




**NARRABRI MINE
ENVIRONMENTAL
MANAGEMENT
SYSTEM**

Document owner:	Environmental Superintendent
Document approver	Manager HSE
Revision period:	3 years
Revision:	0A
Last revision date:	31 August 2022

WHC_PLN_NAR_SPONTANEOUS COMBUSTION MANAGEMENT PLAN

NARRABRI MINE

SPONTANEOUS COMBUSTION MANAGEMENT PLAN

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This document has been prepared by Onward Consulting to comply with the conditions of the Narrabri Mine development consent and has relied upon the relevant information available at the time of writing and all findings, conclusions or recommendations contained herein are based thereon. This document is for the use of Narrabri Coal Operations Pty Ltd and no responsibility will be taken for its use by other parties. Narrabri Coal Operations Pty Ltd may, at its discretion, use this document to inform regulators and the public.




Onward document number:
NCO-003I-0A-PLN

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Acronyms and abbreviations

Acronym	Description
CCC	Community Consultative Committee
CO	carbon monoxide
CO ₂	carbon dioxide
CoC	Conditions of Consent for SSD 10269
DPE	Department of Planning and Environment
EIS	Environmental impact statement
EMS	Environmental management strategy
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i> (NSW)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
GHGE	Greenhouse Gas Emissions
GSC	Gunnedah Shire Council
H ₂ S	hydrogen sulphide
HSE	Health Safety Environment
IEA	Independent environmental audit
kPa	kilopascal
km	kilometre
ML	Mining lease
MLA	Mining Lease Application
Mtpa	Million tonnes per annum
NCOPL	Narrabri Coal Operations Pty Ltd
NO _x	nitrogen oxides
NSC	Narrabri Shire Council
NSW	New South Wales
Plan	Spontaneous Combustion Management Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i> (NSW)
psi	pounds per square inch
ROM	run of mine
SCADA	supervisory control and data acquisition
SCMP	Spontaneous Combustion Management Plan
SO ₂	sulphur dioxide
SSD	State significant development
TARP	Trigger Action Response Plan

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Acronym	Description
VCD	ventilation control device
WHC	Whitehaven Coal Limited



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1. Introduction

1.1 Background

The Narrabri Mine is an existing underground coal mining operation situated in the Gunnedah Coalfield, approximately 25 kilometres (**km**) southeast of Narrabri and approximately 60 km northwest of Gunnedah, within the Narrabri Shire Council (**NSC**) Local Government Area, in New South Wales (**NSW**). It is operated by Narrabri Coal Operations Pty Ltd (**NCOPL**), on behalf of the Narrabri Mine Joint Venture¹, which consists of two Whitehaven Coal Limited's (**WHC**) wholly owned subsidiaries, and other joint-venture partners.

Stage 1 was approved in November 2007 (as PA 05_0102) under Part 3A of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**). Development of Stage 1 included site establishment and the construction of coal processing infrastructure commencing in 2008, with production using continuous miner mining methods up to 2.5 million tonnes per annum (**Mtpa**) commencing in 2010.

Project Approval 08_0144 for Stage 2 of the Narrabri Mine was issued under Part 3A of the EP&A Act in 2010, which allowed the Narrabri Mine to convert to a longwall mining operation to extract coal from the Hoskissons Coal Seam. Project Approval 08_0144 allowed for the production and processing of up to 11 Mtpa of Run of Mine (**ROM**) coal until July 2031. Approval under the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) was granted on 21 January 2011 (**EPBC 2009/5003**) and the Narrabri Mine converted to a longwall mining operation within Mining Lease 1609, in 2012. Following the determination of Stage 2, PA 05_0102 for Stage 1 was surrendered on 2 August 2011.

