



Snowy Hydro Limited Kurri Kurri Power Station Air Quality Management Plan

Revision No.: 5.1

Revision Date: 18 November 2025

snowyhydro

Acknowledgement of Country

Snowy Hydro acknowledges the traditional custodians of Wonnarua Country, where this Management Plan applies. We pay our respects to Elders of the past, present, and emerging for they have, are, and will leave their footprints behind and continue to share their history, culture and traditions.

Document Control

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Position:	Senior Environmental Advisor
Company:	Snowy Hydro Limited

Document History Prior to Approval:

Revision	Date	Description	Prepared	Checked	Reviewed	Approved
Final	20 Dec 2021	Final	S Brennan S Sanderson	A Horan S Lakmaker	M Luger	K Ivanusic
Amended Final	17 Jan 2022	Amended Final	S Brennan S Sanderson	A Horan S Lakmaker	M Luger	K Ivanusic

The initial management plan was prepared by Jacobs and Snowy Hydro, and approved by the Department for the Hunter Power Project (now Kurri Kurri Power Station). Details of the review process are detailed in the document history table above. Subsequent versions of the approved management plan have been updated by Snowy Hydro in consultation with the Department's Environmental Representative as required, and the reasons for the management plan updates are detailed in the table below.

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Approved Management Plan Revision History:

Approved Revision	Revision Date	Description of Changes	Author	Date Approved
01	17 Jan 2021	Previously referred to as Amended Final	S Brennan and A van der Kroft	NA
02	10 May 2023	Document updated in response to approval of Modification 1 on 1 March 2023	R Vazey & A van der Kroft	29 May 2023
03	29 Dec 2023	Updated in response to approval of Modification 2 on 16 November 2023	A van der Kroft	13 Feb 2024
04	13 Dec 2024	Updated to include commissioning	S. Cornell and A van der Kroft	18 Dec 2024
05	18 Aug 2025	Formatting and content updated for the KKPS operational stage	T Thompson	23 Sep 2025
5.1	18 Nov 2025	Updated in response to DPHI review of Revision 5	T Thompson	16 Jan 2026

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1.0 Introduction

This Air Quality Management Plan (Air Quality MP) has been prepared for the operational stage of the Kurri Kurri Power Station (KKPS) as a subplan to the overarching Operations Environmental Management Plan (OEMP) for the facility.

The objective of this Air Quality MP is to provide a point of reference to ensure the effective implementation of KKPS' air quality related commitments, reporting, controls and mitigation measures specified in:

- The KKPS Environmental Impact Statement (EIS)
- Any written directions from the NSW Secretary of the Department of Planning, Housing and Infrastructure (DPHI Secretary);
- The conditions of NSW Infrastructure Approval SSI-12590060 (SSI Approval);
- The conditions of Environment Protection Licence 21627 (EPL21627);
- The conditions of the Federal EPBC Approval 2021/8888 (EPBC Approval), and;
- Applicable legislation.

As a requirement of SSI Approval Condition C1(e), Snowy Hydro Limited (Snowy Hydro), as the proponent of KKPS, must prepare an Environmental Management Strategy (Operational Environmental Management Plan), which includes an Air Quality Management Plan as a subplan, and to the satisfaction of the DPHI Secretary. Snowy Hydro must also implement the approved OEMP, which includes the Air Quality MP.

Previous versions of the Air Quality MP have been developed and approved for construction and commissioning activities of KKPS, however as per Condition C21 of the SSI Approval (Staging of Plans) this version of the Air Quality MP is for the operational stage of KKPS.

The Air Quality MP is applicable to the whole KKPS site and aims to minimise potential impacts to air quality through:

- Identifying the potential air quality impacts from KKPS operations on the local air quality
- Detailing measures to manage operational impacts on air quality
- Operating KKPS in compliance with SSI Approval and EPL21627 conditions, as well as relevant legislation relating to air quality.

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1.1 Environmental Management Framework

Snowy Hydro's integrated management system incorporates Health, Safety, Environment, Quality and Asset Management frameworks to meet business requirements. The system is referred to within Snowy Hydro as the Clean, Green and Safe (CGS) Management System, and conforms to:

- ISO 9001 Quality Management Systems
- ISO 14001 Environmental Management Systems
- ISO 45001 Occupational Health & Safety Management System
- ISO 55001 Asset Management Systems

Snowy Hydro currently maintains certification of its CGS Management System to ISO9001, ISO14001, and ISO45001.

This Air Quality MP and the overarching OEMP are underpinned by, and align with the wider CGS Management System.

2.0 Overview

2.1 Location

KKPS is located at Loxford, near Kurri Kurri, New South Wales (NSW), within the Cessnock City Council Local Government Area (refer to **Figure 2.1**, and **Figure 2.2**). The facility has been constructed on the site of the former Kurri Kurri Aluminium Smelter, which operated from 1969 to late 2012, closing in 2014.

Figure 2.3 presents the SSI & EPBC Approval boundary for KKPS, overlaid with the EPL boundary.

The site address is 1 Hart Road, Loxford, and is approximately 1.2km from the M15 Hunter Expressway. The site is accessed via Hart Road.

Further details on the location of KKPS can be found in the KKPS OEMP.

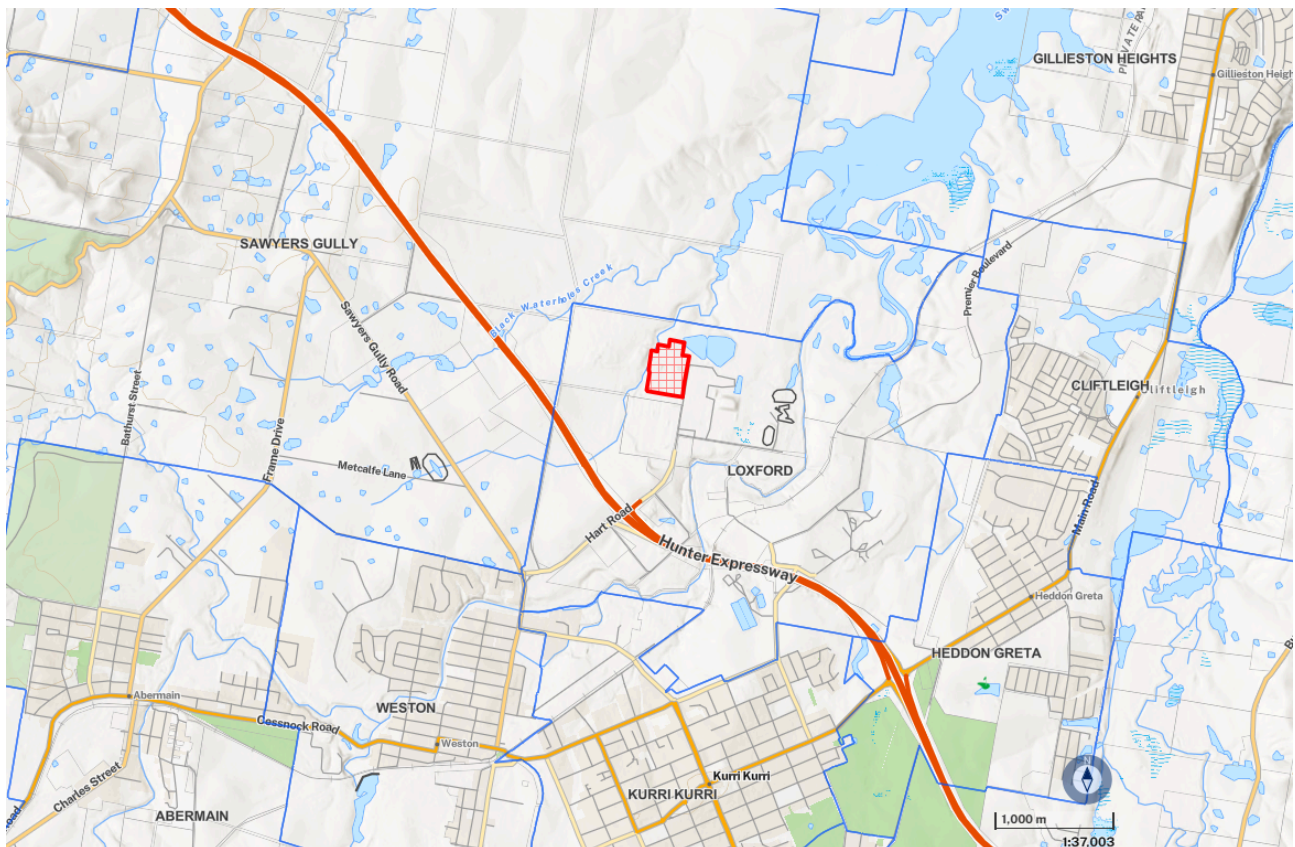


Figure 2.1: Location of the Kurri Kurri Power Station within the regional context (image source: NSW Spatial Services, SDT Explorer)

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Figure 2.2: Local context of Kurri Kurri Power Station (image source: NSW Spatial Services, SDT Explorer)

