmental Permitting (England & Wales) Regulations 2010 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies that all the conditions of the permit have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made and contains all conditions relevant to this permit.

The requirements of the Industrial Emissions Directive (IED) 2010/75/EU are given force in England through the Environmental Permitting (England and Wales) Regulations 2010 (the EPR) (as amended).

This Permit, for the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the Industrial Emissions Directive (IED), is varied by the Environment Agency to implement the special provisions for LCP given in the IED, by the 1 January 2016 (Article 82(3)). The IED makes special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V.

As well as implementing Chapter III of IED, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issued. It also modernises all conditions to reflect the conditions contained in our current generic permit template.

The Operator has chosen to operate this LCP under the ELV compliance route. This is a change from the previous operating regime which was operation under emission limits determined by an assessment of the best available techniques (BAT).

The variation notice uses an updated LCP number in accordance with the most recent DEFRA LCP reference numbers. The LCP references have changed as follows:

LCP 269 is changed to LCP 323.

The rest of the installation is unchanged and continues to be operated as follows:

The 110.8MWth package boiler island installation (LCP 323) comprises four gas-fired boilers discharging via four separate flues, within one common windshield. These combustion units provide steam for industry located within the Wilton International site, which is located approximately 8km north east of Middlesbrough. The installation produces up to 120 tonnes of intermediate pressure steam per hour, at 17 barg and 300°C for supply to the Wilton International IP steam distribution system. The boilers are kept warm by sparging with IP steam from the Sembcorp ring main to enable a boiler to be brought fully on line within 20 minutes. Boiler feedwater comes from a separate demineralised supply system regulated under the Wilton Main Power Station permit NP3438LK. Boiler blowdown discharges to Dabholm Gut and then the River Tees, via the Wilton Site discharge consent.

Emissions of nitrogen oxides, carbon monoxide and particulates are minimised by combustion control. Emissions of sulphur dioxide are minimised by using natural gas fuel with <35ppm sulphur content.

The North Yorks Moors SAC and SPA and the Teesmouth & Cleveland Coast SPA and RAMSAR are within 15km of the proposed installation. The installation will not have an adverse effect on any sensitive receptors.

The operator uses an Environmental Management System based on the key points of ISO 14001.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

| <b>Status log of the permit</b>  |                        |   |
|--|------------------------|---|
| <b>Description</b>   | <b>Date</b>            | <b>Comments</b>   |
| Application<br>LP3531UL  | Duly made<br>15/10/07  |   |
| Additional information received  | 13/02/08               |   |
| Permit determined<br>EPR/LP3531UL  | 21/07/08               |   |
| Variation application<br>EPR/LP3531UL/V002                               | Duly made<br>20/09/10  |   |
| Additional information received  | 28/09/10 &<br>02/11/10 |   |
| Variation determined<br>EPR/LP3531UL/V002                                | 14/12/10               |   |
| Regulation 60 Notice sent to the<br>Operator                             | 31/10/14               | Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V. The permit is also updated to modern conditions |
| Regulation 60 Notice response  | 31/03/15               | Response received from the Operator.  |
| Additional information received  | 07/08/15               | Response to request for further information (RFI) dated 25/06/15.   |
| Variation determined<br>EPR/LP3531UL/V003<br>(PAS Billing ref: KP3834AA) | 18/12/2015             | Varied and consolidated permit issued in modern condition format.<br>Variation effective from 01/01/2016.   |

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

### Permit number

EPR/LP3531UL

### Issued to

**Sembcorp Utilities (UK) Limited** ("the operator")

whose registered office is

**Sembcorp UK Headquarters**  
**Wilton International**  
**Middlesbrough**  
**TS90 8WS**

company registration number 4636301

to operate a regulated facility at

**Package Boiler Island**  
**Sembcorp UK Headquarters**  
**Wilton International**  
**Middlesbrough**  
**TS90 8WS**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

| Name             | Date       |
|------------------|------------|
| Anne Nightingale | 18/12/2015 |