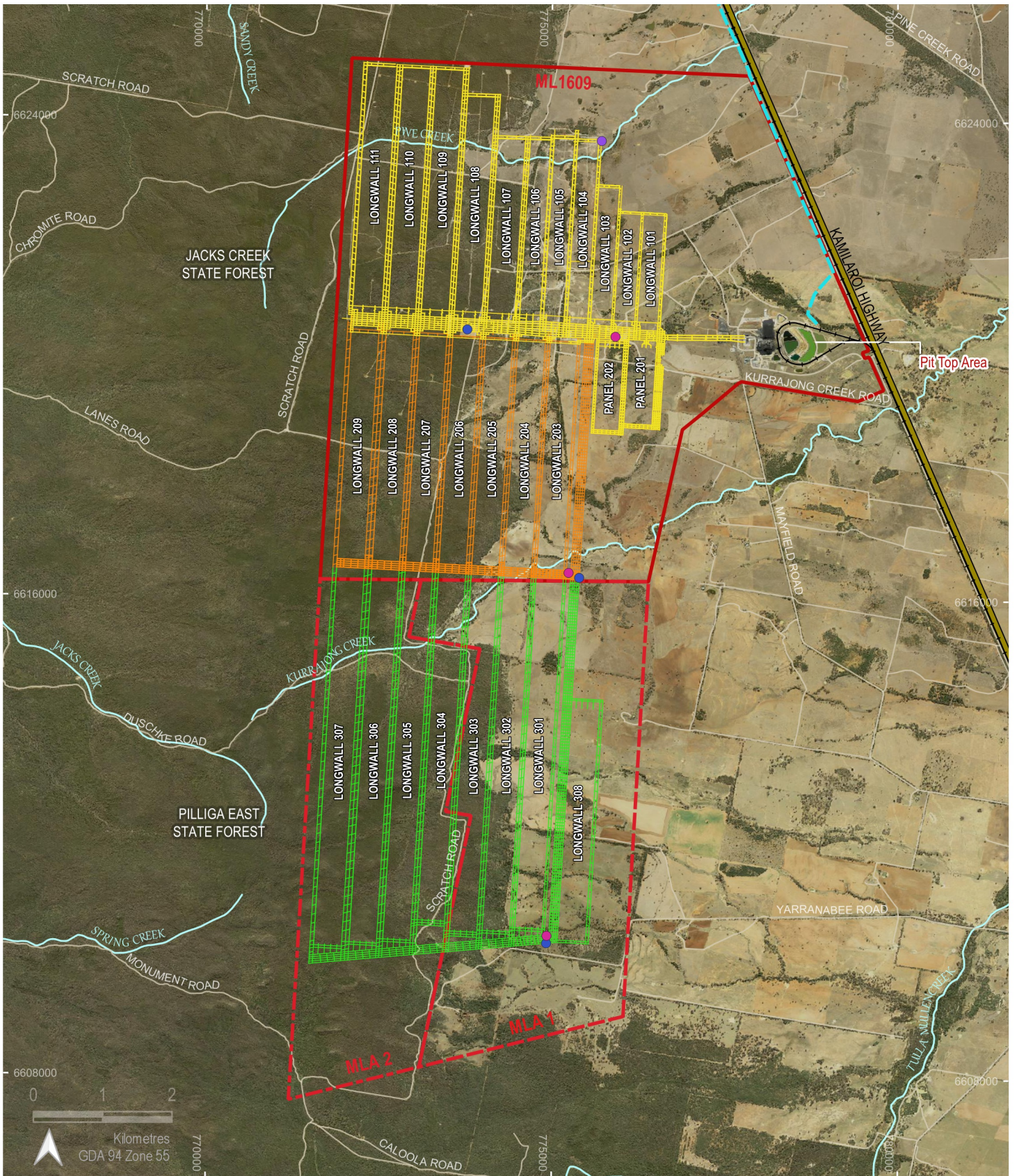
The Narrabri Underground Mine Stage 3 Extension Project (**Stage 3**) involves a southern extension to the previously approved Stage 2 mining area (approximately 609 ha of additional surface development footprint) to gain access to additional areas of coal reserves within Mining Lease Application (**MLA**) 1 and 2, an increase in the mine life to 2044, and the development of supporting surface infrastructure. Bord and pillar mining operations for panels LW 201 and LW 202 were previously approved as modification 7 (Mod 7) to PA 08_0144.

The Stage 3 Extension Project State Significant Development (**SSD**) was granted approval under section 4.38 of the EP&A Act on 1 April 2022, following the determination by the Independent Planning Commission (**SSD-10269**). Approval under the EPBC Act (**EPBC 2019/8427**) is pending.















Under the Stage 3 SSD-10269 Conditions of Consent (**CoC**), NCOPL is required to surrender PA 08_0144 no more than 12 months from the date of commencement of the Stage 3 development in accordance with the *Environmental Planning and Assessment Regulation 2021* (**EP&A Regulation**). Until then, the CoC prevail to the extent of any inconsistency with the conditions of PA 08_0144.

The Narrabri Mine underground mining layout is shown in Figure 1-1 and surface development footprint is shown in Figure 1-2.

¹ For full details on the joint venture ownership, refer to the introduction of the Environmental Management Strategy.

