



Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Sembcorp Utilities (UK) Limited

Wilton Power Station
Wilton International
Middlesbrough
TS10 4RG

Variation application number

EPR/NP3438LK/V003

Permit number

EPR/NP3438LK

Wilton Power Station

Permit number EPR/NP3438LK

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 NERP (National Emission Reduction Plan)

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

- LCP74 is changed to LCP 416.

At the operator's request the variation notice also removes the emission limits for emission points A1 and A2 from the decommissioned coal-fired boilers and all conditions relating to the handling of coal and treatment of coal pfa. The variation also removes references to burning gas from SABIC. This variation applies emission limit values and monitoring requirements to LCP 416 (emission point A3) for the first time.

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

Wilton Power station is located within the Wilton International Site, approximately 8km north east of Middlesbrough.

Sembcorp Utilities (UK) Limited operates one 192MWth CCGT plant known as GT1 (LCP 416), comprising one gas turbine and one heat recovery steam generator discharging waste gases to one stack, known as emission point A3. Unusable steam is cooling using hybrid cooling towers. This plant supplies steam and electricity to other operators within the Wilton International site. Natural gas is supplied by pipeline and used directly on the plant.

Emissions to air from the installation will be NO_x and CO. NO_x is minimised by the use of DLN burners and good combustion control will be used to minimise both NO_x and CO.

A large water treatment plant provides demineralised water to all of Sembcorp's combustion plants and to other operators within the Wilton International Site. The WTP produces aqueous effluent which flows under an internal consent controlled by Sembcorp Utilities, to the Wilton drainage system, and then under a Water Resources Act discharge consent to Dabholme Gut, and the River Tees. This aqueous effluent consists of trace metals, solids and other organic / inorganic species extracted from the raw water. Raw water is supplied by a third party and abstracted from the River Tees.

The site does not have an Environmental Management System accredited to ISO14001 but does have an EMS that is integrated into the other Sembcorp Utilities sites on Wilton.

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.

Status log of the permit		
Description	Date	Comments
Application received NP3438LK	Duly made 27/03/06	Application for 861MW thermal input coal, gas oil and natural gas-fired power station.
Additional information received	31/08/06	
Permit determined EPR/NP3438LK (PAS Billing ref. GP3834AN)	19/12/06	Permit issued to Sembcorp Utilities (UK) Limited.
Variation Application	Duly made 21/06/10	To enlarge installation boundary, permit the burning of gas from SABIC and to add a new cooling tower ST11.
Permit issued EPR/NP3438LK/V002	26/11/10	
Regulation 60 Notice sent to the 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 EPR/NP3438LK/V003 (PAS Billing ref: GP3834AN)	22/12/2015	Varied and consolidated permit issued in modern condition format. 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/NP3438LK

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

Wilton Power Station
Wilton International
Middlesbrough
TS10 4RG

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
Anne Nightingale	22/12/2015

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/NP3438LK

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/NP3438LK/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

Wilton Power Station

Wilton International

Middlesbrough

TS10 4RG

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

Name	Date
Anne Nightingale	22/12/2015

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 green on the site plan a) 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 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; and
 - (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; and
 - (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;
 - (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

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	LCP 416: Operation of a 192MWth CCGT comprising one gas turbine (GT1) and heat recovery steam generator (HRSG), fuelled by natural gas for the production of electricity and steam.	From receipt of raw materials, generation of electricity and steam to despatch of electricity/steam to Wilton site distribution systems and the National Grid, and the handling and despatch of any exhaust gases and waste.
Directly Associated Activity			
A2	Directly associated activity	Surface water drainage	Handling and storage of site drainage until discharge to the site surface water system.
A3	Directly associated activity	Water treatment – the purification of raw water for use within the installation and for export to Wilton International site	From receipt of raw materials to dispatch to chemical effluent and dirty water system into the Wilton drainage system.
A4	Directly associated activity	Oil storage	From receipt of raw materials to dispatch for use.
A5	Directly associated activity	Operation of cooling systems	Operation of cooling systems for the cooling of boiler blowdown/

