



Licence Number	L7860/2003/5
Licence Holder	Electricity and Generation and Retail Corporation
ABN	58 673 830 106
File Number:	2010/003076
Premises	Cockburn No. 1 Power Station Weston Street NAVAL BASE WA 6135 Legal description – Part Lot 22 on Diagram 72310
Date of Amendment	23 November 2018

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the Environmental Protection Act 1986 (EP Act), as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

**MANAGER, PROCESS INDUSTRIES
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an Officer delegated under section 20 of the Environmental Protection Act 1986 (WA).

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

The key documents and guidance statements which inform this assessment are outlined in Appendix 1.

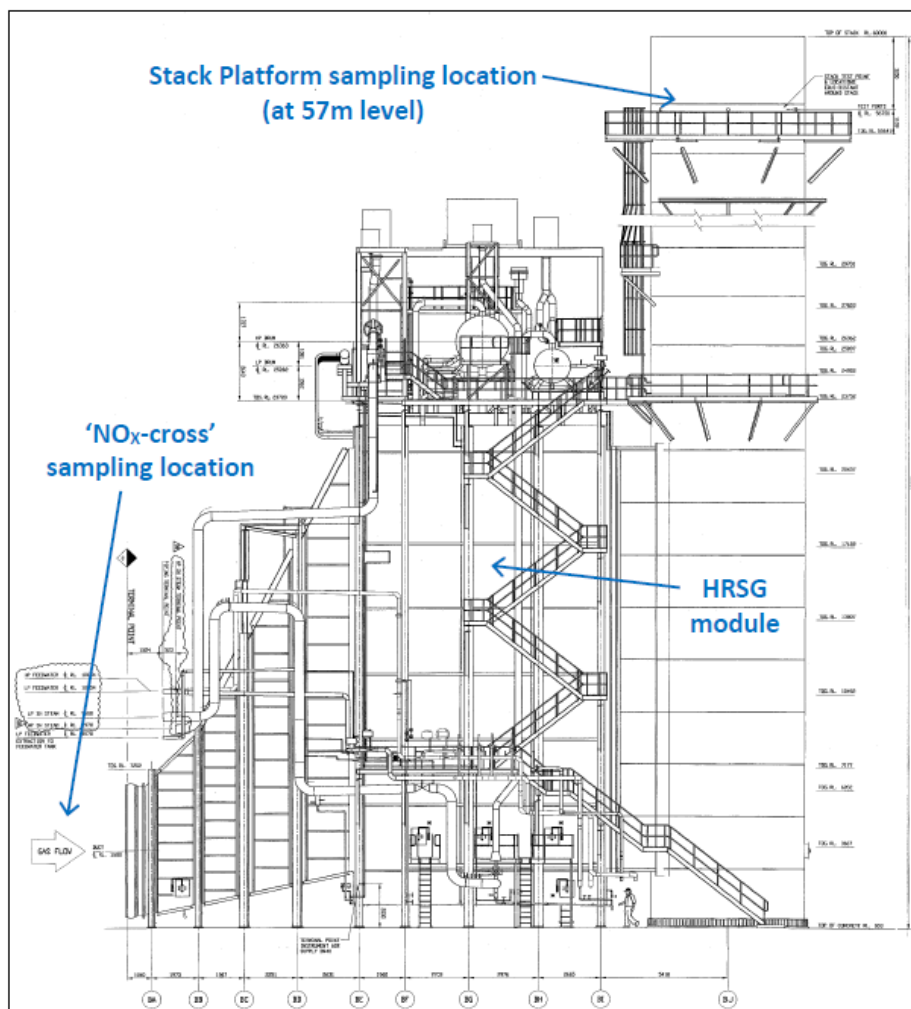
Amendment description

The Licence Holder applied to amend the existing licence to remove Condition 3.2.2 which requires that the stack testing sampling locations are located in accordance with the AS4323.1.

The licence holder has advised that the current sampling point is considered “non-ideal” under AS4323.1 and that due to the arrangement of the gas turbine the Licence Holder cannot comply with the condition. The Licence Holder commissioned stratification testing to confirm that the current sampling location is suitable for the accurate measurement of gaseous analytes.

Furthermore the Licence Holder seeks to reduce the risk to operators undertaking sampling at height in a site subject to high winds by using a sampling port designated “NO_x cross” as depicted in Figure 1 (“NO_x cross” is described in greater detail below).

Figure 1: Schematic diagram of Cockburn No 1 Power Station's main stack



The stack sampling platform is 57 metres above the ground and the Licence Holders protocols require that when the platform is accessed a Safety at Heights and Rescue Team is on standby.

High or gusty wind and rain affect the plant which reduces the number and duration of windows of opportunity to conduct stack monitoring.

The Licence Holder believes the “NOx cross” the most appropriate monitoring location paying due regard to safety and access requirements.

The application supporting documentation included a report prepared by Emission Assessment (Report number 1718-202) and an Additional Summary Report dated 9 August 2018 detailing a variation to the standard method of analysis.

The risk of adverse impacts from NOx emissions from the site is low and is not altered by the proposed amendment.