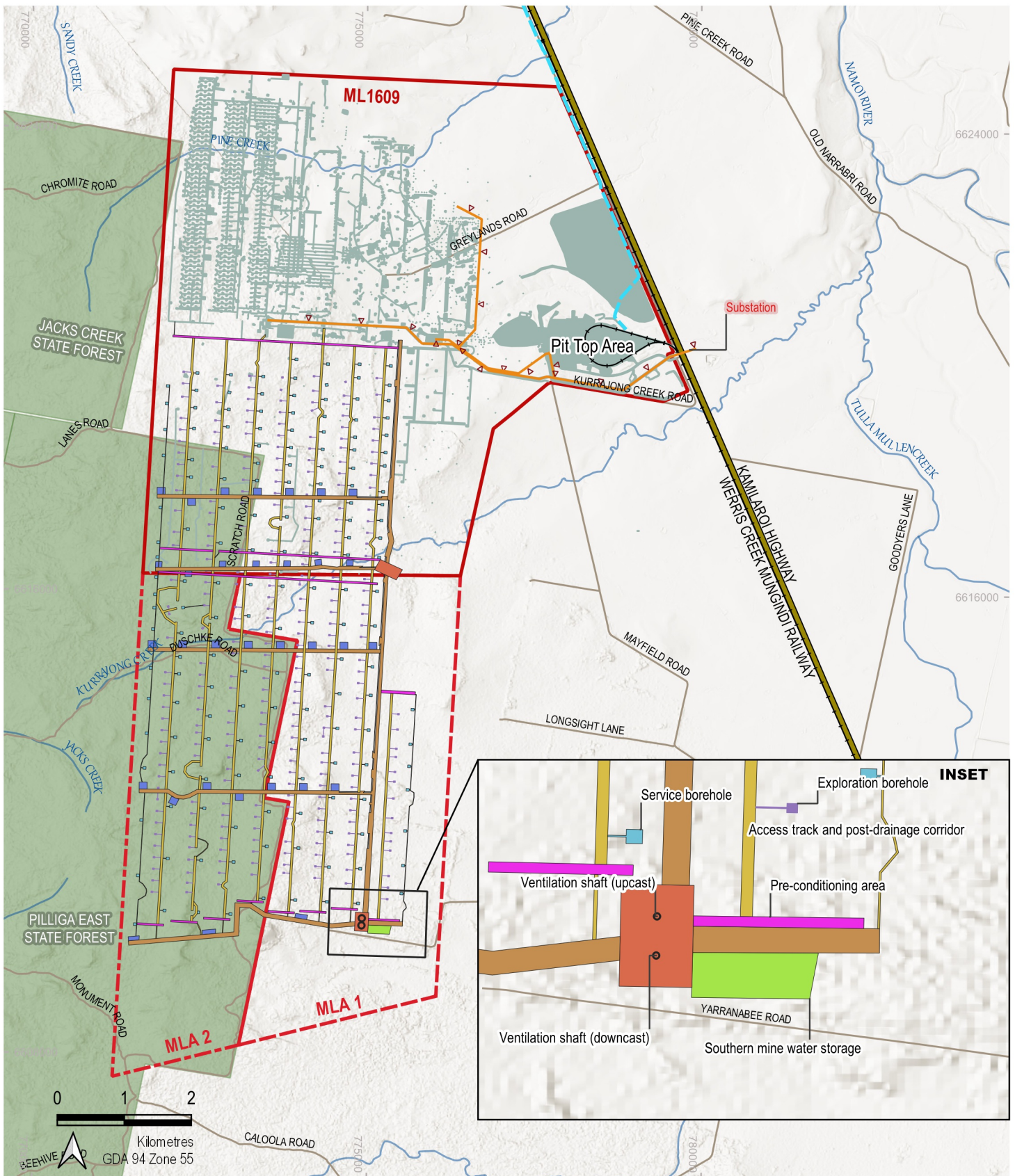


LEGEND

-  ML1609
-  MLA1
-  MLA2
-  Namoi River pipeline (buried)
-  Stage 2 underground mining layout
-  Stage 3 - 200 series underground mining layout
-  Stage 3 - 300 series underground mining layout
-  Ventilation complex (downcast)
-  Ventilation complex (upcast)
-  Ventilation complex (upcast - decommissioned)
-  Highway
-  Road
-  Watercourse
-  Railway

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FIGURE 1-1
Underground Mining Layout




LEGEND

- | | |
|---|---|
| ML1609 | Stage 2 surface development |
| MLA1 | Access track and post-drainage corridor |
| MLA2 | Exploration borehole |
| State forest | Pre-conditioning area |
| Namoi River pipeline (buried) | Service borehole |
| Electricity transmission line (constructed) | Service borehole and power reticulation |
| Highway | Services corridor |
| Road | Southern mine water storage |
| Watercourse | Ventilation complex |
| Railway | |

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FIGURE 1-2
Surface Development Footprint

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1.2 Purpose and scope

This Spontaneous Combustion Management Plan (**SCMP** or **Plan**) has been developed in accordance with CoC B21 and the applicable regulatory framework regarding spontaneous combustion management in NSW.

As required by CoC B23, NCOPL will implement the SCMP as approved by the Planning Secretary. In accordance with CoC B22, NCOPL will not commence second workings until this Plan is approved by the Planning Secretary.

Occupational health and safety risks associated with spontaneous combustion are addressed in the WHC-PLN-NAR-Spontaneous Combustion Principal Hazard Management Plan, required under clause 24 and Schedule 1, clause 3B of the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2022* and are not within the scope of this Plan. This Plan is to be read in conjunction with the following plans for the operational management of spontaneous combustion at the Narrabri Mine:

- WHC-PLN-NAR-Spontaneous Combustion Principal Hazard Management Plan;
- WHC-PLN-NAR-Stockpile Principal Control Plan;
- WHC-PLN-NAR-Ventilation Arrangements Principal Control Plan;
- WHC-PLN-NAR-Emergency Management System Principal Control Plan
- WHC-TARP-NAR-Stockpile Heating and Spontaneous Combustion;
- WHC-TARP-NAR-Spontaneous Combustion Goaf and LW Return; and
- WHC-TARP-NAR-Spontaneous Combustion Service borehole and UIS gas drainage.

This SCMP forms part of the Narrabri Mine Environmental Management Strategy (**EMS**).