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application NP3438LK	Section 2.1, excluding 2.1.2.1 in the Application. Section 2.2 in the Application	27/03/06
Receipt of additional information to the application EPR/NP3438LK/V002	Further information provided relating to the BAT analysis of the cooling tower, chemical compositions and the use of cooling water additives (letter dated 17 th June 2010).	03/10/08
Receipt of response to improvement condition	The Energy Efficiency Plan	24/11/09

Table S1.2 Operating techniques		
Description	Parts	Date Received
IP13		
Response to pre-operational conditions 1, 2 and 3	All parts relating to the operation of ST11 Cooling Tower	06/07/12
Response to regulation 60(1) Notice – request for information dated 31/10/14	Compliance route and operating techniques identified in response to question 335 (compliance route), question 337 (LCP configuration), question 338 (MWth figure), question 339 (MSUL/MSL definition) and question 340 (proposed IED ELVs).	Received 31/03/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 25/06/15	Compliance route and operating techniques identified in response to question 337 (base-loading plant), question 338 (MWth figure), questions 339 and 340 (MSUL/MSDL measurements), and question 342 (air monitoring standard and SO ₂ /PM derogation). Including the request to retain the WTP in the Main Power Station permit and for an IC covering increased NO _x elvs for high efficiency plant.	Received 07/08/15

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IP1	The operator shall submit a written report to the Environment Agency reviewing the suitability of current control measures against the potential impacts of leachate / water run-off (e.g. presence of iron sulphide and trace metals) on groundwater and surface water from the coal stockpile and propose a programme of improvements as necessary, including completion dates for the proposed improvements.	Complete
IP2	The operator shall submit a written report to the Environment Agency reviewing the secondary containment provisions for oil storage tanks MS1, MS3 and MS4 and propose a programme with time scales to meet BAT for the storage of such material.	Complete
IP3	The operator shall submit a written report to the Environment Agency reviewing secondary containment for Tank 6, aluminium sulphate bulk storage and propose a programme with time scales to meet BAT for the storage of such material.	Complete
IP4	The operator shall submit a written report to the Environment Agency reviewing secondary containment for the heavy fuel oil pump house, MS-1 and propose a programme with time scales to ensure appropriate protection of the land as a result of loss of containment from the equipment.	Complete
IP5	The operator shall review the offloading and storage of hydrochloric acid so as to minimise fugitive emissions. The review should take into account indicative BAT requirements for fugitive emissions to air, taking into account section 2.2.8 of IPPC technical guidance note for the combustion sector. A written report shall be sent to the Environment Agency of the review including any identified improvements with time scales for completion.	Complete
IP6	The operator shall provide a written report to the Environment Agency detailing the environmental impact of suspended solids discharged from S1 and S2. The report shall also propose how benchmark levels, detailed in Sector Guidance Note- combustion activities, table 3.2 can be achieved, including time scales for any proposals.	Complete

IP7	<p>The operator shall undertake an audit of water use across the site, power station and water treatment plant in accordance with section 2.4.3 of “IPPC sector guidance note- combustion activities”.</p> <p>The operator shall submit a report of the survey including a description of the methodology used and compare findings against the indicative BAT provided in the guidance note. Included in the response there shall be a water flow diagram, a water mass balance and water efficiency objectives. Where improvements can be made, and the option is considered BAT, provide a time scale for their implementation.</p>	Complete
IP8	<p>The operator shall undertake an audit of raw material use across the site in accordance with section 2.4.2 of “IPPC sector guidance note- combustion activities”.</p> <p>The operator shall submit a report of the survey including a description of the methodology used and compare findings against the indicative BAT provided in the guidance note. Included in the response there shall be process mapping, material mass balance and raw material efficiency objectives. Where improvements can be made, and the option is considered BAT, provide a time scale for their implementation.</p>	Complete
IP9	<p>The operator shall undertake a review of the use and possible replacement of water treatment chemicals, which contain Zinc, within the Wilton Power Station cooling water system. A written report shall be sent to the Environment Agency of the review including any identified improvements with time scales for completion.</p>	Complete
IP10	<p>The operator shall undertake a review of the chemicals used in the water treatment plant, for the potential presence of trace contaminants which may have a potential environmental impact on Dabholm Gut and the River Tees alone and in-combination with other discharges from the Wilton International Site. A written report shall be sent to the Environment Agency of the review including any identified improvements with time scales for completion.</p>	Complete
IP11	<p>The operator shall take an appropriate number of representative samples from S1 and S2 emission points to determine the level of Cadmium, Chromium, Copper, Mercury (using analytical methods with appropriate limits of detection) in the site effluent being discharged. A written report shall be sent to the Environment Agency covering the sampling, analysis and an environmental impact assessment of the measured releases.</p>	Complete
IP12	<p>The operator shall review the energy consumption across the water treatment plant and identify any areas which can be improved.</p> <p>A written report shall be sent to the Environment Agency of the review including any identified improvements with time scales for completion.</p>	Complete
IP13	<p>The operator shall prepare an energy efficiency plan for the installation following the guidance in IPPC Technical Guidance Note- Combustion Sector section 2.7.2. and Horizontal Guidance H2</p> <p>The energy efficiency plan shall be submitted to the Environment Agency for review.</p>	Complete
IP14	<p>The operator shall review the effectiveness of the modifications made to Boiler 5 for the control of NOx emissions and propose the modifications required (with timescales) to Boiler 6 to meet indicative BAT as detailed in section 2.2 of TGN-combustion sector. The operator shall send a written report covering the review to the Environment Agency for review against indicative BAT.</p>	Complete

