

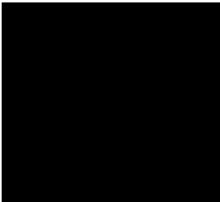
**Annual Environmental Report (AER)
L8271/2008/1**

2021



Department: Health, Safety & Environment

NPK-HSE-TMP-001



Document History

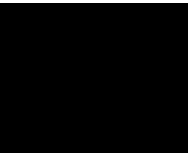
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1 Introduction

██████████ operate a gas fired power station which has been in commercial operation since October 2008. The power station is located on the shore of Cockburn Sound in the northern end of the Kwinana Industrial Area.

2 Background

The 330 MWe Kwinana Power Station is a combined cycle, gas-fired, base load power station that has been in commercial operation by NewGen Power Kwinana since October 2008. The power station was approved under Part IV of the *Environmental Protection Act 1986* (EP Act) by the Environmental Protection Authority on 7 November 2007. Subsequently the Environmental Licence (L8271/2008/1) was approved under Part V of the EP Act on 9th October 2008.

3 Purpose and Scope

This Annual Environmental Report (AER) covers the period from 1 January 2021 to 31 December 2021 and has been prepared to satisfy the following conditions of licence L8271/2008/1.

Condition 4.2.1: *The Licensee shall submit to the CEO an annual environmental report within 60 calendar days after of the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in table 4.2.1.*

Table 4.2.1: Annual environmental report		
Condition or table (if relevant)	Parameter	Format or form¹
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the year and any action taken	None specified
4.1.2	Compliance	Annual Audit Compliance report (AACR)
4.1.3	Complaints summary	None specified
Table 2.2.2, 2.3.2	Limit and Target exceedances	None specified
Table 3.2.1	Volumetric flow rate, carbon dioxide, oxygen, moisture content, nitrogen oxides	AR1
Table 3.3.1	Residual Chlorine and temperature	WR1
Table 3.4.1	Temperature	None specified
-	List of quality assurance procedures required to ensure compliance with the licence	None specified

Condition 4.2.2: *The Licensee shall ensure that the annual environmental report also contains an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets.*

4 Amendments to the Licence

██████████ submitted a Licence Amendment Application to the Department of Environment and Regulation (DWER) on 25 January 2017. In response to this submission DWER issued an Amendment Notice on 28 June 2017, amending several condition contained in the Licence including:

- Remove condition 2.2.2 which specifies emissions to air target of 70mg/m3 for nitrogen oxides (NOx);

- Remove condition 2.3.2 which specifies an emission limit of 0.5 parts per million (ppm) for chlorine in wastewater discharged to Cockburn Sound;
 - The removal of this Condition also removed the monthly requirement to carry out spot sampling of chlorine;
- Updated the Premises map (Figure 1) to reference the correct location of the cooling water monitoring point;
- Updated Table 3.3.1 to reflect the location of the abovementioned monitoring point;
- Updated Table 3.3.1 by changing the frequency of the chlorine sampling from monthly to continuous, reflecting the inline monitoring occurring on site;
- Removal of the reporting form templates (AR1 & WR1) from Schedule 2 of the Licence as the historic reports included the data in a different format.

Figure 1: Premises Map and Emission Points
Kwinana Site L8271/2008/1



5 Annual Environmental Report Supporting Information

The following information supports the requirements of Condition 4.2.1 and the amendments to the Licence provided in the June 2017 Amendment Notice.

5.1 Table 4.2.1 – Failure or Malfunction of Pollution Control Equipment

As per Table 4.2.1 of L8271/2008/1 [REDACTED] is required to summarise “any failure or malfunction of any pollution control equipment or any incidents that have occurred during the year and any action taken”. [REDACTED] had no incidents where any actions were required to be taken in respect to a malfunction or failure of equipment.

5.2 Table 4.2.1 – Compliance

The Annual Audit Compliance Report (AACR) as required by Condition 4.1.3 is attached as Appendix A.

5.3 Condition 4.1.3 – Complaints Summary

This Condition requires a complaints management system to be put in place and to ensure that certain actions are taken in the event a complaint is lodged.