Authorised on behalf of the Environment Agency

## **Schedule 1**

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2010

### Permit number

**EPR/LP3531UL**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/LP3531UL/V003 authorising,

**Sembcorp Utilities (UK) Limited** (“the operator”),

whose registered office is

**Sembcorp UK Headquarters**

**Wilton International**

**Middlesbrough**

**TS90 8WS**

company registration number 4636301

to operate an installation at

**Package Boiler Island**

**Sembcorp UK Headquarters**

**Wilton International**

**Middlesbrough**

**TS90 8WS**

to the extent authorised by and subject to the conditions of this permit.

| Name             | Date       |
|------------------|------------|
| Anne Nightingale | 18/12/2015 |

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

### 1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

### 1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
- (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (d) take any further appropriate measures identified by a review.

### 1.3 Efficient use of raw materials

1.3.1 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 four 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 further appropriate measures identified by a review.

### 1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities;
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

## **2 Operations**

### **2.1 Permitted activities**

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

### **2.2 The site**

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in red on the site plan at schedule 7 to this permit.

### **2.3 Operating techniques**

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 Without prejudice to condition 2.3.1, the activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” revision 1 dated February 2015 or any later version unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.4 The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
  - (b) the composition of the waste;
  - (c) the handling requirements of the waste;
  - (d) the hazardous property associated with the waste, if applicable; and
  - (e) the waste code of the waste.
- 2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

### **2.4 Improvement programme**

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.



## **3 Emissions and monitoring**

### **3.1 Emissions to water, air or land**

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Where a substance is specified in schedule 3 table S3.2 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

### **3.2 Emissions of substances not controlled by emission limits**

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
  - (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
  - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, 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.

### **3.3 Odour**

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
  - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
  - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

### **3.4 Noise and vibration**

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

### **3.5 Monitoring**

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1 and S3.2; and
- (b) noise specified in table S3.3.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continuous), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2 unless otherwise agreed in writing by the Environment Agency.

### **3.6 Monitoring for the purposes of the Industrial Emissions Directive Chapter III**

3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.

3.6.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in condition 3.6.7, the operator shall:

- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and
- (b) implement the approved proposals.

3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.

3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.

3.6.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.

- 3.6.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.
- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1; the Continuous Emission Monitors shall be used such that:
- (a) for the continuous measurement systems fitted to the LCP release points defined in Table S3.1 the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval;
  - (b) the 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%;
  - (c) the 95% confidence interval for dust releases of a single measured result shall be taken to be 30%;
  - (d) the 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%;
  - (e) an invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing; and
  - (f) any day, in which more than three hourly average values are invalid shall be invalidated.

## **4 Information**

### **4.1 Records**

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
  - (b) be made as soon as reasonably practicable;
  - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
  - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
    - (i) off-site environmental effects; and
    - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

### **4.2 Reporting**

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
  - (b) the resource efficiency metrics set out in schedule 4 table S4.2; and
  - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
  - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
  - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

## 4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
    - (i) inform the Environment Agency,
    - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
    - (iii) take the measures necessary to prevent further possible incidents or accidents;
  - (b) of a breach of any permit condition the operator must immediately—
    - (i) inform the Environment Agency, and
    - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i) or 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (c) any change in the operator's name or address; and
- (d) any steps taken with a view to the dissolution of the operator.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

- (a) a decision by the Secretary of State not to re-certify the agreement;
- (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
- (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.3.8 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