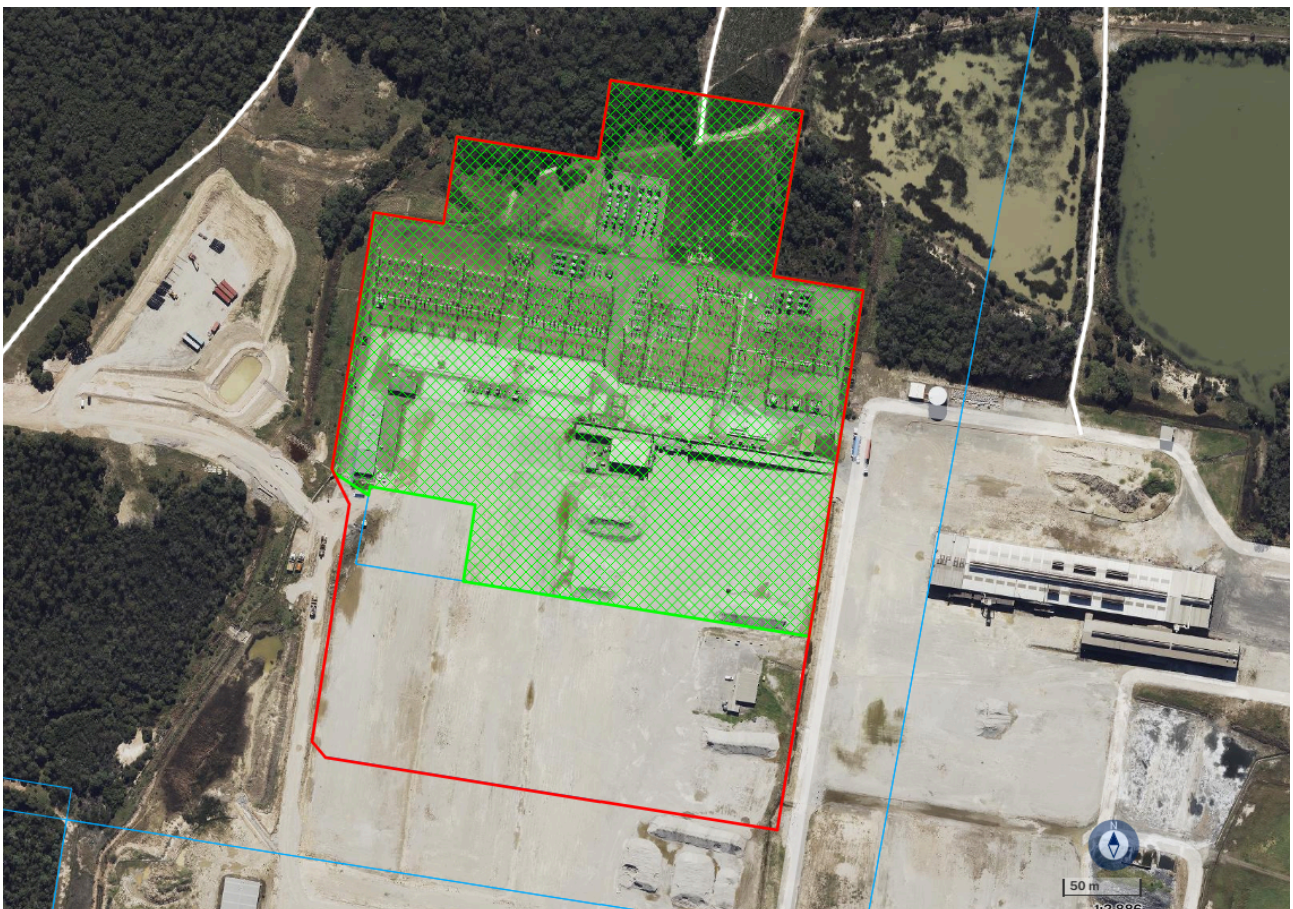


Figure 2.3: Kurri Kurri Power Station boundaries as identified in the SSI and EPBC Approvals (red outline), and EPL21627 (green hatch), (image source: NSW Spatial Services, SDT Explorer)

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2.3 Site Operations

KKPS is a 660MW open cycle gas fired power station that operates as a 'firming' generation facility. It is capable of supporting the transition away from fossil fuel baseload generation, through the security of supplying electricity during periods of low and intermittent generation from renewable generators to maintain a reliable and stable National Electricity Market (NEM). It can also support the NEM at short notice and during times of peak demand, including unplanned supply shortages at other baseload generation facilities.

Further details regarding the site operations of KKPS can be located in the OEMP.

2.4 Key Site Components and Features

Full details of the key site components of KKPS can be located in the OEMP.

An indicative site layout of KKPS is provided below in **Figure 2.4**.

2.5 Environmental Policy

Snowy Hydro's Environmental Policy is reviewed and updated regularly and can be found in the Snowy Hydro document management system, intranet site (the Grid), and on the public Snowy Hydro website. The link to the public website is provided below.

<https://www.snowyhydro.com.au/about/corporate-governance/>

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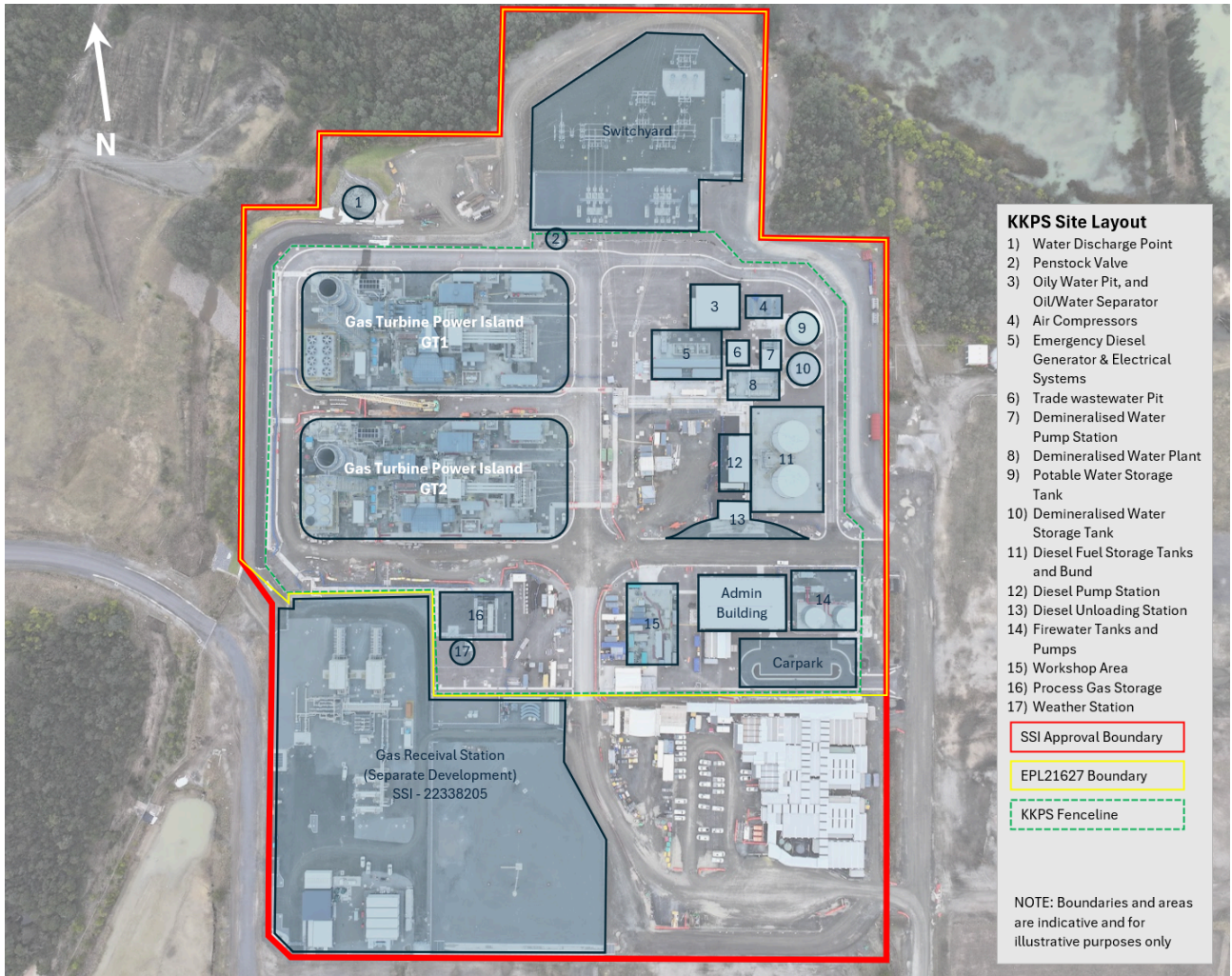


Figure 2.4: Kurri Kurri Power Station Site Layout

3.0 Legislative Compliance

3.1 Applicable Legislation, Standards and Guidelines

This Air Quality MP has been developed in accordance with the following applicable legislation:

- *Environmental Planning and Assessment Act 1979 (NSW)*
- *Protection of the Environment Operations Act 1997 (NSW)*
- *Protection of the Environment Operations (Clean Air) Regulation 2022 (NSW)*

Further details on relevant legislation applicable to KKPS can be found in the OEMP.

3.2 SSI Approval Conditions

Air quality management requirements specified by the SSI Approval are provided in **Table 3.1**.

The applicable administrative conditions of the SSI Approval (Conditions A1 to A24), are summarised in **Table 3.1**, as they remain applicable to this management plan. The full detail of these administrative conditions, and where these conditions are addressed is included in the KKPS OEMP.

