



<b>Licence Number</b>	L6637/1995/15
<b>Licence Holder</b>	Electricity Generation and Retail Corporation
<b>ACN</b>	58 673 830 106
<b>File Number:</b>	DER2015/000109
<b>Premises</b>	Collie 'A' Power Station Boys Home Road PALMER WA 6225  Legal description –  Being Part of Lot 3001 on Plan 51101
<b>Date of Amendment</b>	29 April 2019
<b>Date of Amendment reissue</b>	21 May 2019

## 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

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

## Definitions and interpretation

### Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

**Table 1: Definitions**

Term	Definition
ACN	Australian Company Number
Amendment Notice	refers to this document
AS 4323.1 – 2000	Australian Standard AS 4156.6 – 2000: Determination of Dust/moisture Relationship for Coal.
CEMS Code	Means the current version of the Continuous Emission Monitoring System (CEMS) Code for Stationary Sources
CEO	means Chief Executive Officer. CEO for the purposes of notification means:  Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder	Electricity Generation and Retail Corporation
NOx	means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide
Occupier	has the same meaning given to that term under the EP Act.
PM	means total particulate matter including both solid fragments of material and miniscule droplets of liquid
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the

	front of this Decision Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
SO2	mean sulfur dioxide
USEPA Method 5	Means the United States (of America) Environmental Protection Agency Test Method 5 – Determination of Particulate Matter Emissions from Stationary Sources
USEPA Method 17	Means the United States (of America) Environmental Protection Agency Test Method – Determination of Particulate Matter Emissions from Stationary Sources (Instrument Analyser Procedure)

## 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 guidance statements that have informed the decision are listed in Appendix 1.

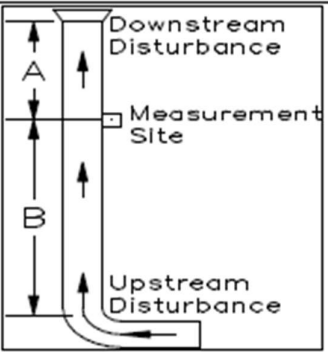
## Amendment description

On the 12 February 2019, the Licence Holder submitted an application to amend Licence L6637/1995/15 for Collie 'A' Power Station. Appendix 1 contains a list of the documents that form the Application.

The Licence Holder is seeking the amendment of Licence Condition 3.2.2 which requires the sampling of point source emissions to air (as required by Condition 3.2.1) to be undertaken at locations within the stack in accordance with Australian Standard (AS) 4323.1 or the relevant parts of the Continuous Emissions Monitoring System (CEMS) Code. To comply with the standard, the stack sampling plane should be a set distance from infrastructure that disturbs the flow of air within the stack (such as bends, junctions, dampers, fans or a change in shape) based on the hydraulic diameter of the sampling plane as shown in Table 2 below. The Collie 'A' main stack is unable to comply with these requirements of AS 4323.1 or the relevant section of the CEMS Code.

**Figure 2: Sampling location criteria as specified in AS 4323.1**

Type of flow disturbance	Minimum distance to disturbance in internal diameters [D]	
	Downstream (A)	Upstream (B)
Bend, connection, junction or direction change	2	6
Louvre or butterfly damper (partially open or closed)	3	6
Axial fan	3	8
Centrifugal fan	3	6



The diagram illustrates a vertical stack inlet duct with a measurement site indicated by a small square. The duct has a 90-degree bend at the bottom. Disturbances are labeled as 'Downstream Disturbance' at the top and 'Upstream Disturbance' at the bottom. Two vertical arrows, labeled 'A' and 'B', indicate the distances from the measurement site to the downstream and upstream disturbances, respectively. Arrows also show the flow direction within the duct.

Source: *Collie Power Station - Stratification Testing of Main Stack Inlet Duct (Emissions Assessments, 2016)*

## Amendment history

Table 3 provides the amendment history for L6637/1995/15.

**Table 3:** Licence amendments

Instrument	Issued	Amendment
L6637/1995/15	17/10/2018	Amendment Notice 2 Licence Holder initiated amendment to construct a 3 m embankment raise on FAD Cell 2B and to increase the approved throughput capacity for the disposal of flyash from 95,000 tonnes per annum to 120,000 tonnes per annum.
L6637/2015/15	18/01/2019	Amendment Notice 3 Licence Holder initiated amendment to allow for the disposal of brine sludge into the Ash storage dam, and to correct an administrative error on the Licence.
L6637/1995/15	29/04/2019	Amendment Notice 4 Licence Holder initiated amendment to remove the Licence Condition 3.2.3 as the requirement for air emissions monitoring sampling plane to comply with the sampling location within the stack as specified by AS4323.1 or the CEMS Code is not able to be achieved
L6637/1995/15	21/05/2019	Administrative reissue of Amendment Notice 4- to correct an omission

## Location and receptors

Table 4 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

**Table 4: Receptors and distance from activity boundary**

Residential and sensitive premises	Distance from flyash dam
Rural residences	Approximately 4.6 km northwest; 3.5 km northeast; 4.0 km northeast and 6.6 km southeast
Semi-Rural residential area	Approximately 5.2 km west
Collie Hills Village Accommodation	Approximately 4.8 km west

## Risk assessment

Although the proposed amendment does not result in any changes to emissions from the Premises, air emissions have been reassessed as the proposed amendment seeks to remove the requirement to remove part of a condition which relates to the monitoring of these emissions.