## **4.4 Interpretation**

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

# Schedule 1 – Operations

| <b>Table S1.1 activities</b>        |  |  |   |
|-------------------------------------|--|--|---|
| <b>Activity reference</b>           | <b>Activity listed in Schedule 1 of the EP Regulations</b>   | <b>Description of specified activity</b>   | <b>Limits of specified activity</b>   |
| A5                                  | Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more. | LCP323: Four gas-fired boilers for the production of steam.  | From receipt of natural gas to discharge of exhaust gases and wastes, and the generation of steam for export. |
| <b>Directly Associated Activity</b> |  |  |   |
| A6                                  | Directly associated activity   | Storage and handling of raw materials and wastes   | From receipt of raw materials to dispatch of waste.   |
| A7                                  | Directly associated activity   | Operation of systems for supply of utilities and services such as hot water, refrigeration, compressed air and electricity | Utilities and services systems within the Installation boundary.  |
| A8                                  | Directly associated activity   | Surface water drainage   | Handling and storage of site drainage until discharge to the site surface water system.                       |

| <b>Table S1.2 Operating techniques</b>             |   |                      |
|--|---|----------------------|
| <b>Description</b>                                 | <b>Parts</b>  | <b>Date Received</b> |
| Application  | Sections 2.1 and 2.2 of the application document.   | 15/10/07             |
| Request for further information dated 29/01/08     | Response to question 1 directly associated activities, and question 2 concerning emissions to water.  | 13/02/08             |
| Application EPR/LP3531UL/V002                      | Package Boiler Island – Application for Permit Variation dated 6 <sup>th</sup> September 2010 excluding section 2 of Part C3 of the application form.   | 08/09/10             |
| Request for further information dated 22/09/10     | Response dated 28 September 2010 via e-mail at 14.48.   | 28/09/10             |
| Request for further information dated 05/10/10     | Response dated 2 November 2010 via e-mail at 10.22.   | 02/11/10             |
| Response to improvement condition IC1              | Sections relating to verification of emissions data and noise assessment.   | 25/08/08             |
| Responses to pre-operational conditions 1, 2 and 3 | All sections of the responses covering site security, minimising noise emissions from the two flash vessel vents, the methodology for a noise survey and a procedure to ensure that testing of the vents will be carried out to minimise impact on local receptors. | 07/12/11             |

| <b>Table S1.2 Operating techniques</b>  |  |                      |
|---|--|----------------------|
| <b>Description</b>  | <b>Parts</b>   | <b>Date Received</b> |
| Response to regulation 60(1) Notice – request for information dated 31/10/14                        | Compliance route and operating techniques identified in response to questions 335 (compliance route), 337 (configuration of LCP), 338 (net rated thermal input), 339 (MSUL-MSDL), 340 (proposed ELVs). | Received 31/03/15    |
| Request for further information   | Remove references to B5, B6, B7, SABIC gas and stand-by fuels; CCGT confirmation.  | Received 29/04/15    |
| Receipt of additional information to the regulation 60(1) Notice requested by letter dated 25/06/15 | Response to question 6 requesting no consolidation with two other permits for GT2 and GT1.   | Received 07/08/15    |
| Receipt of additional information to the regulation 60(1) Notice requested by email dated 29/10/15  | Confirmation of the proposed elvs.   | Received 10/11/15    |

| <b>Table S1.3 Improvement programme requirements</b> |   |             |
|--|---|-------------|
| <b>Reference</b>                                     | <b>Requirement</b>  | <b>Date</b> |
| IC1  | <p>Following the commissioning of the plant, the Operator shall submit to the Agency a report detailing the outcome of the commissioning programme. The report shall include the following:</p> <ul style="list-style-type: none"> <li>● verification of the emissions data provided in the application to air and water;</li> <li>● an assessment of the impact of noise (to verify the information provided in the application) associated with the operation of the installation on local receptors during both daytime and night-time periods.</li> </ul> | Complete    |