Table 3.1: Air quality related approval conditions

Condition	Description	Where/how addressed
PART A: ADMINISTRATIVE CONDITIONS		
A1 to A24	• Obligation to minimise harm to the environment (A1) • Terms of Approval (A2 to A5) • Lapse of Approval (A6) • Limits on Approval (A7) • Limits on Operations (A8 to A12) • Statutory Requirements (A13 to A14) • Notification (A15) • Structural Adequacy (A16) • Demolition (A17) • Protection of Public Infrastructure (A18) • Operation of Plant and Equipment (A19) • Environmental Representative (A20 to A24)	KKPS OEMP
PART B: ENVIRONMENTAL CONDITIONS - GENERAL		
AIR QUALITY		
B1	General Operating Conditions The premises must be maintained and operated in a manner that minimises or prevents dust emissions from the premises.	Section 6.0

Condition	Description	Where/how addressed
B2	The Proponent must carry on any activity, or operate any plant, in or on the premises by such reasonably practicable means as may be necessary to prevent or minimise air pollution.	Section 6.0
B3	Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.	Section 6.0
B4	The Proponent shall not permit any offensive odour to be emitted beyond the boundary of the site	Section 6.0
B5	Final Design Verification Prior to the commencement of the installation of the gas turbines, the Proponent must provide a revised Air Quality Impact Assessment (AQIA) to the Secretary and EPA that is based on the detailed design of the plant and includes emission specifications (emission rates and concentrations) based on manufacturer performance guarantees. Should the plant design and emissions characteristics differ from what was assessed previously (Hunter Power Project, Air Quality Impact Assessment, Jacobs, 30 July 2021), the revised AQIA must include remodelling of emissions based on final design and reassessment of impacts.	Not applicable during KKPS operations
B6	The final design, installation and operation of the power station must not preclude the ability for air pollution emissions controls to be retrofitted	Section 6.0

Condition	Description	Where/how addressed																																																				
B7	Air Quality Verification Within six months of commissioning the power station (unless otherwise agreed by the Secretary in consultation with the EPA) and during a period in which the development is operating under high design loads, the Proponent must undertake a monitoring program to confirm the air emission performance of the power station. The monitoring program must include, as a minimum (or as otherwise permitted by the applicable EPL): a) two rounds of post-commissioning monitoring of the pollutants and parameters in Table 1 below for each discharge point; b) consideration of the dual-fuel and peaking operability of the power station in capturing representative air pollutant emission concentrations and normal operating parameters; and c) sampling methods as per the NSW EPA's Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (latest version). Table 1: Air Quality Verification Monitoring <table><tr><th>Pollutant/Parameter</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Total solid particles</td><td>Milligrams per cubic metre</td><td>Special Frequency 1</td><td>TM-15</td></tr><tr><td>Oxides of nitrogen</td><td>Milligrams per cubic metre</td><td>Continuous</td><td>CEM-2 and USEPA Procedure 1</td></tr><tr><td>Sulphur dioxide</td><td>Milligrams per cubic metre</td><td>Special Frequency 1</td><td>TM-4</td></tr><tr><td>Volatile organic compounds (VOCs)</td><td>Milligrams per cubic metre</td><td>Special Frequency 1</td><td>TM-34</td></tr><tr><td>PAHs (as benzo[a]pyrene)</td><td>Milligrams per cubic metre</td><td>Special Frequency 1</td><td>California Air Resources Board Method 429</td></tr><tr><td>Oxygen</td><td>Percent</td><td>Continuous</td><td>CEM-3</td></tr><tr><td>Moisture content</td><td>percent</td><td>Special Frequency 1</td><td>TM-22</td></tr><tr><td>Molecular weight of stack gases</td><td>Grams per gram mole</td><td>Special Frequency 1</td><td>TM-23</td></tr><tr><td>Temperature</td><td>Degrees Celsius</td><td>Special Frequency 1</td><td>TM-2</td></tr><tr><td>Velocity</td><td>Metres per second</td><td>Continuous</td><td>CEM-6</td></tr><tr><td>Dry gas density</td><td>Kilograms per cubic metre</td><td>Special Frequency 1</td><td>TM-23</td></tr><tr><td>Volumetric flow rate</td><td>Cubic metres per second</td><td>Continuous</td><td>CEM-6</td></tr></table> <i>Note: Special Frequency 1 means two rounds of post-commissioning monitoring.</i>	Pollutant/Parameter	Units of measure	Frequency	Sampling Method	Total solid particles	Milligrams per cubic metre	Special Frequency 1	TM-15	Oxides of nitrogen	Milligrams per cubic metre	Continuous	CEM-2 and USEPA Procedure 1	Sulphur dioxide	Milligrams per cubic metre	Special Frequency 1	TM-4	Volatile organic compounds (VOCs)	Milligrams per cubic metre	Special Frequency 1	TM-34	PAHs (as benzo[a]pyrene)	Milligrams per cubic metre	Special Frequency 1	California Air Resources Board Method 429	Oxygen	Percent	Continuous	CEM-3	Moisture content	percent	Special Frequency 1	TM-22	Molecular weight of stack gases	Grams per gram mole	Special Frequency 1	TM-23	Temperature	Degrees Celsius	Special Frequency 1	TM-2	Velocity	Metres per second	Continuous	CEM-6	Dry gas density	Kilograms per cubic metre	Special Frequency 1	TM-23	Volumetric flow rate	Cubic metres per second	Continuous	CEM-6	KKPS OEMP & Section 7.0
Pollutant/Parameter	Units of measure	Frequency	Sampling Method																																																			
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Condition	Description	Where/how addressed												
B8	Within six weeks of completing post-commissioning testing (unless otherwise agreed by the Secretary in consultation with the EPA), the Proponent must submit a Post-Commissioning Verification Report (the Report) to the EPA. The Report must: a) include all analytical results of post-commissioning monitoring required for all discharge points. Any external report must be reproduced in full; b) include all the information listed in section 4 of the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (latest version); c) (c) describe all the operational parameters during post-commissioning testing; d) compare analytical results from post-commissioning monitoring against final design emission specifications and modelled emission parameters (emission rates and concentrations) in the AQIA required under condition B5 (final design verification assessment); and e) should any comparison under B8(d) identify monitored discharge concentrations or emission rates above the emissions characteristics in the revised AQIA or the Protection of the Environment Operations (Clean Air) Regulation 2021 standards of concentration, the Proponent must: i) re-assess and evaluate both the emissions concentrations against the Protection of the Environment Operations (Clean Air) Regulation 2021 standards of concentration and the impacts against the relevant impact assessment criteria in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (latest version); and/or ii) identify actions and measures to be implemented to reduce emissions of air pollutants to no greater than those predicted in the AQIA. Details of the actions and measures and a timetable for implementation must be submitted to the Secretary and the EPA for approval.	KKPS OEMP & Section 7.1.1												
B9	Monitoring/Discharge Points The following points referred to in Table 2 below (or alternative points as permitted by the applicable EPL) are identified for the purposes of monitoring and/or setting of limits for the emission of pollutants to the air from the point. <i>Table 2: Monitoring points</i> <table><tr><th>Emission point</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Description of Location</th></tr><tr><td>1</td><td>Air emissions monitoring</td><td>Discharge to Air</td><td>Gas turbine Stack 1 - exact location to be confirmed</td></tr><tr><td>2</td><td>Air emissions monitoring</td><td>Discharge to Air</td><td>Gas turbine Stack 2 - exact location to be confirmed</td></tr></table>	Emission point	Type of Monitoring Point	Type of Discharge Point	Description of Location	1	Air emissions monitoring	Discharge to Air	Gas turbine Stack 1 - exact location to be confirmed	2	Air emissions monitoring	Discharge to Air	Gas turbine Stack 2 - exact location to be confirmed	Section 5.0
Emission point	Type of Monitoring Point	Type of Discharge Point	Description of Location											
1	Air emissions monitoring	Discharge to Air	Gas turbine Stack 1 - exact location to be confirmed											
2	Air emissions monitoring	Discharge to Air	Gas turbine Stack 2 - exact location to be confirmed											