1.3 Objectives

In accordance with the CoC, the objectives of this SCMP are to:

- provide detail on the relevant statutory requirements (including any relevant approval, licence or lease conditions);
- describe the management measures to be implemented to minimise the risk of spontaneous combustion on site;
- describe the protocol for managing and reporting any incident, non-compliance or exceedance of any impact assessment criterion or performance criterion, complaint or failure to comply with other statutory requirements;
- detail the regulatory reporting requirements;
- describe the protocol for periodic review of this Plan; and
- identify the roles and responsibilities for implementation of this Plan.

1.4 Preparation and consultation

This Plan has been prepared by Mr. Servaes van der Meulen and Mr. Mark Vile of Onward Consulting Pty Ltd, who are qualified and competent environmental practitioners with more than 20 years' experience each.

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Owen Salisbury contributed specialist technical input in the preparation of this Plan and is NCOPLs Technical Services Manager. He has a Bachelor of Engineering (Mining), 2nd Class Certificate of Competency (NSW and QLD), Ventilation Officer (QLD) and, over the past 18 years, has been working in similar roles at North Goonyella Mine and Carborough Downs Mine developing and implementing controls to reduce the risk of spontaneous combustion. Owen has also presented at industry events on spontaneous combustion management.

Considering their individual and combined industry knowledge and professional expertise, Servaes, Mark, and Owen are deemed to be suitably qualified and experienced for the preparation of this Plan, as required by CoC B21(a).

In accordance with CoC A20 and B21(b), the draft SCMP (Revision A) was provided to the Resources Regulator on 20 June 2022 for review and comment. Appendix A provides the Resources Regulator consultation correspondence letter dated 5 July 2022.

1.5 Access to information


In accordance with CoC E17(a)(iii), the SCMP will be made publicly available on the WHC website following approval by the Department of Planning and Environment (**DPE**). Any subsequent revision of the SCMP approved by the DPE will be made publicly available on the website, and the superseded version will be removed to ensure the information is kept up to date in accordance with CoC E17(b). A copy of this Plan will also be kept on the Narrabri Mine site server. Any printed copies of this Plan are uncontrolled.

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2. Roles and responsibilities

All NCOPL employees and contractors (and their sub-contractors) are responsible for the environmental performance of their activities and for complying with all legal requirements and obligations. All personnel will be required to comply with the statutory approval requirements of the activities they undertake, and any potential environmental impacts from all activities will be managed in accordance with the relevant strategies, plans and programs.

In accordance with CoC E1, the EMS sets out the roles, responsibilities, authorities, and accountabilities of all key personnel involved in the environmental management of operations at Narrabri Mine, which encompasses the requirements and obligations under this SCMP.

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3. Statutory requirements

3.1 Environmental Planning and Assessment Act 1979

The EP&A Act provides the statutory basis and framework for planning and environmental assessment in NSW. The EP&A Act includes provisions to ensure that the potential environmental impacts of a development are assessed and considered in the decision-making process. Stage 3 is permissible with development consent under the *State Environmental Planning Policy (Resources and Energy) 2021* and is identified as ‘State Significant Development’ under section 4.38 of the EP&A Act, and Clause 8 and Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021*.

3.1.1 Project approval and development consent

The Stage 3 Extension Project (SSD 10269) was approved on 1 April 2022. The Narrabri Mine also incorporates the development formerly authorised under Project Approval 08_0144, until such time as this development consent is surrendered, in accordance with CoC A16.

In accordance with CoC E5(b), Appendix B, Table B-1 provides a summary of the relevant CoC relating to spontaneous combustion management and outlines the section of the SCMP in which each of these conditions have been addressed.

In accordance with CoC E5(c), Appendix C, Table C-1 provides a summary of the relevant commitments or recommendations within the Narrabri Underground Mine Stage 3 Extension Project - Environmental Impact Statement (Resource Strategies, 2020) (EIS) relating to spontaneous combustion and outlines the section of the SCMP in which each of these commitments have been addressed. These relevant commitments or recommendations include those as amended or added to by the:

- Applicant’s Submission Report submitted 31 May 2021;
- Applicant’s Amendment Report submitted 31 May 2021; and
- Applicant’s final Biodiversity Development Assessment Report dated September 2021


3.2 Protection of the Environment Operations Act 1997

The Protection of the Environment Operations Act 1997 (POEO Act) regulates pollution from a facility or activity through the placement of conditions in an EPL. Activities requiring an EPL are listed in Schedule 1 of the POEO Act and include mining for coal and coal works.

The POEO Act provides the statutory framework for managing air pollution in NSW. Section 129 of the POEO Act states that the occupier of a premises must not cause or permit the emission of any offensive odour.

3.3 Work Health and Safety (Mines and Petroleum Sites) Act 2013

Work Health and Safety obligations for mining are principally regulated through the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and *Work Health and Safety (Mines and Petroleum Sites) Regulation 2022*. This includes the preparation of principal hazard management plans for principal hazards associated with mining activities, including spontaneous combustion.

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3.4 Mining Act 1992

The *Mining Act 1992* (**Mining Act**) regulates the licensing, land access, and operations for coal mines operating in NSW. Under the Mining Act, all resource activities must be licensed, including exploration activities.