| <b>Table S1.3 Improvement programme requirements</b> |  |             |
|--|--|-------------|
| <b>Reference</b>                                     | <b>Requirement</b>   | <b>Date</b> |
| IC2  | <p>The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP 323. The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised).</p> <p>Evidence to support this figure, in order of preference, shall be in the form of:-</p> <ul style="list-style-type: none"> <li>a) Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes),</li> <li>b) Performance test results after a significant modification (quoting the specified standards or test codes),</li> <li>c) Manufacturer's contractual guarantee value,</li> <li>d) Published reference data, e.g., Gas Turbine World Performance Specifications (published annually);</li> <li>e) Design data, e.g., nameplate rating of a boiler or design documentation for a burner system;</li> <li>f) Operational efficiency data as verified and used for heat accountancy purposes,</li> <li>g) Data provided as part of Due Diligence during acquisition,</li> </ul> <p>*Performance test results shall be used if these are available.</p> | 31/12/16    |
| IC3  | <p>For LPCD LCP 269 (now LCP 323 under IED). Annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015 shall be submitted to the Environment Agency using form AAE1 via the NERP Registry. If the LPCD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.</p>  | 28/01/16    |

| <b>Table S1.4 Start-up and Shut-down thresholds</b> |   |  |
|---|---|--|
| <b>Emission Point and Unit Reference</b>            | <b>"Minimum Start-Up Load"<br/>Steam flow rate in tonnes and as percent of rated thermal output (%)</b> | <b>"Minimum Shut-Down Load"<br/>Steam flow rate in tonnes and as percent of rated thermal output (%)</b> |
| A1 LCP 323  | 7te steam; 25%  | 7te steam; 25%   |



## Schedule 2 – Waste types, raw materials and fuels

| Table S2.1 Raw materials and fuels |               |
|------------------------------------|---------------|
| Raw materials and fuel description | Specification |
| -                                  |               |

## Schedule 3 – Emissions and monitoring

| Table S3.1 Point source emissions to air from existing or new boiler plant >100MWth |   |   |   |   |                         |  |
|---|---|---|---|---|-------------------------|--|
| Emission point ref. & location  | Parameter   | Source                                    | Limit (including unit)- these limits do not apply during start up or shut down. | Reference period  | Monitoring frequency    | Monitoring standard or method  |
| A5 (Windshield 1 containing boiler stacks A1-A4)                                    | Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> ) | LCP 323 Boiler plant fired on natural gas | 100 mg/m <sup>3</sup>   | Calendar monthly mean                                   | Continuous              | BS EN 14181  |
|   |   |   | 100 mg/m <sup>3</sup>   | Daily mean of validated hourly averages                 | Continuous              | BS EN 14181  |
|   |   |   | 100 mg/m <sup>3</sup>   | 95% of validated hourly averages within a calendar year | Continuous              | BS EN 14181  |
| A5 (Windshield 1 containing boiler stacks A1-A4)                                    | Carbon Monoxide   | LCP 323 Boiler plant fired on natural gas | 50 mg/m <sup>3</sup>  | Calendar monthly mean                                   | Continuous              | BS EN 14181  |
|   |   |   | 50 mg/m <sup>3</sup>  | Daily mean of validated hourly averages                 | Continuous              | BS EN 14181  |
|   |   |   | 50 mg/m <sup>3</sup>  | 95% of validated hourly averages within a calendar year | Continuous              | BS EN 14181  |
| A5 (Windshield 1 containing boiler stacks A1-A4)                                    | Sulphur dioxide   | LCP 323 Boiler plant fired on natural gas | 35mg/m <sup>3</sup>   | -   | At least every 6 months | Concentration by calculation, as agreed in writing with the Environment Agency |
| A5 (Windshield 1 containing boiler stacks A1-A4)                                    | Dust  | LCP 323 Boiler plant fired on natural gas | 5mg/m <sup>3</sup>  | -   | At least every 6 months | Concentration by calculation, as agreed in writing with the Environment Agency |