[REDACTED] has adopted the MYOSH platform for recording, investigating and closing out environmental incidents including complaints. There were no complaints lodged during the reporting period.

5.4 Reporting on Exceedance of Limits and Targets

The Licence requirement to report on the exceedance a NO_x target (Condition 2.2.2) and chlorine limit (Condition 2.3.2) have been removed from the Licence as per the Amendment Notice discussed in Section 4. There is now no requirement to report on these Conditions.

5.5 Reporting on Emissions

Licence Condition 3.2.1 and the corresponding Table 3.2.1 specifies the suite of emissions to air parameters that are required to be include in the AER and the sampling frequency, being twice per year.

The compliance sampling was carried out in June and December 2021. The reports are available upon request.

As required by Condition 4.2.1, a summary of the emissions data is provided in Table 1. NO_x is also monitored continuously via a Predictive Emissions Monitoring System (PEMS) and data is available on request.

In comparing the information from the previous reporting period the following was found:

- The average of the NO_x values for the current reporting period (59 mg/m³) is similar to the previous reporting period average result of 59.5 mg/m³.

- All other parameters were very similar to previous reporting periods. The above findings are consistent with what you would find with a gas fired power station under normal operating conditions.

Table 1: Emissions Data – June/Dec2021

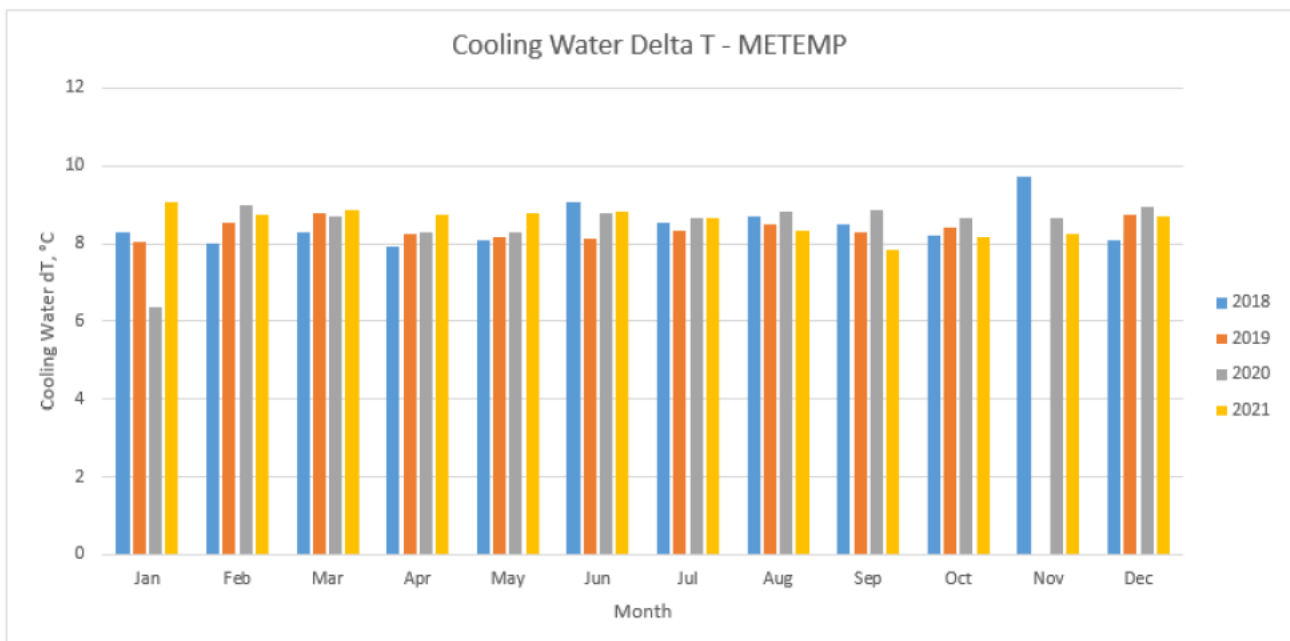
Parameter	Units	Stack Sample June 2021	Stack Sample December 2021
Oxides of Nitrogen	mg/m ³	69	49
Vol Flow Rate	m ³ /s	520	533
Moisture Content	%v/v	7.3	8.1
Carbon Dioxide	%v/v	3.4	3.4
Oxygen	%v/v	14.2	14.8