IP15	The operator shall undertake extractive emission monitoring from ducting leading to emission point A1 when coal is used as a fuel for the following species: hydrogen chloride, hydrogen fluoride, dioxins, PAHs and trace metals. The monitoring shall be carried out by MCERTS accredited personnel and equipment (where available) and to the requirements specified in Environment Agency Guidance M1 and M2 unless otherwise agreed in writing with the Environment Agency. The potential environmental impact of the measured emissions shall be carried out. A written report covering the monitoring and potential environmental impact of the measured emissions shall be submitted to the Environment Agency for review.	Complete
IP16	The operator shall send a written report to the Environment Agency detailing the potential for recovery of water and heat from boiler blowdowns and including any identified improvements with time scales for completion.	Complete
IP17	The operator shall submit to the Environment Agency a written review of the feasibility for injecting fuel above the main combustion zone (Reburn of fuel) for boilers 5 and 6, as a means of reducing emissions of nitrogen oxides, to meet indicative BAT, as detailed in section 2.2 of TGN IPPC S1.01-combustion sector.	Complete
IP18	The operator shall submit to the Environment Agency a written report of the long term strategy for boiler 7 and its upgrading to meet BAT as listed within the combustion sector TGN IPPC S1.01 for nitrogen oxide, sulphur dioxide and particulate emission control.	Complete
IP19	The operator shall submit a written report to the Environment Agency detailing the emissions of carbon monoxide from boilers 5, 6, 7 and the gas turbine. The report shall cover carbon monoxide emission levels when using the following fuels: coal, heavy fuel oil and gas. Sufficient data shall be provided to allow appropriate emission limit levels to be determined	Complete
IP20	The operator shall submit a written report to the Environment Agency on the emissions of nitrogen oxides, sulphur dioxide and carbon monoxide when using gas as a fuel on boilers 5 and 6. Sufficient emission monitoring data shall be submitted to allow an appropriate assessment for setting emission limit values if considered appropriate.	Complete
IP21	The operator shall submit a written report for approval by the Environment Agency reviewing the suitability of current control measures against the potential impacts of leachate/water run-off (e.g. the presence of iron sulphide and trace metals) on ground water and surface water from both the coal stockpile and the PFA stockpile. The report will propose a programme of improvements as necessary to meet BAT for the storage of such materials including completion dates for the proposed improvements. Improvements identified in the report shall be implemented from the date of approval in writing by the Environment Agency.	Complete
IP22	The operator shall submit a written report for approval by the Environment Agency that assesses the ST11 cooling tower plume dispersion and visibility characteristics during operation. If the assessment indicates that visible (condensed) plumes are grounding beyond the boundary fence or reach areas of habitation at a height that will cause significant loss of light, the operator should include proposals to minimise the plume through appropriate BAT.	To be arranged with Environment Agency Site Inspector