| <b>Table S3.1 Point source emissions to air from existing or new boiler plant &gt;100MWth</b> |   |   |  |                         |  |                                      |
|---|---|---|--|-------------------------|--|--------------------------------------|
| <b>Emission point ref. &amp; location</b>   | <b>Parameter</b>  | <b>Source</b>                             | <b>Limit (including unit)- these limits do not apply during start up or shut down.</b> | <b>Reference period</b> | <b>Monitoring frequency</b>                                      | <b>Monitoring standard or method</b> |
| A5 (Windshield 1 containing boiler stacks A1-A4)  | Oxygen  | LCP 323 Boiler plant fired on natural gas | -  | -                       | Continuous<br>As appropriate to reference                        | BS EN 14181                          |
| A5 (Windshield 1 containing boiler stacks A1-A4)  | Water Vapour  | LCP 323 Boiler plant fired on natural gas | -  | -                       | Continuous<br>As appropriate to reference                        | BS EN 14181                          |
| A5 (Windshield 1 containing boiler stacks A1-A4)  | Stack gas temperature   | LCP 323 Boiler plant fired on natural gas | -  | -                       | Continuous<br>As appropriate to reference                        | Traceable to national standards      |
| A5 (Windshield 1 containing boiler stacks A1-A4)  | Stack gas pressure  | LCP 323 Boiler plant fired on natural gas | -  | -                       | Continuous<br>As appropriate to reference                        | Traceable to national standards      |
| A5 (Windshield 1 containing boiler stacks A1-A4)  | As required by the Method Implementation Document for BS EN 15259 | LCP 323 Boiler plant fired on natural gas | -  | -                       | Pre-operation and when there is a significant operational change | BS EN 15259                          |

| <b>Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements</b>                                     |                  |                 |                           |                         |                             |                                       |
|--|------------------|-----------------|---------------------------|-------------------------|-----------------------------|---------------------------------------|
| <b>Emission point ref. &amp; location</b>  | <b>Parameter</b> | <b>Source</b>   | <b>Limit (incl. unit)</b> | <b>Reference period</b> | <b>Monitoring frequency</b> | <b>Monitoring standard or method</b>  |
| S6 emission to Dabholm Gut (shown on fig 2.2-1 of application LP3531UL as the point at which the drain leading to S6 leaves the installation boundary) | Mercury          | Boiler blowdown | 1.0g                      | Annual                  | By calculation              | As agreed with the Environment Agency |
| S6 emission to Dabholm Gut (shown on fig 2.2-1 of application LP3531UL as the point at which the drain leading to S6 leaves the installation boundary) | Cadmium          | Boiler blowdown | 20.0g                     | Annual                  | By calculation              | As agreed with the Environment Agency |

| <b>Table S3.3 Noise monitoring requirements</b>                             |                  |                             |                                      |                             |
|---|------------------|-----------------------------|--------------------------------------|-----------------------------|
| <b>Location or description of point of measurement</b>                      | <b>Parameter</b> | <b>Monitoring frequency</b> | <b>Monitoring standard or method</b> | <b>Other specifications</b> |
| Perimeter noise survey using methodology agreed with the Environment Agency | Noise            | 6 monthly                   | BS 4142:1997                         |                             |

## Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

| Parameter   | Emission or monitoring point/reference | Reporting period | Period begins |
|---|--|------------------|---------------|
| Oxides of nitrogen  | A5                                     | Every 12 months  | 1 January     |
| Carbon Monoxide   | A5                                     | Every 12 months  | 1 January     |
| Sulphur dioxide   | A5                                     | Every 12 months  | 1 January     |
| Dust  | A5                                     | Every 12 months  | 1 January     |
| Mass release of cadmium to sewer                              | S6                                     | Every 12 months  | 1 January     |
| Mass release of mercury to sewer                              | S6                                     | Every 12 months  | 1 January     |
| Noise monitoring<br>Parameters as required by condition 3.5.1 | Noise survey                           | Every 12 months  | 1 January     |

| Parameter                             | Units  |
|---------------------------------------|--------|
| Power generated                       | GWhr   |
| Intermediate Pressure steam generated | Tonnes |