5.6 Monitoring of Point Source Emissions to Water

Conditions 3.3.1 and 3.4.1 have been met by the continuous monitoring of inlet and outlet water temperature. The Marine Environment Temperature Elevation Management Plan (METEMP) is a management plan required under Ministerial Statement 698. Figure 2 provides a comparison of daily average cooling water delta T data from previous and current reporting periods.

The L1 location as shown in the Map of Emission Points (Figure 1) is not the location that the inlet water temperature is taken from. The actual location is at the same approximate location as M1 where the outlet water temperature is monitored.

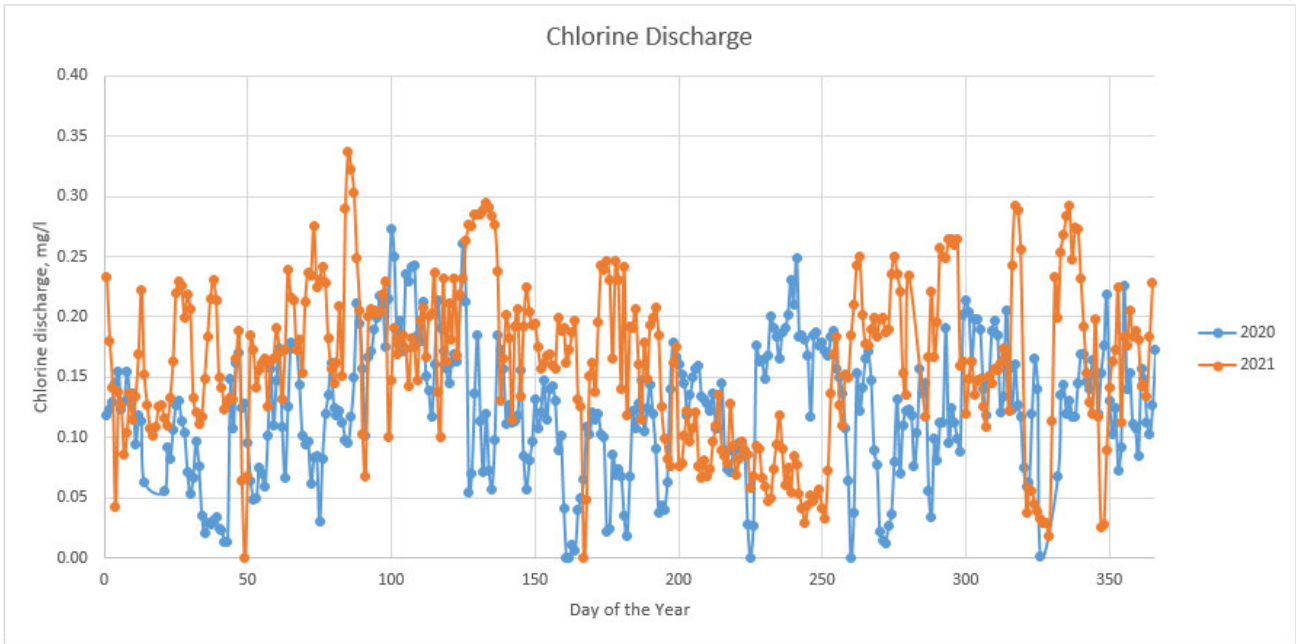
Figure 2: Water Temperature Delta Comparison



As required by Table 4.3.1 of L8271/2008/1, as a result of the changes resulting from the June 2017 Amendment Notice, chlorine is to be continuously monitored. Figure 3 presents this data for the current reporting period and is compared against the data for the previous reporting period.

2021 and 2020 data is comparative for the Chlorine discharge.