IP23	<p>The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP 416. 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> <ol style="list-style-type: none"> a) Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes), b) Performance test results after a significant modification (quoting the specified standards or test codes), c) Manufacturer's contractual guarantee value, d) Published reference data, e.g., Gas Turbine World Performance Specifications (published annually); e) Design data, e.g., nameplate rating of a boiler or design documentation for a burner system; f) Operational efficiency data as verified and used for heat accountancy purposes, g) Data provided as part of Due Diligence during acquisition, <p>*Performance test results shall be used if these are available.</p>	31/12/16
IP24	<p>The operator shall write to the Environment Agency for approval if an increase in the ELV limits set in table S3.1 of this permit is sought to the allowable limits set out in IED Annex V, Part 1, and paragraph 6.</p> <p>The written submission from the operator shall contain:-</p> <ul style="list-style-type: none"> • Verification of the energy efficiency quoted for the plant • An assessment of any energy efficiency gains that may be gained through the limit increase together with detailed proposals for validating this figure; • An assessment of the impact of those increased emission limits from site on any air quality objectives; and • Any impact the increased emissions might have on local receptors. 	6 months from permit issue date.
IP25	<p>The Operator shall submit a report in writing to the Environment Agency for acceptance. The report shall define and provide a written justification of the "minimum start up load" and "minimum shut-down load", for each unit within the LCP as required by the Implementing Decision 2012/249/EU in terms of:</p> <ol style="list-style-type: none"> i. The output load (i.e. electricity, heat or power generated) (MW); and ii. This output load as a percentage of the rated thermal output of the combustion plant (%). <p>And / Or</p> <ol style="list-style-type: none"> iii. At least three criteria (operational parameters and / or discrete processes as detailed in the Annex) or equivalent operational parameters that suit the technical characteristics of the plant, which can be met at the end of start-up or start of shut-down as detailed in Article (9) 2012/249/EU. 	31/01/16

IP26	The operator shall provide a report, in writing, to the Environment Agency for acceptance, which identifies a daily emission limit value (ELV) for MSUL/MSDL to baseload. The written submission shall include a summary of relevant data with reference to the data sets used and a justification for the proposed ELV. The report shall also include an assessment of the impacts emissions at the proposed ELV using our H1 guidance equivalent methodology.	31/01/15
IP27	For LPCD LCP 74 (now LCP 416 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.	28/01/16

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	“Minimum Start-Up Load” Load in MW and as percent of rated power output (%)	“Minimum Shut-Down Load” Load in MW and as percent of rated power output (%)
A1 LCP 416	Equal to or greater than 4 MW; 10% (further parameters subject to IP26).	Equal to or greater than 4 MW; 10% (further parameters subject to IP26).

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 Gas Turbines >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
A1 and A2	All emissions	Boilers 5, 6 and 7	No emissions permitted	-	-	-
A3 [Point A3 on site plan b) in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP 416 Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
			55 mg/m ³ 70% to base load ¹ (subject to IC26) MSUL/MSDL to base load ²	Daily mean of validated hourly averages		
			100 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year		
A3 [Point A3 on site plan b) in Schedule 7]	Carbon Monoxide	LCP 416 Gas turbine fired on natural gas	100 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
			110 mg/m ³ 70% to base load ¹ (subject to IC26) MSUL/MSDL to base load ²	Daily mean of validated hourly averages		
			200 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year		

Table S3.1 Point source emissions to air from Gas Turbines >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
A3 [Point A3 on site plan in Schedule 7]	Sulphur dioxide	LCP 416 Gas turbine fired on natural gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency.
A3 [Point A3 on site plan in Schedule 7]	Oxygen	LCP 416 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Water Vapour	LCP 416 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Stack gas temperature	LCP 416 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A3 [Point A3 on site plan in Schedule 7]	Stack gas pressure	LCP 416 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A3 [Point A3 on site plan in Schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP 416 Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Note 1: This ELV applies when the load is >70% throughout the reference period.

Note 2: This ELV applies when the load varies between MSUL/MSDL and base load during the daily reference period. MSUL and MSDL are defined in Table S1.4.

Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site—emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 [Point S1 on site plan c) in Schedule 7]. Discharging to Wilton drainage system and River Tees via Dabholm Gut.	Wilton Power Station	pH	5-9	spot	monthly	Method specified in appendix C1-b of the application
		Zinc	0.4 mg/l	spot		
		COD	No limit	spot		
		Ammoniacal nitrogen	No limit	spot		
		Suspended solids	283 mg/l	spot		
S2 [Point S2 on site plan c) in Schedule 7]. Discharging to Wilton drainage system and River Tees via Dabholm Gut.	Wilton Power Station	pH	5-9	spot	monthly	Method specified in appendix C1-b of the application
		Dissolved aluminium	No limit	spot		
		Zinc	0.4 mg/l	spot		
		COD	No limit	spot		
		Ammoniacal nitrogen	No limit	spot		
		Suspended solids	5500 mg/l	spot		

Table S3.3 Noise monitoring requirements				
Location or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Main Stack (1), Gas header (2), mechanical and maintenance area (3), WPS east end (4), main entrance (5), west car park E (6) and west car park W (7). As indicated in figure 2.9-1 of permit application dated 24 th March 2006.	Sound level as L ₉₀ dB(A)	Quarterly	BS 4142:1997	Not applicable

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission point	Reporting period	Period begins
Oxides of nitrogen	A3	Every 3 months	1 January, 1 April, 1 July, 1 October
Carbon Monoxide	A3	Every 3 months	1 January, 1 April, 1 July, 1 October
Sulphur dioxide	A3	Every 3 months	1 January, 1 July
Emissions to Sewer Parameters as required by condition 3.5.1	S1 and S2	Every 6 months	1 January, 1 July
Noise monitoring Parameters as required by condition 3.5.1	As specified in table S3.3	Annually	1 January

Table S4.2: Annual production/treatment	
Parameter	Units
Power generated	GWhr

Table S4.3 Chapter III Performance parameters for reporting to DEFRA		
Parameter	Frequency of assessment	Units
Thermal Input Capacity for LCP 416	Annually	MW
Annual Fuel Usage for LCP 416	Annually	TJ
Total Emissions to Air of NO _x for LCP 416	Annually	t
Total Emissions to Air of SO ₂ for LCP 416	Annually	t
Total Emissions to Air of Dust for LCP 416	Annually	t
Operating Hours for LCP 416 (Load Factor)	Annually	hr

Table S4.4 Reporting forms				
Media/ parameter	Reporting format	Starting Point	Agency recipient	Date of form
Air & Energy	Form IED AR1 – SO ₂ , NO _x 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 2 – 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	National	31/12/15
Sewer	Form sewer 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	31/12/15

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	EPR/NP3438LK
Name of operator	Sembcorp Main Power Station
Location of Facility	Wilton International
Time and date of the detection	

(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	
To be notified within 24 hours of detection	
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) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
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

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
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.	

Name*	
Post	
Signature	
Date	

* 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.

“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_x 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.

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.

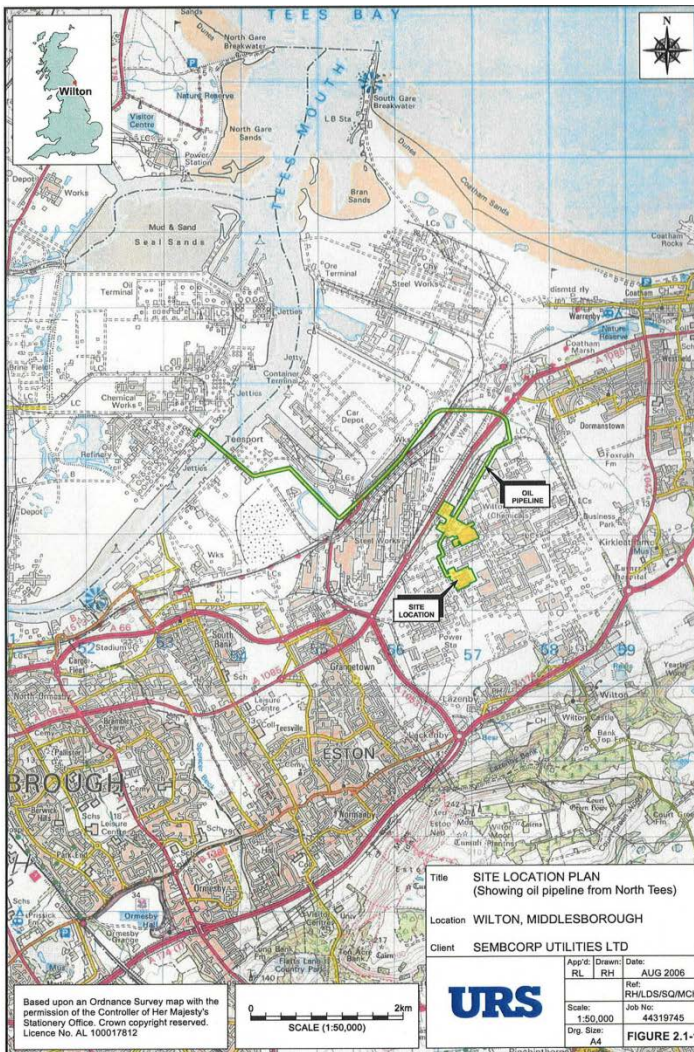
Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