3.4.1 Mining lease

NCOPL are the holder of Mining Lease 1609 (**ML 1609**) issued in January 2008. NCOPL are required to implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.

This Plan will be updated with any relevant conditions associated with future mining leases once these have been granted.

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4. Existing environment

4.1 Spontaneous combustion potential

Some coals and coal containing waste rock are prone to relatively rapid oxidisation in the presence of atmospheric oxygen, which may lead to self-heating and eventually to spontaneous combustion, where the affected material ignites.

Spontaneous combustion leads to the emission of noxious gases including carbon dioxide (**CO₂**), carbon monoxide (**CO**), sulphur dioxide (**SO₂**), hydrogen sulphide (**H₂S**), nitrogen oxides (**NO_x**) and a range of volatile organic compounds and has the potential to generate unpleasant or offensive odours.


The Hoskissons coal seam has a high intrinsic spontaneous combustion propensity. Therefore, spontaneous combustion represents a potential hazard and requires ongoing monitoring for evidence of self-heating, particularly in the goaf area, largely for mine safety reasons.

However, coarse reject contained within the reject emplacement area predominately comprises broken rock (sandstone/siltstone material), which is not carbonaceous; therefore, the propensity of reject for spontaneous combustion is considered very low.

4.2 Coal stockpile

Spontaneous combustion in a coal stockpile can develop when the coal has been stockpiled for some time. Conditions that favour the development of spontaneous combustion include:

- steep uncompacted sides – particularly those facing prevailing winds;
- maximum height of stockpiled material;
- infrequent removal and replacement of the material; and
- rainfall, leading to an increase in moisture.

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5. Management measures

NCOPL has developed and refined management practices for spontaneous combustion during the course of operation of the Narrabri Mine for over 10 years, and these will continue to be implemented and refined over time. The management measures to minimise the risk of spontaneous combustion events include:

- ventilation shafts designed to reduce a pressure differential across goaves; therefore, reducing the potential for spontaneous combustion (section 5.1);
- pre-mining and goaf gas drainage systems for gas management purposes, minimising ventilation pressures that would result if the ventilation system were only used to maintain gas concentration to acceptable levels (section 5.2);
- installation of high standard ventilation control devices such as stopping, regulators and overcasts (section 5.1);
- installation, operation and maintenance of a dual ventilation monitoring system (telemetric [real time] and tube bundle) (section 6.1 and section 6.2);
- on-site gas chromatograph (section 6.3);
- on-site inertisation capability including (section 5.3):
 - pipework and valves fitted to goaf seals to allow the injection of inert gas; and
 - a nitrogen generating plant located on-site and reticulated underground via a dedicated pipeline.
- management of coal stockpiles to reduce the potential for spontaneous combustion (section 5.4).

5.1 Ventilation design and practice


The primary function of the ventilation system is to supply persons working underground with a continuous supply of clean air and to remove any contaminants from the underground mine. The ventilation system also assists with the control of a number of other hazards in the mine, including spontaneous combustion.

The ventilation system will continue to be progressively established, including the development of additional ventilation complexes. The downcast ventilation shafts (including the drifts) will draw fresh air underground through the pressure differential created by fans located at the upcast ventilation shafts.

Construction criteria for ventilation control devices (**VCDs**) are defined under the Ventilation Arrangements Principal Control Plan.

Goaf seals in the longwall gate road will comprise of a 20 pounds per square inch (**psi**) (approx. 140 Kilopascals [**kPa**]) seal between the roadway and goaf edge. Mains final goaf seals will be constructed to a 50 psi standard (approx. 350 kPa).

As the longwall face passes the last open cut through a temporary brattice stopping is installed and the 20 psi (approx. 138 kPa) seal will be constructed as soon as practicable after the longwall face has retreated past the cut through. As a minimum, a temporary stopping will be constructed prior to the longwall face retreating 10 meters outbye of the cut through i.e. either by construction of the back wall of the seal or a temporary stopping.

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5.2 Gas drainage

Pre-mining gas drainage and goaf gas drainage is required in some locations to reduce the gas content in the coal seams to levels suitable for safe underground mining operations.

Pre-mining gas drainage of the coal seam is progressively conducted ahead of longwall and underground development mining operations through a combination of surface to in-seam boreholes and conventional underground in-seam drainage methods.

Goaf gas drainage is conducted behind the progressing longwall mining operations using goaf drainage boreholes. Goaf drainage boreholes are established along each longwall panel in consideration of gas quantity and content.

5.3 Inertisation capability

A nitrogen supply will be available to be introduced to each goaf seal via a nitrogen reticulation line (as required) to assist with spontaneous combustion prevention and mitigation. A nitrogen generating plant is located on-site and reticulated underground via a dedicated pipeline. Inert seam gas injection and other approved methods and systems of inert gas injection may also be implemented as required.

Protocols will be established to enable the sealing of whole or parts of the mine in response to a spontaneous combustion event as outlined in the Emergency Management System Principal Control Plan.