Tables 5 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls

**Table 5: Risk assessment for proposed amendments during operation**

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
<b>Cat 52</b> Electric Power Generation	Operation of coal fired boiler	Discharge of combustion emissions including:	Nearest sensitive receptor is approximately 4km away to the north east of the emission stack	Air/wind dispersion	Health and amenity impacts	No change to existing risk profile			The Delegated Officer considers the risk from the change to monitoring condition to be low.  See decision section below for further detail.
		PM, NOx, SO2, VOC, benzene and metals							

## Assessment

In December 2016 the Licence Holder engaged 'Emission Assessments' to undertake stratification testing of the main stack inlet duct at the Collie 'A' Power Station (Emission Assessments Air Quality & Noise, 2016). AS 4323.1 and the CEMS Code require the sampling plane to be situated minimum distances from infrastructure that cause disturbances (stratification) to the even flow of air within the emission stack void. The emission sampling plane is to be located minimum distances away from infrastructure that cause disturbances so as to ensure the contaminants being sampled at that location are representative of actual emissions. The Collie 'A' Power Station main stack sampling plane contains bends and connections which make it unable to comply with these requirements as shown in Table 6 below. The Licence Holder has provided advice, supported by the emissions stack testing consultancy and a qualified engineer that there are no alternative locations that can be used as a sampling plane due to the way the stack has been constructed (Emission Assessments Air Quality & Noise, 2016; and TW Power Services, 2019).

**Table 6: The sampling plane dimensions when measured against AS4323.1**

Distance from disturbance in internal diameters ( <i>D</i> )	Type of disturbance	Actual distance	Required distance	Location assessment
Downstream (A)	Bend	0.18 <i>D</i> (1.0m)	2 <i>D</i> (11.38 m)	Non-ideal
Upstream (B)	Connection	0.18 <i>D</i> (1.0m)	6 <i>D</i> (34.14 m)	Non-ideal

Source: Collie Power Station - Stratification Testing of Main Stack Inlet Duct (Emission Assessments, 2016)

Although stratification does occur, due the sampling plane not being not ideally situated; the CEMS data obtained for SO<sub>2</sub> and NO<sub>x</sub> has been shown to be representative of actual emissions. Particulate emissions are become significantly stratified across the sampling plane and particulates data obtained from CEMS monitoring are considered unreliable and non-representative (Emission Assessments Air Quality & Noise, 2018).

The Licence Holder has advised that sulphur dioxide and nitrous oxide emissions will continue to be measured using the existing CEMS monitoring equipment. Particulates will be measured quarterly in accordance with USEPA Method 5 or 17. The Licence Holder has requested the removal of Condition 3.2.2.

## 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 emissions through this amendment.

## Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 26 March 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

## Amendment

1. The Licence is amended by the deletion of Condition 3.2.2 as shown in strikethrough 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	Licence L6637/1995/15	L6637/1995/15	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
2	Licence amendment application form and supporting information	NA	DWER records: A1764559
3	Collie Power Station – Stratification Testing of main Stack Inlet Duct Sampling Location Emission Assessments, 12 December 2016	Emission Assessments, 2016	
4	Collie Power Station – Particulates Stratification Testing program. Emission Assessments, 24 January 2018	Emission Assessments, 2018	
5	DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	DER 2015a	
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	
9	Email correspondence from Synergy containing advice from a qualified engineer detailing the limitations of the main emissions stack at the Collie A Power Station.	TW Power Services, 2019	DWER records: DWERDT 153299



## Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 26 March 2019 for review and comment.

<b>Condition</b>	<b>Summary of Licence Holder comment</b>	<b>DWER response</b>
3.2.2	DWER proposed amendment of Licence Condition 3.2.2 with the removal of the text “sampling locations”. The Licence Holder advised that the proposed amendment to Condition 3.2.2 made compliance with AS 4323.1 more onerous and noted that the preference was for removal of the entire condition as had occurred with Amendment Notice 1 to the Pinjar Power Station Licence L8395/2009/2 on 11 October 2018.	The Delegated Officer has removed Licence Condition 3.2.2 as the intent of the condition was to specify sampling locations only, not to require compliance with the whole of AS 4323.1. As the Licence Holder has demonstrated compliance with the sampling locations as specified by AS 4323.1 is unable to be achieved, the entire condition has been removed.