Stratification Report

The Emissions Assessments Report examines the suitability of the stack monitoring location for gathering representative data for implementation of a Predictive Emission Monitoring System. The Report assessed the stratification in the stack at the sampling location for NOx, CO₂ and O₂ and found low variance across the stack for these parameters.

The Report also concludes that the main stack measurement location is suitable for the measurement of stack flow because it is well within the required AS4323.1 parameters based upon sequential sampling of 40 nominated traverse point locations.

Comparison of “NOx cross” and Stack Sampling

An investigation of NOx monitoring results at the “NOx cross” and Platform sampling location was conducted to assess whether the “NOx cross” is a suitable sampling location for compliance monitoring.

“NOx Cross” is a term used by the Licence Holder to designate a fixed sampling position which consists of an ‘X’ configuration across the internal flue and comprises 32 orifices distributed at equal intervals. This is used in conjunction with a high flow vacuum pump set a constant flow rate of 40 Litres/minute which allows a mixed flue gas sample to be taken from all 32 points at once.

Table 1 show a comparison of the NOx monitoring at the “NOx cross” monitoring point and the established non stratified sampling point using the main stack monitoring platform.

Table 1: Results of Main Stack and “NOx cross” Sampling points

Monitoring Location	Test Date	Mean NOx conc. (mg/m³ at 15% O₂)	Operational Output (MW)
“NOx cross”	01/3/2018	26	171
Stack Platform	11/05/2018	29	170
“NOx cross”	26/06/2018	28	176

The variation in results is well within the reporting uncertainty level for USEPA Method 7E of ±10%. The correlation can be considered to be very close because the measured NOx levels are low.

The “NOx cross” sampling point is a suitable method for compliance monitoring in the absence of a safe access point on the main stack when sampling using concurrent 32 multi-point sampling at a consistent rate of 40 Litres/minute.

Amendment history

Table 2 provides the amendment history for L7860/2003/5.

Table 2: Licence amendments

Instrument	Issued	Amendment
L7860/2003/5	15/6/2015	New licence issued because of the expiry of L7860/2015/4
L7860/2003/5	28/8/2015	Licence amendment to allow installation Alstom EV burners to allow the Gas Turbine to operate at lower load under normal operation.
L7860/2003/5	25/9/2015	Licence amendment to allow increased NOx emissions during the commissioning of the new burners
L7860/2003/5	29/4/2016	Licence amendment to extend the expiry date to 16 June 2030
L7860/2003/5	9/9/2016	Amendment Notice No 1 removing references to the commissioning of new burners and redundant improvement conditions. Changing the reporting dates and definition of annual period at request of Licence Holder.
L7860/2003/5	6/1/2017	Amendment Notice No 2, an administrative amendment to change some occupier details and addresses.
L7860/2003/5	DRAFT	Amendment Notice No 3, this notice.

Decision

The Delegated Officer has considered the existing monitoring point locations in relation to achieving accurate and representative monitoring results and determined that there will be no change to the risk profile of point source air emissions. The Delegated Officer has determined that the emissions are non-stratified and that the gases are evenly distributed in the stacks. The current tapping point locations would give an accurate and representative measurement of gaseous species in the exhaust gases.

The Delegated Officer accepts that the "NO_x cross" sampling location when used correctly provides accurate results for the purpose of compliance monitoring of NO_x emissions.

The Delegated Officer therefore grants the Application.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 5 November 2018. The Licence Holder accepted the original draft but requested a further amendment to the wording of condition 1.3.1 to remove a perceived ambiguity.

The Delegated Officer agrees to this amendment.

Details of the Amendment

1. Condition 1.3.1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the red text shown in underline below:
 - 1.3.1 The Licensee may ~~only~~ operate at a reduced low load between 50MW and 80MW load capacity between the hours of 7 pm and 7 am only.
2. The Licence is amended by the deletion of previous Condition 3.2.3 as shown in the strikethrough text below:
 - ~~3.2.2 The licensee shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with the AS 4323.1 or relevant part of the CEMS Code.~~

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Application Form and supporting documentation submitted on 29/08/2018	Application	DWER internal Records (A1715475)
2	Emission Assessments- <i>Report Number: 1718-202 Synergy Cockburn Power Station – Stratification Testing of the Main Stack Measurement Location 25 May 2018</i>	Stratification Report	
3	Emission Assessments- <i>Additional Summery Report for comparison of the Cockburn P0ower Station ‘NOx Cross’ and Stack Sampling Locations Emissions Measurements 9 August 2018.</i>	Summary Report	
4	Licence L7860/2003/5	Licence	accessed at www.dwer.wa.gov.au
5	DER, July 2015. <i>Guidance Statement: Regulatory Principles.</i> Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
6	DER, October 2015. <i>Guidance Statement: Setting Conditions.</i> Department of Environment Regulation, Perth.	DER 2015b	
7	DER, November 2016. <i>Guidance Statement: Risk Assessments.</i> Department of Environment Regulation, Perth.	DER 2016b	
8	DER, November 2016. <i>Guidance Statement: Decision Making.</i> Department of Environment Regulation, Perth.	DER 2016c	