5.4 Coal stockpiles

Coal stockpiles will be managed to reduce the potential for spontaneous combustion. The following measures will be implemented:

- regular removal and replacement ('first in, first out' system where practical) of coal on the stockpile to minimise the impacts of oxidation and retention of heat;
- slope angles facing the prevailing wind direction are dozed down to be less than angle of repose, and compacted; and
- regular visual inspections are conducted and, where practicable, conduct temperature testing (infrared) to enable the early detection of any heating.

Where spontaneous combustion event is discovered in a stockpile, all work in the affected area is to cease and the area is to be demarcated in line with the Stockpile Heating and Spontaneous Combustion Triggerger Action Response Plan (**TARP**).

Further measures on coal stockpile management are detailed in the Stockpile Principal Control Plan.

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6. Monitoring

6.1 Real time monitoring system

NCOPL utilise a real time monitoring system (telemetric) which includes an array of fixed-point gas monitoring sensors, capable of detecting smoke, air flow and static air pressure. The outputs from these sensors are displayed locally as well as transmitted via intrinsically safe cabling to the control room through the SCADA network. The underground sensors are powered by an intrinsically safe uninterruptable power supply to provide limited ongoing monitoring capability in the event of a power failure.

6.2 Tube bundle


Continuous atmospheric sampling of inaccessible and remote parts of the mine will be monitored by use of a tube bundle monitoring system. Tube bundles shall be run from the gas analyser in the surface tube bundle hut to monitoring points in the mine, including (but not limited to):

- in the longwall panel return;
- in the development panel return;
- within the active goaf; and
- within the sealed goaf.

6.3 Gas chromatograph

A gas chromatograph capable of identifying gases produced through the process of spontaneous combustion will be retained onsite and operated by the mine.

Bag samples will be regularly taken throughout the mine including from gas drainage holes and behind goaf seals and will then be accurately tested and analysed by a gas chromatograph allowing a full spectrum of gases to be detected.

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7. Incidents and non-compliance

7.1 Incident notification

An incident is defined under the CoC as *an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.*

Material harm, as defined under the CoC, is harm to the environment that:

involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)

This definition excludes “harm” that is authorised under either the CoC or any other statutory approval (e.g., EPL).

In accordance with CoC E9, NCOPL will notify DPE and any other relevant agencies immediately as it becomes aware of an incident. Incident notification will be made in writing via the Department’s Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

Notifications to the NSW Environment Protection Authority (EPA) will be made by contacting the Environment Line on 131 555 and written details of the notification will be provided within 7 days of the date on which the incident occurred.

Duty to notify the Resources Regulator of spontaneous combustion occurring at the surface of a coal mine (including an underground coal mine) under clause 128(5)(v) of the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2022* and is addressed in the Spontaneous Combustion Principal Hazard Management Plan.

Incident reporting and emergency response is further described in the EMS.


7.2 Non-compliance and adaptive management

The CoC defines a non-compliance as *an occurrence, set of circumstances or development that is a breach of this consent.* For clarity, ‘this consent’ is referring to development consent SSD-10269.

In accordance with CoC E4, where an exceedance of the relevant criteria or performance measures has occurred, NCOPL will, at the earliest opportunity, take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur. All reasonable and feasible options for remediation (where relevant) will be considered and a report submitted to the DPE describing those options and any preferred remediation measures or other course of action.


In accordance with CoC E10, within seven days of becoming aware of a non-compliance, NCOPL will notify DPE of the non-compliance². The notification will be made in writing via the Department’s Major Projects Website and identify the development (including the development application number and name), set out the

² A non-compliance which has been notified as an incident under Section 7.1 does not need to be notified as a non-compliance under Section 7.2.

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CoC that the development is non-compliant with, why 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.

NCOPL will implement any reasonable remediation measures as directed by the Planning Secretary, to the satisfaction of the Planning Secretary.

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8. Reporting, evaluation and review

8.1 Annual Review

NCOPL will review the performance of its spontaneous combustion management system for the previous calendar year and report results within the Annual Review to the satisfaction of the Planning Secretary and in accordance with CoC E11. Table B-1, Appendix B lists all components of the Annual Review.

The Annual Review, as required under CoC E12, will be submitted to DPE, the IAPUM (via DPE as Secretariat), NSC and Gunnedah Shire Council (**GSC**), and other regulatory agencies and made available to the Community Consultative Committee (**CCC**) and any interested person upon request. The Annual Review will also be made publicly available on the WHC website.

8.2 Independent Environmental Audit

Within one year of commencement of the development, and every three years thereafter (unless the Planning Secretary directs otherwise), NCOPL will commission an Independent Environmental Audit (**IEA**) of the development, to be conducted in accordance with CoC E13 and CoC E14. The IEA will be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary.

The IEA process and requirements are further described in the EMS.

8.3 SCMP review and evaluation


In accordance with CoC E7, NCOPL will review the suitability of the SCMP within three months of the:

- submission of an incident report under CoC E9 or E10;
- submission of an Annual Review under CoC E11;
- submission of an IEA under CoC E13;
- approval of any modification of the CoC (unless the conditions require otherwise); or
- notification of a change in development phase under CoC A14.