Condition	Description	Where/how addressed																																				
B10	Discharge Limits For each monitoring/discharge point specified by Table 3 below (or alternative points as permitted by the applicable EPL) the concentration of a pollutant discharged at that point, must not exceed the concentration limits specified for that pollutant in the table (or alternative limits as permitted by the applicable EPL) Table 3: POINTS 1 and 2, all gas turbine stacks <table><tr><th>Pollutant</th><th>Fuel type</th><th>100 percentile limit (mg/m³)</th><th>Reference Conditions</th><th>Averaging Period</th></tr><tr><td rowspan="2">Nitrogen dioxide (NO₂) or nitric oxide (NO) or both, as NO₂ equivalent</td><td>Natural gas</td><td>51</td><td rowspan="2">Dry, 273 °K, 101.3 kPa, 15% O₂</td><td rowspan="2">1 hour</td></tr><tr><td>Diesel</td><td>86</td></tr><tr><td rowspan="2">Carbon monoxide (CO)</td><td>Natural gas</td><td>12.5</td><td rowspan="2">Dry, 273 °K, 101.3 kPa, 15% O₂</td><td rowspan="2">1 hour</td></tr><tr><td>Diesel</td><td>63</td></tr></table> Notes: - The limits contained in Table 3 do not apply during a period of start up or shut down, as defined by the Protection of the Environment Operations (Clean Air) Regulation 2021. - While the concentration limits do not apply under the specified periods, the Proponent will still be subject to the requirements of Section 128(2) of the POEO Act.	Pollutant	Fuel type	100 percentile limit (mg/m³)	Reference Conditions	Averaging Period	Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both, as NO ₂ equivalent	Natural gas	51	Dry, 273 °K, 101.3 kPa, 15% O ₂	1 hour	Diesel	86	Carbon monoxide (CO)	Natural gas	12.5	Dry, 273 °K, 101.3 kPa, 15% O ₂	1 hour	Diesel	63	Section 5.0																	
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	Diesel	63																																				
B11	Monitoring Conditions The Proponent must, for each air monitoring/discharge point, determine the pollutant concentrations and emission parameters specified in Table 4 below. For each pollutant, the Proponent must use the sampling method, units of measure, and sample at the frequency specified opposite in the other columns. Sampling methods as per the NSW EPA's Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (latest version) (or alternative methods as permitted by the applicable EPL). Table 4: Periodic Pollutant and Parameter Monitoring <table><tr><th>Pollutant/Parameter</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Nitrogen dioxide (NO₂) or nitric oxide (NO) or both, as NO₂ equivalent</td><td>mg/m³</td><td>Continuous</td><td>CEM-2 and US EPA Procedure 1</td></tr><tr><td>Carbon monoxide (CO)</td><td>mg/m³</td><td>Continuous</td><td>CEM-4 and US EPA Procedure 1</td></tr><tr><td>Moisture</td><td>%</td><td>Continuous</td><td>Special Method 1 and US EPA Procedure 1</td></tr><tr><td>Oxygen</td><td>%</td><td>Continuous</td><td>CEM-3 and US EPA Procedure 1</td></tr><tr><td>Temperature</td><td>°C</td><td>Continuous</td><td>TM-2 and US EPA Procedure 1</td></tr><tr><td>Velocity</td><td>m/s</td><td>Continuous</td><td>CEM-6 and US EPA Procedure 1</td></tr><tr><td>Volumetric flow rate</td><td>m³/s</td><td>Continuous</td><td>CEM-6 and US EPA Procedure 1</td></tr><tr><td>Selection of sampling positions</td><td>-</td><td>-</td><td>TM-1</td></tr></table> Note: For the purpose of Table 4 above, Special Method 1 means any moisture monitoring method approved in writing by the EPA, and USEPA Procedure 1.	Pollutant/Parameter	Units of measure	Frequency	Sampling Method	Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both, as NO ₂ equivalent	mg/m³	Continuous	CEM-2 and US EPA Procedure 1	Carbon monoxide (CO)	mg/m³	Continuous	CEM-4 and US EPA Procedure 1	Moisture	%	Continuous	Special Method 1 and US EPA Procedure 1	Oxygen	%	Continuous	CEM-3 and US EPA Procedure 1	Temperature	°C	Continuous	TM-2 and US EPA Procedure 1	Velocity	m/s	Continuous	CEM-6 and US EPA Procedure 1	Volumetric flow rate	m³/s	Continuous	CEM-6 and US EPA Procedure 1	Selection of sampling positions	-	-	TM-1	Section 5.0
Pollutant/Parameter	Units of measure	Frequency	Sampling Method																																			
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both, as NO ₂ equivalent	mg/m³	Continuous	CEM-2 and US EPA Procedure 1																																			
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Temperature	°C	Continuous	TM-2 and US EPA Procedure 1																																			
Velocity	m/s	Continuous	CEM-6 and US EPA Procedure 1																																			
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PART C: ENVIRONMENTAL MANAGEMENT AND REPORTING																																						
ENVIRONMENTAL MANAGEMENT																																						
C1	Environmental Management Strategy Prior to commencing construction, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must: e) include: i) the following subplans: • construction air quality management plan prepared in consultation with the EPA;	KKPS OEMP and this Air Quality MP																																				

Condition	Description	Where/how addressed
C5	Revision of Strategies, Plans and Programs Within 3 months, unless the Secretary agrees otherwise, of: a) the submission of an incident report under condition C6 below; b) the submission of an audit report under conditions C15 to C19 below; and c) the approval of any modification to the conditions of this approval; or d) a direction of the Secretary under condition A2 of Schedule 2; the Proponent must review and, if necessary, revise the studies, strategies or plans required under the conditions of approval to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Secretary for approval, unless otherwise agreed with the Secretary. <i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i>	Section 8.0
COMPLIANCE		
C6	Incident Notification, Reporting and Response The Secretary must be notified in writing via the Major Projects website immediately after the Proponent becomes aware of an incident. The notification must identify the development (including the application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 4.	Section 4.3.2 in the KKPS OEMP
C7	Non-Compliance Notification The Secretary must be notified in writing via the Major Projects website within seven days after the Proponent becomes aware of any non-compliance.	Section 7.5.4 Section 4.3.2a in the KKPS OEMP
C8	A non-compliance notification must identify the development and the application number for it, set out the condition of approval that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	Section 4.3.2a in the KKPS OEMP
C9	A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance.	Section 7.5.4 Section 4.3.2a in the KKPS OEMP
C10	Compliance Reporting Compliance Reports of the development must be carried out in accordance with the Compliance Reporting Requirements outlined in the Compliance Reporting Post Approval Requirements (2020) or its latest version.	Section 4.3.2b in the KKPS OEMP

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Condition	Description	Where/how addressed
C11	Compliance Reports must be submitted to the Department in accordance with the timeframes set out in the Compliance Reporting Post Approval Requirements (2020) or its latest version, unless otherwise agreed to by the Secretary.	Section 4.3.2b in the KKPS OEMP
C12	The Proponent must make each Compliance Report publicly available within 60 days of submitting it to the Secretary, unless otherwise agreed by the Secretary	Section 4.3.2b in the KKPS OEMP
C13	Notwithstanding the requirements of the Compliance Reporting Post Approval Requirements (2020) or its latest version, the Secretary may approve a request for ongoing annual operational compliance reports to be ceased, where it has been demonstrated to the Secretary's satisfaction that an operational compliance report has demonstrated operational compliance.	Section 4.3.2b in the KKPS OEMP
NOTIFICATIONS		
C14	Notification of Department Prior to commencing the construction, operations, upgrading or decommissioning of the development or the cessation of operations, the Proponent must notify the Department via the Major Projects website portal of the date of commencement, or cessation, of the relevant phase. If any of these phases of the development are to be staged, then the Proponent must notify the Department in writing prior to commencing the relevant stage, and clearly identify the development that would be carried out during the relevant stage.	Section 4.3.3 in the KKPS OEMP
ACCESS TO INFORMATION		

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Condition	Description	Where/how addressed
C20	Before the commencement of construction until the completion of all rehabilitation required under this approval, the Proponent must: a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this approval) publicly available on its website: i) the EIS; ii) all current statutory approvals for the development; iii) all approved strategies, plans and programs required under the conditions of this approval; iv) the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged; v) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this approval; vi) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs; vii) a summary of the current phase and progress of the development; viii) contact details to enquire about the development or to make a complaint; ix) a complaints register, updated monthly; x) the Annual Reviews of the development; xi) audit reports prepared as part of any Independent Environmental Audit of the development and the Proponent's response to the recommendations in any audit report; xii) any other matter required by the Secretary; and b) keep such information up to date, to the satisfaction of the Secretary.	Section 6.1 in the KKPS OEMP
UPDATING AND STAGING OF STUDIES, STRATEGIES AND PLANS		
C21	To ensure the studies, strategies and plans for the development are updated on a regular basis and incorporate any required measures to improve the environmental performance of the development, the Proponent may submit revised studies, strategies or plans required for the development under the conditions of approval at any time. With the agreement of the Secretary, the Proponent may also submit any study, strategy or plan required under the conditions of this approval on a staged basis.	Section 8.0

Condition	Description	Where/how addressed
C22	The Secretary may approve a revised strategy or plan required under the conditions of approval, or the stage submission of these documents, at any time. With the approval of the Secretary, the Proponent may prepare the revised or staged strategy or plan without undertaking consultation with all parties nominated under the applicable conditions in this approval. Notes: • <i>While any study, strategy or plan may be submitted on a progressive basis, the Proponent must ensure that the existing operations on site are covered by suitable studies, strategies or plans at all times.</i> • <i>If the submission of any study, strategy or plan is to be staged, then the relevant study, strategy or plan must clearly describe the specific stage to which the study, strategy or plan applies, the relationship of this stage to any future stages, and the trigger for updating the study, strategy or plan.</i>	Section 8.0

3.3 EPL21627 Conditions

Air quality management requirements specified by the SSI Approval are provided in **Table 3.2**.