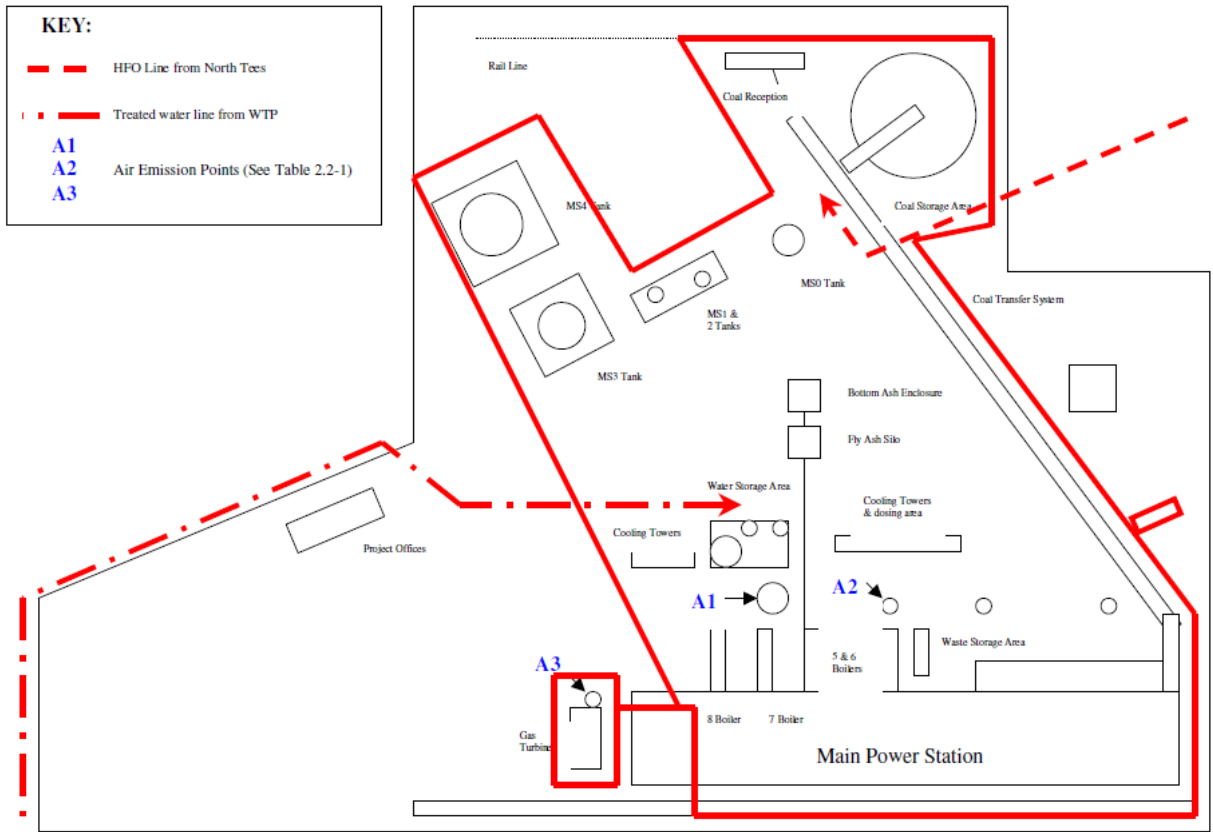
- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from gas turbine combustion processes, the 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