As required by CoC E8, if the review under CoC E7 determines that the SCMP requires revision to either improve the environmental performance of the development, cater for a modification or comply with a direction, the revised document will be submitted to the Planning Secretary for approval within six weeks of the review. The revision status of this SCMP is indicated in section 12.

During each review of the SCMP, a check will be undertaken to ensure consistency between this Plan and the Spontaneous Combustion Principal Hazard Management Plan.

A dedicated review register will be maintained which will provide the details of the review of all relevant strategies, plans and programs that need to be reviewed as required by CoC E7.

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8.4 Improvement measures

Consent condition E5(g) requires this Plan to include a program to investigate and implement ways to improve the environmental performance of the development over time. Improvement measures may be investigated through review of the following:

- monitoring data, and any assessment of trends;
- audit outcomes, including audits of spontaneous combustion management measures;
- incident reports, including any community complaints; and
- industry leading practice in spontaneous combustion management.

Reasonable and feasible improvement measures will be implemented and documented as a management measure in a revision to the Plan as described in section 8.3.

CoC E5(j) states that the Plan is to include a protocol for periodic review of the Plan. The protocol for review is set out by CoC E7, E8 and E11, which have been addressed in section 8.3.


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9. Complaints management

Any complaints received in relation to spontaneous combustion will be managed in accordance with the complaints management protocol as follows:

- publicly advertised telephone complaints line, 1800WHAVEN, will be in place to receive complaints.
- each complaint received will be recorded in a Complaints Register, which will include the following details:
 - date and time of complaint;
 - method by which a complaint was made;
 - personal details the complainant wishes to provide or, if no such details are provided, a note to that effect;
 - nature of the incident that led to the complaint;
 - action taken by NCOPL in relation to the complaint (i.e., any required remedial actions), including any follow-up contact with the complainant; and
 - if no action was taken, the reason why no action was taken.
- the Environmental Superintendent will be responsible for ensuring that an initial response is provided within 24 hours of receipt of a complaint (except in the event of complaints recorded when the mine is not operational or outside of usual business hours).
- once the identified measures are undertaken, the Environmental Superintendent will sign off on the relevant complaint within the Complaints Register.
- if necessary, follow-up monitoring will take place to confirm the source of the complaint is adequately mitigated.
- a summary of the complaints will be maintained by NCOPL and made available to the CCC, the complainant (on request) and on the WHC website. A summary of complaints received every 12 months will be provided in the Annual Review.

In the event that any complainant considers that NCOPL has not adequately addressed their concerns, the NCOPL representative will convene additional meetings with the complainant. If the complainant believes the matter remains unresolved, and no further agreement can be reached as to additional measures to be undertaken, then they may refer the matter to DPE.


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10. References

NSW Independent Planning Commission (April 2022). *Development Consent SSD 10269, Narrabri Underground Mine Stage 3 Extension Project.*

Resource Strategies (2021) *Narrabri Mine Modification 7 - Environmental Assessment.*

Resource Strategies Pty Ltd (October 2020) *Narrabri Underground Mine Stage 3 Extension Project – Environmental Impact Statement.* Prepared for Narrabri Coal Operations Pty Ltd.

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11. Glossary

Term	Definition
Annual Review	The review required by condition E11.
Applicant	Narrabri Coal Operations Pty Ltd.
Calendar year	A period of 12 months from 1 January to 31 December.
Conditions of Consent (CoC)	SSD 10269 issued under s4.38 of the EP&A Act.
Construction	The carrying out of all physical works to enable mining operations to be carried out and decommissioning, including erection of buildings, infrastructure and other works and demolition, but not including pre-construction activities.
Date of commencement of development	The date notified to the Department by the Applicant under condition A14(a).
Decommissioning	The permanent cessation of active use of the mine, including demolition of buildings, infrastructure and other works.
Department	The NSW Department of Planning and Environment (DPE).
Development	The Stage 3 development described in the Stage 3 EIS as modified by the CoC.
Environmental Impact Statement	The Environmental Impact Statement titled <i>Narrabri Underground Mine Stage 3 Extension project – Environmental Impact Statement</i> , prepared by Resource Strategies Pty Ltd on behalf of the Applicant and dated October 2020, as amended or added to by the <i>Applicant’s Submissions Report</i> submitted 31 May 2021, the <i>Applicant’s Amendment Report</i> submitted 31 May 2021, the Applicant’s final <i>Biodiversity Development Assessment Report</i> dated September 2021, and the Applicant’s <i>Additional Information on GHGEs</i> dated 15 October 2021 and 17 December 2021.
Environment	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings.
Gas bag samples	Gas bag samples are air sampling devices that come in several different types for the purpose of collecting gases to be tested.
Gas chromatograph	An analytical technique used to separate the chemical components of a sample mixture and then detect them to determine their presence or absence and/or how much is present.
Goaf	That part of a mine from which the coal has been worked away and the space more or less filled up with caved rock.
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.
Inertisation	a process in which non-flammable gases (protective gas) are used to avoid various critical scenarios. Inert gases are used with the aim to prevent explosions, to keep moisture away from products and to exclude unwanted reactions.
Mining operations	The carrying out of mining, including the extraction, processing, stockpiling and transportation of coal on the site and the associated removal, storage and/or emplacement of vegetation, topsoil, overburden and reject material; and includes underground development necessary for mining operations to be carried out (such as installation and use of electricity, water, communications and other services and infrastructure).
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the development.