Table 3.2: Air quality related approval conditions

Condition	Description	Where/how addressed																		
P1 Location of monitoring/discharge points and areas																				
P1.1	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point. <table><tr><th colspan="4">Air</th></tr><tr><th>EPA identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>1</td><td>Discharge to air Air emissions monitoring</td><td>Discharge to air Air emissions monitoring</td><td>Unit 1 gas turbine stack marked and shown as "Unit 1" on plan titled "Hunter Power Project EPL 21627 Premises Plan, Revision F" dated 07/05/2025 (EPA reference DOC25/378484).</td></tr><tr><td>2</td><td>Discharge to air Air emissions monitoring</td><td>Discharge to air Air emissions monitoring</td><td>Unit 2 gas turbine stack marked and shown as "Unit 2" on plan titled "Hunter Power Project EPL 21627 Premises Plan, Revision F" dated 07/05/2025 (EPA reference DOC25/378484).</td></tr></table>	Air				EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	1	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Unit 1 gas turbine stack marked and shown as "Unit 1" on plan titled "Hunter Power Project EPL 21627 Premises Plan, Revision F" dated 07/05/2025 (EPA reference DOC25/378484).	2	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Unit 2 gas turbine stack marked and shown as "Unit 2" on plan titled "Hunter Power Project EPL 21627 Premises Plan, Revision F" dated 07/05/2025 (EPA reference DOC25/378484).	Section 5.0		
Air																				
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description																	
1	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Unit 1 gas turbine stack marked and shown as "Unit 1" on plan titled "Hunter Power Project EPL 21627 Premises Plan, Revision F" dated 07/05/2025 (EPA reference DOC25/378484).																	
2	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Unit 2 gas turbine stack marked and shown as "Unit 2" on plan titled "Hunter Power Project EPL 21627 Premises Plan, Revision F" dated 07/05/2025 (EPA reference DOC25/378484).																	
L3 Concentration Limits																				
L3.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table	Section 5.0																		
L3.2	Air Concentration Limits POINT 1,2 <table><tr><th>Pollutant</th><th>Units of measure</th><th>100 percentile concentration limit</th><th>Reference conditions</th><th>Oxygen correction</th><th>Averaging period</th></tr><tr><td>Nitrogen Oxides</td><td>milligrams per cubic metre</td><td>51</td><td>Dry, 273K, 101.3kPa</td><td>15% O2</td><td>1 hour</td></tr><tr><td>Carbon monoxide</td><td>milligrams per cubic metre</td><td>12.5</td><td>Dry, 273K, 101.3kPa</td><td>15% O2</td><td>1 hour</td></tr></table>	Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period	Nitrogen Oxides	milligrams per cubic metre	51	Dry, 273K, 101.3kPa	15% O2	1 hour	Carbon monoxide	milligrams per cubic metre	12.5	Dry, 273K, 101.3kPa	15% O2	1 hour	Section 5.0
Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period															
Nitrogen Oxides	milligrams per cubic metre	51	Dry, 273K, 101.3kPa	15% O2	1 hour															
Carbon monoxide	milligrams per cubic metre	12.5	Dry, 273K, 101.3kPa	15% O2	1 hour															
L3.3	For the purposes of the table above, the air concentration limits specified apply when Unit/s associated with licensed Points 1 and 2 are being fired on natural gas.	Section 5.0																		
L3.4	The following air concentration limits apply when the Unit/s associated with licensed Points 1 and 2 are being fired on diesel. <table><tr><th>Pollutant (and units of measure in mg/m3)</th><th>100 percentile concentration limit</th><th>Reference conditions</th><th>Oxygen correction</th><th>Averaging period</th></tr><tr><td>Nitrogen Oxides</td><td>86</td><td>Dry, 273K, 101.3kPa</td><td>15% O2</td><td>1 hour</td></tr><tr><td>Carbon monoxide</td><td>63</td><td>Dry, 273K, 101.3kPa</td><td>15% O2</td><td>1 hour</td></tr></table>	Pollutant (and units of measure in mg/m3)	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period	Nitrogen Oxides	86	Dry, 273K, 101.3kPa	15% O2	1 hour	Carbon monoxide	63	Dry, 273K, 101.3kPa	15% O2	1 hour	Section 5.0			
Pollutant (and units of measure in mg/m3)	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period																
Nitrogen Oxides	86	Dry, 273K, 101.3kPa	15% O2	1 hour																
Carbon monoxide	63	Dry, 273K, 101.3kPa	15% O2	1 hour																
L3.5	For the purposes of the air concentration limits specified in the table(s) above, Nitrogen Oxides means: nitrogen dioxide (NO2) or nitric oxide (NO) or both, as NO2 equivalent.	Section 5.0																		

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Condition	Description	Where/how addressed
L3.6	The limits contained in this licence do not apply during a period of start up or shut down, as defined by the Protection of the Environment Operations (Clean Air) Regulation 2022. Note: While the limits contained in this licence do not apply under the periods specified in condition L3.6, the licensee will still be subject to the requirements of Section 128(2) of the Protection of the Environment Operations Act 1997.	Section 5.0
L3.7	The limits contained in licence condition L3 do not apply to commissioning work (as defined in Condition E2.1) between 12:00 am on 1 January 2025 and 11:59 pm on 31 December 2025. Note: The EPA granted the licensee an exemption under section 284 of the Protection of the Environment Operations Act 1997 in respect of the commissioning work by order published on 13 December 2024 in Government Gazette (Exemption Order). These dates reflect the duration of the Exemption Order. Note: While the limits contained in licence condition L3 do not apply during commissioning work, the licensee will still be subject to the conditions provided in Condition E2 of this licence regarding air emissions during commissioning work.	N/A - not relevant to ongoing KKPS operations
L6 Potentially offensive odour		
L6.1	No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.	Section 6.0
L6.2	Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.	Section 6.0
O1 Activities must be carried out in a competent manner		
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Section 6.0

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Condition	Description	Where/how addressed																																
O2 Maintenance of plant and equipment																																		
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner	Section 6.0																																
O3 Dust																																		
O3.1	The premises must be maintained in a condition which prevents the emission of dust from the premises.	Section 6.0																																
O3.2	All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.	Section 6.0																																
O3.3	Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading	Section 6.0																																
M2 Requirement to monitor concentration of pollutants discharged																																		
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	Section 5.0																																
M2.2	Air Monitoring Requirements POINT 1,2 <table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Carbon monoxide</td><td>milligrams per cubic metre</td><td>Continuous</td><td>CEM-4 and US EPA Procedure 1</td></tr><tr><td>Moisture</td><td>percent</td><td>Continuous</td><td>Special Method 1</td></tr><tr><td>Nitrogen Oxides</td><td>milligrams per cubic metre</td><td>Continuous</td><td>CEM-2 and US EPA Procedure 1</td></tr><tr><td>Oxygen (O2)</td><td>percent</td><td>Continuous</td><td>CEM-3 and US EPA Procedure 1</td></tr><tr><td>Temperature</td><td>degrees Celsius</td><td>Continuous</td><td>TM-2 and US EPA Procedure 1</td></tr><tr><td>Velocity</td><td>metres per second</td><td>Continuous</td><td>CEM-6 and US EPA Procedure 1</td></tr><tr><td>Volumetric flowrate</td><td>cubic metres per second</td><td>Continuous</td><td>CEM-6 and US EPA Procedure 1</td></tr></table>	Pollutant	Units of measure	Frequency	Sampling Method	Carbon monoxide	milligrams per cubic metre	Continuous	CEM-4 and US EPA Procedure 1	Moisture	percent	Continuous	Special Method 1	Nitrogen Oxides	milligrams per cubic metre	Continuous	CEM-2 and US EPA Procedure 1	Oxygen (O2)	percent	Continuous	CEM-3 and US EPA Procedure 1	Temperature	degrees Celsius	Continuous	TM-2 and US EPA Procedure 1	Velocity	metres per second	Continuous	CEM-6 and US EPA Procedure 1	Volumetric flowrate	cubic metres per second	Continuous	CEM-6 and US EPA Procedure 1	Section 5.0
Pollutant	Units of measure	Frequency	Sampling Method																															
Carbon monoxide	milligrams per cubic metre	Continuous	CEM-4 and US EPA Procedure 1																															
Moisture	percent	Continuous	Special Method 1																															
Nitrogen Oxides	milligrams per cubic metre	Continuous	CEM-2 and US EPA Procedure 1																															
Oxygen (O2)	percent	Continuous	CEM-3 and US EPA Procedure 1																															
Temperature	degrees Celsius	Continuous	TM-2 and US EPA Procedure 1																															
Velocity	metres per second	Continuous	CEM-6 and US EPA Procedure 1																															
Volumetric flowrate	cubic metres per second	Continuous	CEM-6 and US EPA Procedure 1																															
M2.3	For the purposes of the table(s) above Special Method 1 means any moisture monitoring method approved in writing by the EPA, and USEPA Procedure 1.	Section 5.0																																
M2.4	For the purposes of the table(s) above, Nitrogen Oxides means: nitrogen dioxide (NO2) or nitric oxide (NO) or both, as NO2 equivalent.	Section 5.0																																
R4 Other reporting conditions																																		
R4.2	Air concentration limit exceedances The licensee must notify the EPA of any exceedances of any emission or concentration limit included as a condition of this licence in accordance with condition R2.1 no later than 5 days after becoming aware of any exceedance.	Section 7.0																																

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Condition	Description	Where/how addressed																																																
R4.3	Within 20 days of the notification made in accordance with condition R4.2 above, the licensee must provide a report to the EPA at info@epa.nsw.gov.au that includes, as a minimum, the following details: 1. the date and time that the exceedance occurred; 2. the nature of the exceedance (i.e. the pollutants involved); 3. the duration of the exceedance; 4. plant operating conditions at the time the exceedance; 5. the cause of the exceedance; 6. the remedial/corrective actions taken at the time the exceedance was made known; and 7. the actions taken and/or future actions to be taken, to prevent exceedances of a similar nature occurring in the future.	Section 7.0																																																
E1 Air Quality Verification																																																		
E1.1	Within six months of commissioning the plant (or an alternate timeframe agreed to in consultation with the EPA) and during a period in which the project is operating under high design loads, the licensee must undertake a monitoring program to confirm the air emission performance of the power station (Monitoring Program). The Monitoring Program must include, as a minimum: a) two rounds of post-commissioning monitoring of the pollutants and parameters in the table below for each discharge point; b) consideration of the dual-fuel and peaking operability of the power station in capturing representative air pollutant emission concentrations and normal operating parameters; and c) sampling methods as per the NSW EPA's Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales. For the purpose of the table below, Special Frequency 1 means two rounds of post commissioning monitoring. <table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling method</th></tr><tr><td>Total solid particles</td><td>Milligrams per cubic metre</td><td>Special Frequency 1</td><td>TM-15</td></tr><tr><td>Oxides of nitrogen</td><td>Milligrams per cubic metre</td><td>Continuous</td><td>CEM-2 and USEPA Procedure 1</td></tr><tr><td>Sulfur dioxide</td><td>Milligrams per cubic metre</td><td>Special Frequency 1</td><td>TM-4</td></tr><tr><td>Volatile organic compounds (VOCs)</td><td>Milligrams per cubic metre</td><td>Special Frequency 1</td><td>TM-34</td></tr><tr><td>PAHs (as benzo[a]pyrene)</td><td>Milligrams per cubic metre</td><td>Special Frequency 1</td><td>California Air Resources Board Method 429</td></tr><tr><td>Oxygen</td><td>Percent</td><td>Continuous</td><td>CEM-3</td></tr><tr><td>Moisture content</td><td>Percent</td><td>Special Frequency 1</td><td>TM-22</td></tr><tr><td>Molecular weight of stack gases</td><td>Grams per gram mole</td><td>Special Frequency 1</td><td>TM-23</td></tr><tr><td>Temperature</td><td>Degrees Celsius</td><td>Special Frequency 1</td><td>TM-2</td></tr><tr><td>Velocity</td><td>Metres per second</td><td>Continuous</td><td>CEM-6</td></tr><tr><td>Dry gas density</td><td>Kilograms per cubic metre</td><td>Special Frequency 1</td><td>TM-23</td></tr></table>	Pollutant	Units of measure	Frequency	Sampling method	Total solid particles	Milligrams per cubic metre	Special Frequency 1	TM-15	Oxides of nitrogen	Milligrams per cubic metre	Continuous	CEM-2 and USEPA Procedure 1	Sulfur dioxide	Milligrams per cubic metre	Special Frequency 1	TM-4	Volatile organic compounds (VOCs)	Milligrams per cubic metre	Special Frequency 1	TM-34	PAHs (as benzo[a]pyrene)	Milligrams per cubic metre	Special Frequency 1	California Air Resources Board Method 429	Oxygen	Percent	Continuous	CEM-3	Moisture content	Percent	Special Frequency 1	TM-22	Molecular weight of stack gases	Grams per gram mole	Special Frequency 1	TM-23	Temperature	Degrees Celsius	Special Frequency 1	TM-2	Velocity	Metres per second	Continuous	CEM-6	Dry gas density	Kilograms per cubic metre	Special Frequency 1	TM-23	Section 7.0
Pollutant	Units of measure	Frequency	Sampling method																																															
Total solid particles	Milligrams per cubic metre	Special Frequency 1	TM-15																																															
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Temperature	Degrees Celsius	Special Frequency 1	TM-2																																															
Velocity	Metres per second	Continuous	CEM-6																																															
Dry gas density	Kilograms per cubic metre	Special Frequency 1	TM-23																																															