| Parameter  | Frequency of assessment | Units          |
|--|-------------------------|----------------|
| Thermal Input Capacity for each LCP                    | Annually                | MW             |
| Annual Fuel Usage for each LCP                         | Annually                | TJ             |
| Total Emissions to Air of NO <sub>x</sub> for each LCP | Annually                | t              |
| Total Emissions to Air of SO <sub>2</sub> for each LCP | Annually                | t              |
| Total Emissions to Air of Dust for each LCP            | Annually                | t              |
| Operating Hours for each LCP (Load Factor)             | Annually                | m <sup>3</sup> |

| <b>Table S4.4 Reporting forms</b> |  |                       |                             |                     |
|-----------------------------------|--|-----------------------|-----------------------------|---------------------|
| <b>Media/<br/>parameter</b>       | <b>Reporting format</b>  | <b>Starting Point</b> | <b>Agency<br/>recipient</b> | <b>Date of form</b> |
| Air & Energy                      | Form IED AR1 – SO <sub>2</sub> , NO <sub>x</sub> and dust mass emission and energy | 01/01/16              | National                    | 31/12/15            |
| LCP                               | Form IED HR1 – operating hours   | 01/01/16              | National                    | 31/12/15            |
| Air                               | Form IED CON 1 – continuous monitoring   | 01/01/16              | Area Office                 | 31/12/15            |
| CEMs                              | Form IED CEM – Invalidation Log  | 01/01/16              | Area Office                 | 31/12/15            |
| Other performance indicators      | Form performance 1 or other form as agreed in writing by the Environment Agency    | 01/01/16              | Area Office                 | 31/12/15            |
| Water                             | Form water 1 or other form as agreed in writing by the Environment Agency          | 01/01/16              | Area Office                 | 28/04/08            |

# Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall 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 EP Regulations.

## Part A

|                                |                                      |
|--------------------------------|--------------------------------------|
| Permit Number                  | LP3531UL                             |
| Name of operator               | Sembcorp Utilities (UK) Limited      |
| Location of Facility           | Package Boiler, Wilton International |
| Time and date of the detection |                                      |

|   |  |
|---|--|
| <b>(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution</b> |  |
| <b>To be notified within 24 hours of detection</b>  |  |
| Date and time of the event  |  |
| Reference or description of the location of the event   |  |
| Description of where any release into the environment took place  |  |
| Substances(s) potentially released  |  |
| Best estimate of the quantity or rate of release of substances  |  |
| Measures taken, or intended to be taken, to stop any emission   |  |
| Description of the failure or accident.   |  |

|   |  |
|---|--|
| <b>(b) Notification requirements for the breach of a limit</b>                      |  |
| <b>To be notified within 24 hours of detection unless otherwise specified below</b> |  |
| Emission point reference/ source  |  |
| Parameter(s)  |  |
| Limit   |  |
| Measured value and uncertainty  |  |
| Date and time of monitoring   |  |
| Measures taken, or intended to be taken, to stop the emission                       |  |

| Time periods for notification following detection of a breach of a limit |                     |
|--|---------------------|
| Parameter  | Notification period |
|  |                     |
|  |                     |
|  |                     |

| <b>(c) Notification requirements for the detection of any significant adverse environmental effect</b> |  |
|--|--|
| <b>To be notified within 24 hours of detection</b>   |  |
| Description of where the effect on the environment was detected  |  |
| Substances(s) detected   |  |
| Concentrations of substances detected  |  |
| Date of monitoring/sampling  |  |

## **Part B – to be submitted as soon as practicable**

|  |  |
|--|--|
| Any more accurate information on the matters for notification 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 which has been or may be caused by the emission |  |
| The dates of any unauthorised emissions from the facility in the preceding 24 months.  |  |

|                  |  |
|------------------|--|
| <b>Name*</b>     |  |
| <b>Post</b>      |  |
| <b>Signature</b> |  |
| <b>Date</b>      |  |

\* authorised to sign on behalf of the operator



## Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“background concentration” means such concentration of that substance as is present in:

for emissions to surface water, the surface water quality up-gradient of the site; or

for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“base load” means: (i) as a mode of operation, operating for >4000hrs pa; and (ii) as a load, the maximum load under ISO conditions that can be sustained continuously, i.e. maximum continuous rating.