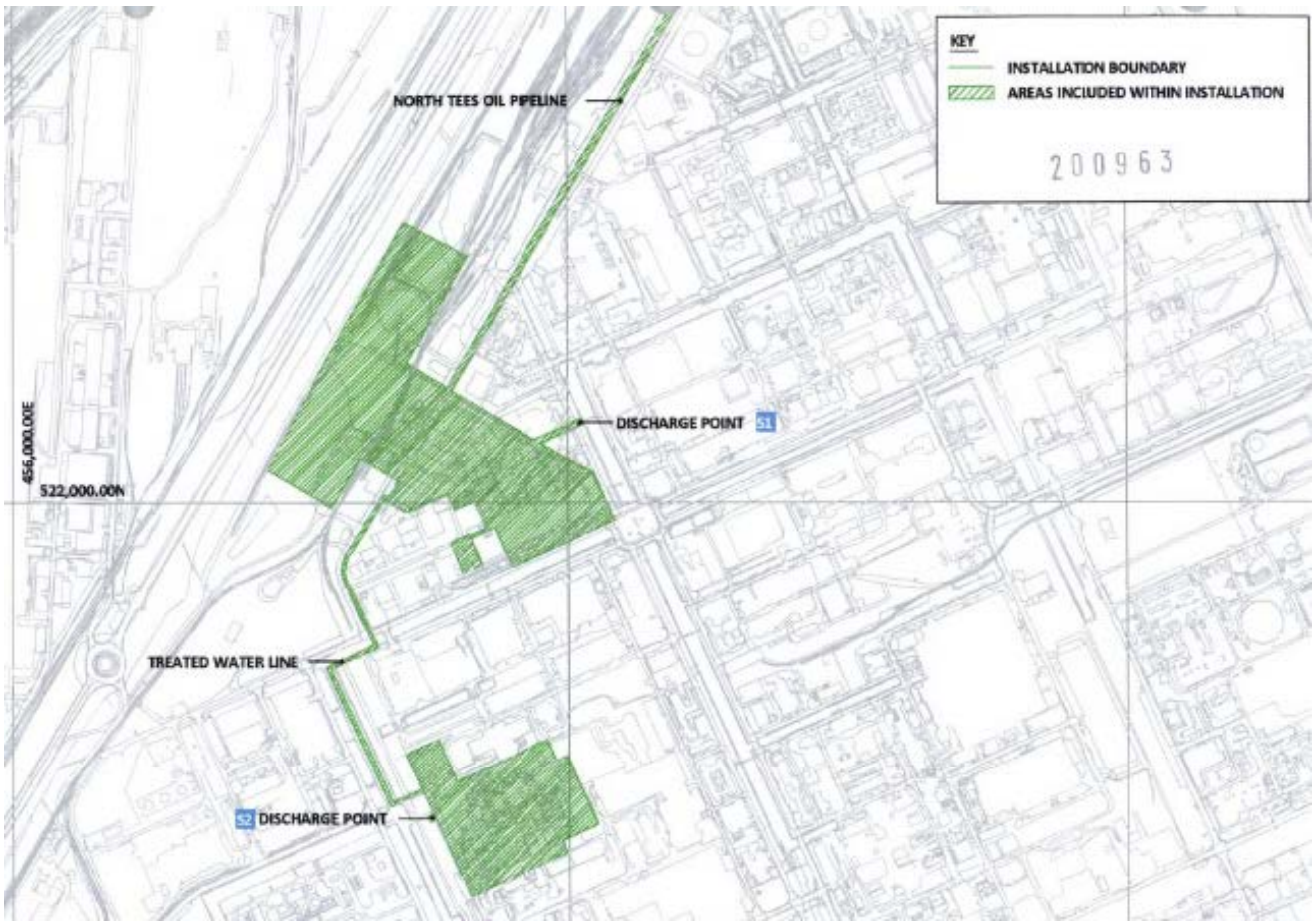
a) Site location plan and oil pipeline





**Figure 2.2-1 Location of Point Source Emissions to Air
Main Power Station**

b) Point source emissions to air.



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c) Point source emissions to sewer.

END OF PERMIT