Figure 3: Chlorine Monitoring Comparison



5.7 Quality Assurance Procedures

As required by Condition 4.2.1 a list of quality assurance procedures should be provided that assist in ensuring compliance with the Licence L8271/2008/1.

Several of these procedures are provided below to satisfy this requirement.

- Water Temp - 6 Monthly Calibration Check of the Condenser Cooling Water Temperature Transmitter – Preventative Maintenance # 1181 on MEX (Maintenance Management Program)
- PEMS - Maintenance Contract with Rockwell Automation
- Chlorine - Monthly Chlorine Analyser Verification – Preventative Maintenance # 1189 on MEX (Maintenance Management Program)
- Chlorine – 6 Monthly Chlorine Analyser Overhaul – Preventative Maintenance # 1252 on MEX (Maintenance Management Program)
- Chlorine - 12 Monthly Handheld Chlorine Meter Calibration Check – Preventative Maintenance # 1267 on MEX (Maintenance Management Program)
- NPK Manual for the Chlorine Analyser (Manual for Hach CL17 Chlorine Analyser 19PBN90GW001 & 19PBN90GW002)
- NPK Manual for the Chlorine Check (Chlorine Analyser Calibration Verification Test).

Other site procedures can be provided on request.

6 Appendix A: Annual Audit Compliance Report
Annual Audit Compliance Report Form



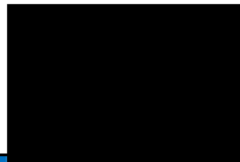
Environmental Protection Act 1986, Part V

Section A – Licence Details			
Licence number:	L8271/2008/1	Licence file number:	2013/000850
Licence holder:	[REDACTED]		
Trading as:	[REDACTED]		
ACN:	[REDACTED]		
Registered address:	[REDACTED]		
Reporting period:	1 / Jan / 2021 to 31 / Dec / 2021		

Section B – Statement of Compliance with Licence Conditions
Did you comply with all of your licence conditions during the reporting period? (please tick the appropriate box)
<input checked="" type="checkbox"/> Yes – please complete: <ul style="list-style-type: none"> • section C; • section D if required; and • sign the declaration in Section F.
<input type="checkbox"/> No – please complete: <ul style="list-style-type: none"> • section C; • section D if required; • section E; and • sign the declaration at Section F.

Section C – Statement of Actual Production	
Provide the actual production quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed Premises Category	Actual Production Quantity
Category Number 52	Total MWh Delivered: 1,926,535 MW Total Hours Operating: 8,320 Hours 231.55 MWe

Section D – Statement of Actual Part 2 Waste Discharge Quantity	
Provide the actual Part 2 waste discharge quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed Premises Category	Actual Part 2 Waste Discharge Quantity



Section E – Details of Non-Compliance with Licence Condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

Condition no:		Date(s) of non-compliance:	
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Details of non-compliance:

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

Cause (or suspected cause) of non-compliance:

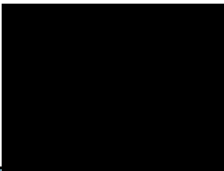
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:

Was this non-compliance previously reported to DER?

Yes, and

Reported to DER verbally	Date: / /
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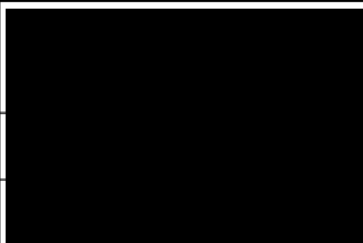
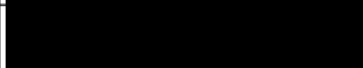
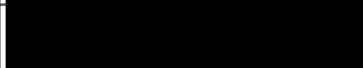
Reported to DER in writing	Date: / /
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Section F – Declaration

I / We declare that the information in this Annual Audit Compliance Report is true and correct and is not false or misleading in a material particular.

I / We consent to the Annual Audit Compliance Report being published on the Department of Water and Environmental Regulation's (DWER) website.

Signature:		Signature:	
Name: (printed)		Name: (printed)	
Position:		Position:	
Date:		Date:	
Seal (if signing under seal):			