“breakdown” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

“calendar monthly mean” means the value across a calendar month of all validated hourly means.

“CEN” means Comité Européen de Normalisation.

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

“disposal” means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“DLN” means dry, low NO<sub>x</sub> burners.

“emissions to land” includes emissions to groundwater.

“Energy efficiency” the annual net plant energy efficiency means the value calculated from the operational data collected over the year.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions.

“large combustion plant” or “LCP” is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MW or more, based on net calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“MCR” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU.

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU.

“Natural gas” means naturally occurring methane with no more than 20% by volume of inert or other constituents.

“ncv” means net calorific value.

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“SI” means site inspector.

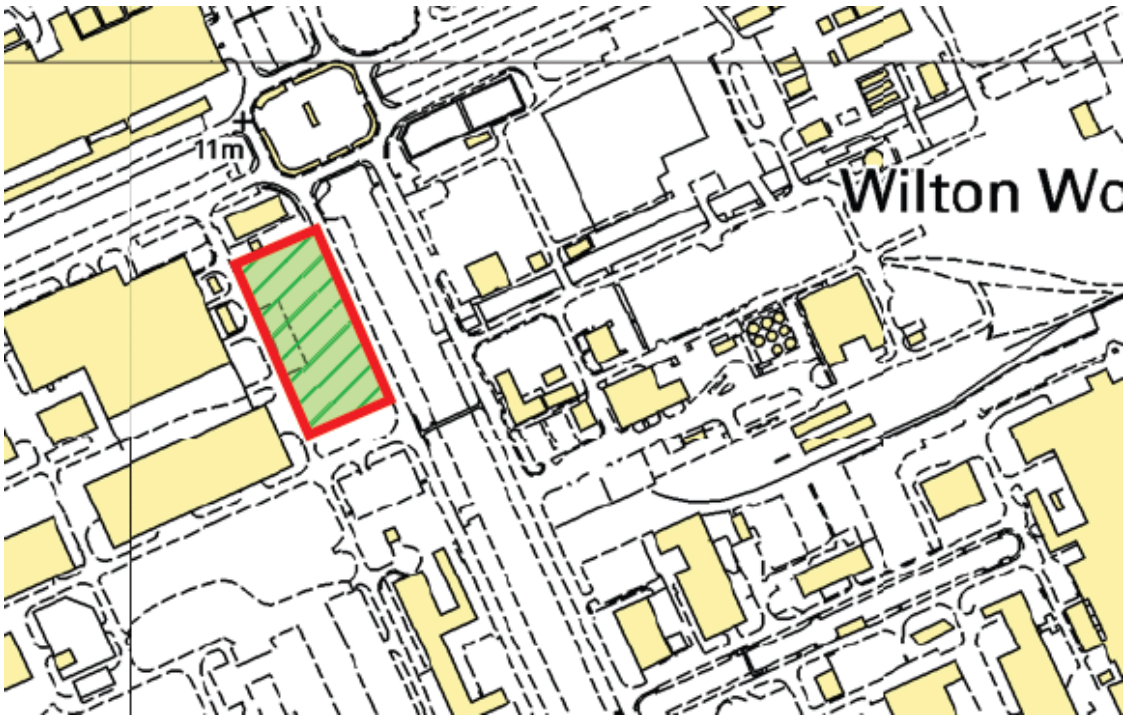
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, 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
- in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

## Schedule 7 – Site plan



© Crown Copyright. All rights reserved. Environment Agency, 100026380, 2007.

END OF PERMIT