Condition	Description	Where/how addressed
E1.2	Within six weeks of completing post-commissioning testing, the licensee must submit a Post Commissioning Verification Report (the Report) to the EPA. The Report must: a) a) Include all analytical results of post-commissioning monitoring required for all discharge points. Any external report must be reproduced in full. b) Include all the information listed in section 4 of the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales. c) Describe all the operational parameters during post-commissioning testing. d) Compare analytical results from post commissioning monitoring against final design emission specifications and modelled emission parameters (emission rates and concentrations) in the AQIA required under condition E1.1 (Final Design Verification Assessment). e) Should any comparison under paragraph (d) of this condition identify monitored discharge concentrations or emission rates above the emissions characteristics in the Revised AQIA or the Protection of the Environment Operations (Clean Air) Regulation 2022 standards of concentration, the licensee must: i) Re-assess and evaluate both the emissions concentrations against the Protection of the Environment Operations (Clean Air) Regulation 2022 standards of concentration and the impacts against the relevant impact assessment criteria in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW; and/or ii) Identify actions and measures to be implemented to reduce emissions of air pollutants to no greater than those predicted in the Revised AQIA. Details of the actions and measures and a timetable for implementation shall be submitted to the EPA. The Report must be provided to the EPA by email to info@epa.nsw.gov.au.	Section 7.0

3.4 EIS Commitments

Table 3.3 specifies the operational related commitments for KKPS in relation to air quality management

Table 3.3: Air quality related EIS Commitments/mitigation measures

Reference	Description	Where/how addressed
EIS Section 15.5 & 22	AQ3 Gas turbine plants will adopt and utilise the best available/most appropriate technology for controlling emissions, such as Dry Low Emissions (DLE) burners on the gas turbines for use when operating on natural gas fuel, and using Water Injection (WI) control technology in the gas turbine burners when burning diesel fuel	Section 6.0

3.5 Consultation

The SSI Approval required the Air Quality MP to be prepared in consultation with the NSW Environment Protection Authority (NSW EPA). The EPA was invited to comment on the draft Air Quality MP on 12 November 2021, however they declined this opportunity. A summary of this consultation outcome is provided in **Table 3.4**.

Table 3.4: Consultation summary for the Air Quality MP

Agency	Feedback	Response
NSW EPA	EPA responded they "encourage the development of [management plans] to ensure that proponents and licensees have determined how they will meet their statutory obligations and designed environmental objectives. Being a regulatory authority, the EPA's role is to administer and regulate the statutes for environmental management and protection. As such the EPA does not directly get involved in the development of strategies to achieve those objectives and does not review or comment on such plans."	Noted.

4.0 Existing Conditions and Impacts

4.1 Sensitive Receptors

Sensitive receptors, as defined in the NSW EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*, are locations people are likely to work or reside, and should consider the location of known or likely future sensitive receptors. These may include residential dwellings, school, hospital, office or public recreational areas.

Sixteen sensitive receptors with regards to potential air quality impacts associated with KKPS operations were identified in the KKPS EIS, and are presented spatially in **Figure 4.1**, and listed in **Table 4.1**. These locations are also included in the KKPS OEMP.

4.2 Air Quality Impact Assessment

The Air Quality Impact Assessment (AQIA) developed for the KKPS EIS demonstrated that KKPS operations, whether fuelled by natural gas or diesel, are not expected to cause adverse air quality impacts in the vicinity of the site, or in the wider Lower Hunter region. This conclusion was based on modelling undertaken in accordance with *NSW EPA Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (2016)*, and conservatively assumed that the power station would be operating continuously (i.e. as a baseload power station, rather than a peaking power station with a maximum capacity factor of 12.5%).

The AQIA assessed the potential impacts from KKPS operations on 9,600 grid receivers plotted by the air quality model, as well as the 16 identified sensitive receptors (See **Table 4.1** and **Figure 4.1**). The modelling assessed the impact to ground level concentrations of air pollutants due to KKPS operations, with the key outcomes as follows:

- KKPS will meet NSW Government requirements for air pollutant concentrations in the exhaust gases
- Operation of KKPS will lead to small increases, relative to air quality criteria, in ambient (ground level) concentrations of the air pollutants: CO, NO₂, SO₂, PM_{2.5} and the VOCs: formaldehyde, acrolein and PAHs as B(a)P
- The air pollutants of concern are those where background levels are already high; i.e., NO₂ (because O₃ levels are high) and PM_{2.5}.

Implementation of continuous emissions monitoring from the site exhaust stacks will ensure air emissions during the operation of KKPS are consistent with the above modelling outcomes. See **Section 5.0** for further details on KKPS air quality monitoring.

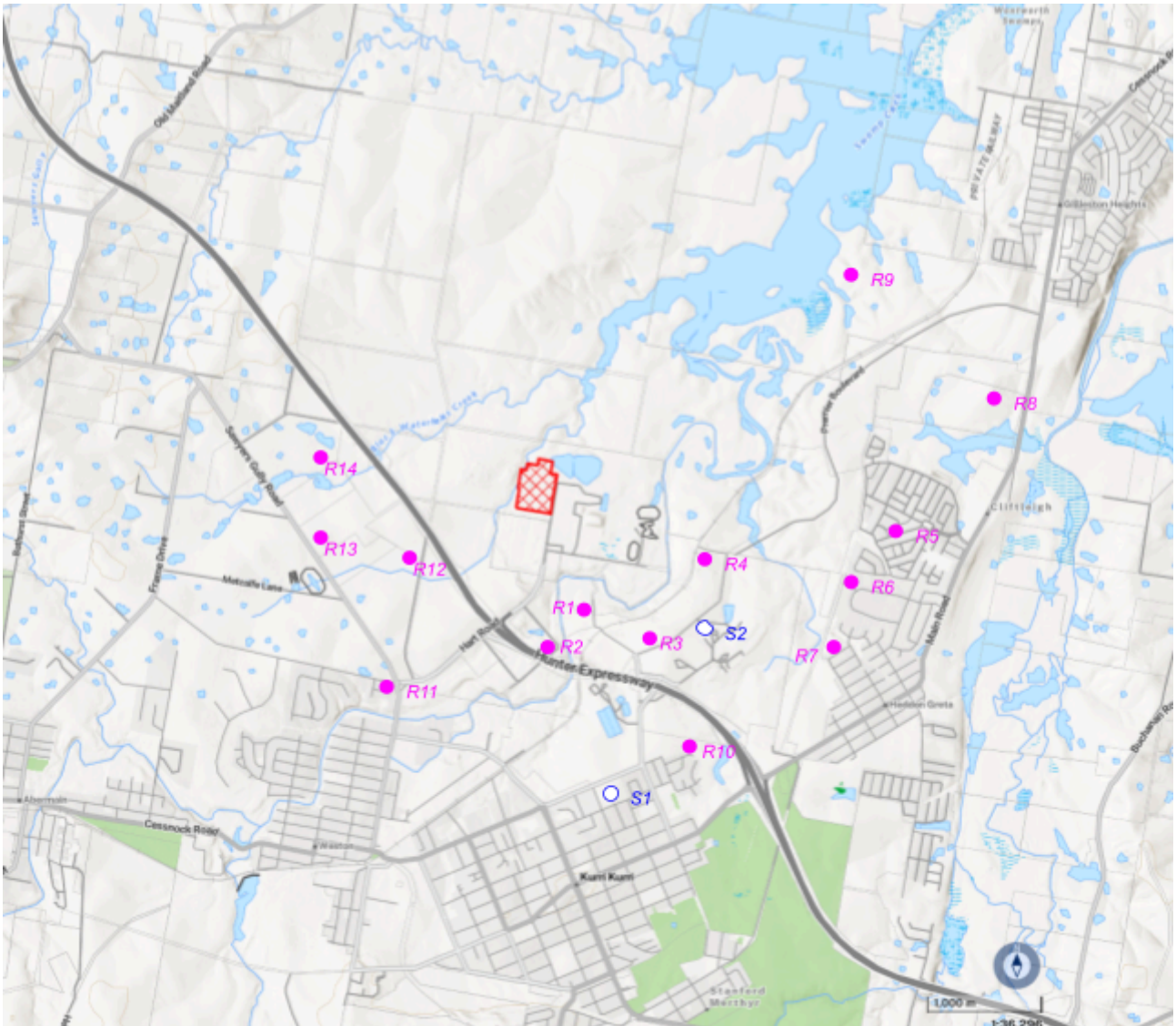


Figure 4.1: Spatial overview of sensitive air quality receptors for KKPS operations (image source: NSW Spatial Services, SDT Explorer)

Table 4.1: Sensitive air quality receptors for KKPS operations

Description	Location	Proximity to KKPS	Reference (see Figure 5.1)
Nearest School/ Childcare Facilities	Kurri Kurri High School	2.5km, SSE	S1
	Tafe NSW, Kurri Kurri	1.8km, SE	S2
Nearest Residences	6 Dawes Avenue, Loxford	0.9km, SSE	R1
	14 Horton Road, Loxford	1.2km, S	R2
	6 Bowditch Avenue, Loxford	1.5km, SE	R3
	20 Bowditch Avenue, Loxford	1.5km, ESE	R4
	30 Moorebank Road, Cliftleigh	3.1km, E	R5
	10 Howe Street, Heddon Greta	2.8km, E	R6
	7 Errol Crescent, Heddon Greta	2.9km, ESE	R7
	532 Main Road, Cliftleigh	4.1km, ENE	R8
	464 Cessnock Road, Gillieston Heights	3.3km, NE	R9
	21 Acacia Street, Kurri Kurri	2.5km, SE	R10
	7 Currawong Close, Weston	2.0km, SW	R11
	103 Bishops Bridge Road, Sawyers Gully	1.1km, SW	R12
	146 Sawyers Gully Road, Sawyers Gully	1.8km, WSW	R13
	78 Lumby Lane, Sawyers Gully	1.9km, WNW	R14

5.0 Air Quality Monitoring

5.1 Monitoring Locations

The GT1 and GT2 stacks are defined as the air emission discharge points for KKPS. These locations have been identified as the air monitoring/discharge points in the SSI Approval and EPL21627. Refer to **Table 5.1** below.

Table 5.1: Air Monitoring/Discharge Locations

	GT1 Stack	GT2 Stack
EPA Identification No.	1	2
SSI Approval Emission Point	1	2
Type of Monitoring Point	Air emissions monitoring	Air emissions monitoring
Type of Discharge Point	Discharge to air	Discharge to air
Location Description	Unit 1 gas turbine stack	Unit 2 gas turbine stack
Coordinates	-32.785364, 151.478511	-32.785994, 151.478389

These locations are subject to the air emissions criteria specified in **Table 5.2**, and the monitoring requirements detailed in **Section 5.3**.

5.2 Air Emissions Criteria

Air emissions criteria for KKPS are detailed in both the SSI Approval and EPL21627, and are applicable for air emissions discharged from the GT1 and GT2 turbine stacks. These criteria are detailed below in **Table 5.2**.

Table 5.2: Air Emissions Criteria

Pollutant	Fuel Type	100 percentile concentration limit	Units of Measure	Reference conditions	Averaging Period
Nitrogen Oxides (NO_x) <i>(measured as nitrogen dioxide (NO₂) or nitric oxide (NO) or both, as NO₂ equivalent)</i>	Gas	51	mg/m ³	Dry, 273K, 101.3kPa, 15% O ₂	1 hour block
	Diesel	86	mg/m ³	Dry, 273K, 101.3kPa, 15% O ₂	1 hour block
Carbon Monoxide (CO)	Gas	12.5	mg/m ³	Dry, 273K, 101.3kPa, 15% O ₂	1 hour block
	Diesel	63	mg/m ³	Dry, 273K, 101.3kPa, 15% O ₂	1 hour block

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The concentration limits specified in **Table 5.2** do not apply during a period of start up or shut down, as defined by Section 54 of the Clean Air Regulation. Although these limits do not apply during periods of start up or shut down, KKPS is still subject to the requirements of Section 128(2) of the POEO Act, and the applicable standards of concentration for air emissions specified in Schedule 2, Part 2, Division 2 of the Clean Air Regulation.

5.3 Monitoring Requirements

Air monitoring requirements for KKPS are detailed in both the SSI Approval (condition B11) and EPL21627 (condition M2). These requirements are detailed in **Table 5.4** below.

Table 5.3: Air Emission Monitoring Requirements

Parameter	Unit of Measure	Monitoring Frequency	Sampling Method
Nitrogen Oxides (NO _x) (as Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both, as NO ₂ equivalent)	mg/m ³	Continuous	CEM-2 and US EPA Procedure 1
Carbon Monoxide (CO)	mg/m ³	Continuous	CEM-4 and US EPA Procedure 1
Moisture	%	Continuous	Special Method 1 ^{Note} and US EPA Procedure 1
Oxygen	%	Continuous	CEM-3 and US EPA Procedure 1
Temperature	°C	Continuous	TM-2 and US EPA Procedure 1
Velocity	m/s	Continuous	CEM-6 and US EPA Procedure 1
Volumetric Flow Rate	m ³ /s	Continuous	CEM-6 and US EPA Procedure 1
Selection of sampling positions	-	-	TM-1

NOTE: With regards to the sampling methods for Moisture, 'Special Method 1' is specified as "any moisture monitoring method approved in writing by the EPA, and USEPA Procedure 1".

In addition to the continuous monitoring specified above, Snowy Hydro shall engage a suitably qualified external consultant to:

- conduct annual emissions testing of the parameters specified above, and to verify the compliance with the emission limits.
- conduct RATA (Relative Accuracy Test Audit) testing to ensure the CEMS monitoring data remains accurate and acceptable within defined tolerance levels.

6.0 Management and Mitigation Measures

The management and mitigation measures described in **Table 6.1** will be implemented to ensure potential impacts to air quality and to sensitive receptors are mitigated appropriately.

Table 6.1: Air quality management measures

Aspect	Description
Design & Commissioning	• KKPS will adopt and utilise the best available/most appropriate technology for controlling emissions, such as Dry Low Emissions (DLE) burners on the gas turbines for use when operating on natural gas fuel, and using Water Injection (WI) control technology in the gas turbine burners when burning diesel fuel. • KKPS has been modelled and designed to ensure stack emissions and air quality remains within the air quality criteria specified in the SSI Approval and EPL21627. • The Air Quality Impact Assessment for KKPS operations, whether fuelled on gas or diesel, are not expected to cause adverse air quality impacts. The conservative approach for the AQIA ensures the likely impacts would be even less • The Manufacturers Commissioning Engineers complete the testing and tuning program on the turbines before operational handover to ensure efficient operation of the plant, including the effective combustion of fuels to mitigate smoke and odour. • Design consideration to allow potential application of further air emission controls to be retrofitted to existing site infrastructure. • Completion of a post-commissioning air quality verification assessment to be submitted to the EPA • Former construction areas to be appropriately rehabilitated to minimise fugitive dust emissions. • All roads and operational areas on site are sealed, which will effectively manage any generation of dust from the premises. • Areas within the project boundary, however outside the fenced operational area shall be either sealed, or revegetated.

Aspect	Description
Operational Controls	• Original Equipment Manufacturers and Production Operating Procedures. • Operating Instructions specifying a required minimum load to enable effective emissions control. • Detailed Operating Instruction for KKPS to be utilised by the Generation Operation team. • Real time alarming and trending of key parameters (i.e. parameters specified in the SSI Approval & EPL21627) to ensure specified limits are achieved. • Operation of a site weather station and the assessment of potential impact due to inversion conditions. • Application of appropriate control measures (such as effective fuel mixing and combustion) to ensure the activities that may generate potentially offensive odours-are effectively managed to prevent impacts beyond the site boundary. • Application of appropriate controls on exposed areas of site to effectively manage the generation of dust. • All activities conducted onsite shall be conducted in a competent manner, with all plant and equipment maintained and operated in a proper and efficient manner, so as to minimise the generation of dust and odour.. • All materials and substances, including waste materials, shall be managed/utilised in a manner that appropriately mitigates impacts to air quality, including odour. • Ensuring vehicles with loads that have the potential to generate dust are covered at all times, except for loading and unloading.
Maintenance Controls	• Turbine equipment is performance tested, tuned and emission guarantees confirmed during the project's commissioning phase to ensure that the manufacturer's standard has been delivered. • All equipment is maintained according to Plant Operating, Maintenance and Calibration Manuals, Procedures & Schedules. • Maintenance activities are scheduled and tracked via the Ellipse management system and through Strategic Asset Management reviews. • Appropriate corrective actions shall be determined and implemented to address identified deficiencies in air quality/dust/odour management controls. This may include improvements to sealed/vegetated areas of site.
Management Controls	• Monthly review continuous emissions monitoring system (CEMS) data. • Annual stack testing and RATA testing to verify compliance to emission limits and ensure the CEMS monitoring data remains acceptable and within defined tolerance levels. • Daily review of weather conditions by the site team. • The employment of suitably qualified personnel. • Appropriate training and demonstrated competency. • Implementation of a complaints management protocol. • Publication of air emissions monitoring data in accordance with the requirements of the POEO Act

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7.0 Compliance Management

Specific aspects of the compliance tracking program used to provide oversight for compliance at KKPS is provided in the OEMP.

Environmental compliance at KKPS is demonstrated in Annual Compliance Reports submitted to DPHI and DECCWW addressing compliance reporting obligations in the SSI and EPBC Approvals, and the Annual Return to the NSW EPA.

Within Snowy Hydro, compliance is reported monthly to the operations executive committee and then to the Snowy Hydro Board. The reports to the operations executive include any identified non-compliances with the conditions of the SSI Approval, EPBC Approval, EPL21627, or any other applicable compliance obligation.

7.1 Monitoring and Reporting

Regular monitoring and inspections of the management and mitigation measures outlined in this Air Quality MP shall occur at regular frequencies, and will include, however not be limited to:

- General site based inspections of KKPS included as a routine task for KKPS Production Technicians to ensure the site is being maintained and operated in a manner that minimised or prevents the dust emissions, ensuring vehicle loads are appropriately covered when entering/leaving the site, and to ensure there are no offensive odours being generated onsite. As a minimum, specific inspections are conducted on a daily basis, with numerous ad-hoc opportunities to observe air quality management measures by all site personnel.
- Targeted inspections conducted by Snowy Hydro personnel, or an external party to ensure existing air quality management measures remain effective and fit-for-purpose. These are conducted on at least a weekly basis, with specific scopes for weekly, monthly, quarterly, six monthly and annual inspections dependent on the scope of the inspection/activity.
- Environmental auditing and assurance activities to assess ongoing compliance with the requirements of this Air Quality MP, and applicable Snowy Hydro policies and procedures
- Investigation of air quality related incidents, to identify causes, preventative actions and improvement opportunities, as well as tracking identified actions to ensure timely and effective implementation.

7.1.1 Post Commissioning Air Quality Verification Assessment

In accordance with SSI Approval Conditions B7 & B8, and EPL 21627 Condition E1, within within six months of commissioning KKPS (or as otherwise agreed in writing by both the DPHI Secretary and the EPA), and during a period in which the project is operating under high design loads, Snowy Hydro must undertake a monitoring program that incorporates the requirements specified by the SSI Approval and EPL21627 to confirm the air emission performance of KKPS.

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Within six weeks of the completion of the post-commissioning air quality monitoring program, Snowy Hydro must submit a Post Commissioning Verification Report to the EPA containing the required detail specified in Condition B8 of the SSI Approval and Condition E1.2 of EPL21627.

7.2 Auditing

Auditing and assurance activities are undertaken to assess the effectiveness of environmental controls, and ongoing compliance with the KKPS OEMP and associated subplans, applicable SSI Approval conditions, EPBC Approval conditions and EPL21627.

Audits and assurance activities at KKPS include:

- Regular site based inspections
- Internal audits
- External audits, consisting of;
 - SSI Independent Compliance Audits
 - SSI Independent Site Hazard Audits
 - EPBC Independent Audit
 - Environmental Management System Audits

Auditing and assurance activities will be undertaken in accordance with the KKPS OEMP.

7.3 Training

Formal training is developed in accordance with Snowy Hydro's Training and Development Procedure, and is administered in the company's Learning Management System (LMS) which maintains training requirements for individuals and completion records of training attended.

Personnel working at KKPS receive training relevant to their role and the required skills to fulfil their role in a competent manner. Environmental training and awareness activities that are facilitated include:

- Snowy Hydro Environmental Induction
- KKPS Site Induction
- Environmental Compliance Training
- Specialised Environmental Training
- Targeted Environmental Awareness Packages
- Daily Pre-start Meetings

Further detail on environmental related training and awareness packages are described in the KKPS OEMP

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7.4 Air Quality Management Responsibilities

During normal operating hours, KKPS is staffed by a Plant Manager, Planning Officer, and a team of Production Technicians. The Plant Manager holds overall responsibility for the management and safe operation of KKPS, including air quality management.

Local support for KKPS is provided at all times, with the KKPS Production Technicians available on a rostered on-call basis.

Environmental, Safety, Production and Engineering support is provided by the relevant Snowy Hydro teams based locally or Cooma as required.

Detail on the roles and responsibilities for environmental management, which includes air quality management, is provided in the KKPS OEMP.

7.5 Reporting and Notification Requirements

7.5.1 Air Concentration Limit Exceedances

In accordance with condition R4.2 of EPL21627, in the event that air emissions exceed the specified concentration limits (See **Section 4.2**), Snowy Hydro must notify the EPA within five (5) days of becoming aware of the exceedance.

Additionally, within 20 days of making the above notification to the EPA, Condition R4.3 of EPL21627 requires Snowy Hydro to provide a report to the EPA that includes as a minimum, the following detail:

1. the date and time that the exceedance occurred;
2. the nature of the exceedance (i.e. the pollutants involved);
3. the duration of the exceedance;
4. plant operating conditions at the time the exceedance;
5. the cause of the exceedance;
6. the remedial/corrective actions taken at the time the exceedance was made known; and
7. the actions taken and/or future actions to be taken, to prevent exceedances of a similar nature occurring in the future.

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7.5.2 Environmental Incidents - Internal Reporting

Incidents at KKPS are managed in accordance with Snowy Hydro's Incident Management Procedure, and classified in accordance with the Safety and Environment Incident Classification Matrix. Incident management procedures are accessible on the Snowy Hydro Intranet, which provide guidance on internal notification and investigation requirements.

Any incident or near hit, including non-compliances and community complaints, should be reported in the event management system and communicated with the appropriate stakeholders.

7.5.3 Environmental Incidents - External Reporting

The response to a pollution incident causing or threatening material harm to the environment is detailed in the KKPS Emergency Response Handbook (ERH). The ERH serves as the KKPS Pollution Incident Response Management Plan (PIRMP), which is a document required by all holders of an Environment Protection Licence (EPL) under Part 5.7A of the POEO Act. A publicly available version of the PIRMP (internet based version) is also available on the Snowy Hydro website.

For full details on the external reporting requirements for environmental incidents, please refer to the KKPS OEMP.

7.5.4 Non-compliance Notification - SSI Approval

As per Condition C7 of the SSI Approval, Snowy Hydro must notify the DPHI Secretary via the Major Projects Portal of any non-compliance with the conditions of the SSI Approval, within seven days after becoming aware of the non-compliance. The details required for this notification are provided in condition C8 of the SSI Approval.

Note that this excludes any non-compliances that have already been notified via the Major Projects Portal as an incident.

Further details on non-compliance notification requirements are provided in the KKPS OEMP.

7.5.5 Non-compliance Notification - EPBC Approval

As per Condition 8 of the EPBC Approval, Snowy Hydro must notify the Federal Department responsible for administering the EPBC Act (presently the Department of Climate Change, Energy, the Environment and Water) in writing of any incident, as defined by the terms of the approval, non-compliance with the conditions of the EPBC Approval or non-compliance with commitments made in any plans required under the EPBC Approval as soon as practicable, but no later than two business days after becoming aware of the non-compliance. The details required for this notification and follow up requirements are provided in conditions 8 and 9 of the EPBC Approval.

Further details on non-compliance notification requirements are provided in the KKPS OEMP.

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7.5.6 Statutory Environmental Reporting and Notifications

At KKPS, there are numerous statutory environmental reporting and notification requirements. Further detail on the statutory environmental reporting and notification requirements can be found in the KKPS OEMP.

7.6 Record Keeping

Records must be kept for all monitoring, investigation, communication, agreements, incidents, reports and any other matter that has the potential to be referred to in the future. Documentation and records relating to site operations shall be retained in accordance with Snowy Hydro's Information Asset Management Procedure.

EPL21627 specifies documentation and records relating to environmental management, monitoring, and reporting must be retained for a minimum of four years. These documents and records must be available onsite in hard copy or electronically within the Snowy Hydro Document Management System.

7.7 Community Enquiries, Complaints and Feedback

Snowy Hydro maintains several avenues for members of the community to make contact in relation to any aspect of KKPS. In addition to a dedicated telephone complaints line required by condition M7 of EPL21627, Snowy Hydro can also be contacted by email and via post.

Contact details for community complaints, enquiries and other feedback relevant to KKPS are:

Telephone: 1800 766 333 (freecall)
Email: info@snowyhydro.com.au
Post: PO Box 332
Cooma NSW 2630

These contact details are advertised to the public on the Snowy Hydro website, in the White Pages telephone directory. The telephone number is also provided in the KKPS PIRMP.

The provision of the above contact details also satisfies the requirements of Condition C20(a)(viii) of the SSI Approval.

Full details can be found in the KKPS OEMP.

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8.0 Document Review

The KKPS OEMP and associated subplans, including this Air Quality MP, are not static documents, and are regularly reviewed and updated as required to reflect changes in environmental management requirements and/or statutory obligations. Updates to this plan may be made in response to:

- scheduled reviews of the OEMP, and/or associated subplans
- regulatory changes
- internal or external audit recommendations
- issues identified in Annual Compliance Reports or EPL Annual Returns
- staff and organisational changes
- incidents and investigation outcomes; and
- new initiatives in environmental management.

The SSI Approval specifies (Condition C5) that within three months of the following listed triggers, Snowy Hydro shall review and, if necessary, revise the OEMP, and relevant studies, strategies or plans required under the SSI Approval. If the review of the relevant document(s) leads to an updated revision, the document(s) will be submitted to DPHI Secretary for approval via the Major Projects Portal within 4 weeks of the document review.

The specified triggers listed under Condition C5 of the SSI approval to review applicable document(s) are:

- DPHI notification of an incident that has caused or threatened material harm (condition C6)
- The submission of an Independent Environmental Audit (conditions C15-C19)
- DPHI granting approval to a modification of any condition in the SSI Approval, or
- A direction from the DPHI Secretary

Notwithstanding the above triggers, Conditions C21 and C22 of the SSI Approval allows for Snowy Hydro to submit revised studies, strategies or plans required for KKPS under a condition of the SSI Approval at any time, and for the DPHI Secretary to approve these at any time.

With the agreement of the DPHI Secretary, the Proponent may also submit any study, strategy or plan required under the conditions of this approval on a staged basis. With the approval of the DPHI Secretary, the Proponent may prepare the revised or staged strategy or plan without undertaking consultation with all parties nominated under the applicable conditions in this approval.

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