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Term	Definition
Mitigation	Activities associated with reducing the impacts of the development.
Narrabri Mine	The development approved under the CoC, together with the development approved under Project Approval 05_0102, Project Approval 08_0144 and development consent SSD 10269.
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent.
Planning Secretary	Planning Secretary under the EP&A Act, or nominee.
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting.
Stage 2	Narrabri Mine Stage 2 approved under PA 08_0144.
Stage 3	Narrabri Underground Mine Stage 3 Extension Project approved under SSD 10269.
Telemetric	The science or process of collecting information about objects that are far away and sending the information somewhere electronically.
Tube bundle	A mechanical system for continuously drawing gas samples through tubes from multiple monitoring points located in an underground coal mine.

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12. Review history

Revision	Comments	Author	Authorised by	Date
0A	Approved by Department of Planning and Environment on 20 December 2022	Onward Consulting	Manager HSE	31 August 2022

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Appendix A - Consultation records

Brent Baker
Manager HSE – Narrabri Coal Operations
Whitehaven Coal

Via email: BrentBaker@whitehavencoal.com.au

Dear Brent,

Re. Advice on Narrabri Underground Mine Stage 3 Extension Project – Spontaneous Combustion Management Plan (SSD-10269)

I refer to your request of 21st June 2022 for advice regarding Narrabri Underground Mine Stage 3 Extension Project – Spontaneous Combustion Management Plan. The Resources Regulator has reviewed the request and have no specific comments.

Contact

Should you require any further information or clarification, please contact the Office of the Executive Director (ED.ResourcesRegulator@regional.nsw.gov.au)

Yours sincerely,



Matthew Newton
Principal Inspector Environment & Rehabilitation Operations
Resources Regulator

5 July 2022

Shane Rily
Environmental Superintendent
Narrabri Coal Operations Pty Ltd
10 Kurrajong Creek Road
Baan Baa, NSW, 2390

20/12/2022

Spontaneous Combustion Management Plan for Narrabri Coal Stage 3 (SSD-10269)

Dear Mr. Rily,

I refer to your submission, requesting review and approval of the Spontaneous Combustion Management Plan for the Narrabri Coal Stage 3 project. I also acknowledge your response to the Department's review comments and request for additional information.

I note the Spontaneous Combustion Management Plan has been prepared in consultation with the Resources Regulator and contains the information required by the conditions of approval.

The Department has carefully reviewed the document and is satisfied that it meets the requirements of the relevant conditions in Development Consent (SSD-10269).

Accordingly, as nominee of the Planning Secretary, I approve the Spontaneous Combustion Management Plan (Rev 0A, dated 31 August 2022).


Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Wayne Jones on (02) 6575 3406.

Yours sincerely



Stephen O'Donoghue
Director
Resource Assessments
As nominee of the Planning Secretary

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Appendix B - Compliance conditions relevant to this Plan



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Table B-1SSD 10269 consent conditions relevant to this Plan

Condition	Requirement	Document reference
Obligation to minimise harm to the environment		
A1.	In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Section 5 Section 7.2
Evidence of Consultation		
A20.	Where conditions of this consent require consultation with an identified party, the Applicant must: <ul style="list-style-type: none"> a) consult with the relevant party prior to submitting the subject document; and b) provide details to the Department of the consultation undertaken including: <ul style="list-style-type: none"> (i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any matters not resolved between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved. 	Section 1.4 Appendix A
Staging, combining and updating strategies, plans or programs		
A21.	With the approval of the Planning Secretary, the Applicant may: <ul style="list-style-type: none"> a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program); b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development); and d) combine any strategy, plan or program required by this consent with any similar strategy, plan or program required by an adjoining mining consent or approval, in common ownership or management. 	No staging of the SCMP proposed No combining of SCMP with another plan proposed Section 8.3 No combining of SCMP with another plan proposed
Compliance		
A30.	The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Section 2
Applicability of Guidelines		
A31.	References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of inclusion (or later update) in the condition.	None specifically applicable to this Plan
A32.	However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may. In respect of ongoing monitoring and management obligations, agree to or require	

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Condition	Requirement	Document reference
	compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or replacement of them.	
Odour		
B9.	The Applicant must ensure that no offensive odours, as defined under the POEO Act, are emitted from the site.	Section 5
Air Quality and Greenhouse Gas Operating Conditions		
B12.	The Applicant must:	
	a) take all reasonable and feasible avoidance and mitigation measures to:	
	i) minimise odour, fume, and particulate matter (including PM ₁₀ and PM _{2.5}) emissions of the development;	Section 5 and Refer to the Air Quality Management Plan
	ii) eliminate or minimise the risk of spontaneous combustion;	Section 5
Spontaneous Combustion Management Plan		
B21.	The Applicant must prepare a Spontaneous Combustion Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	
	a) be prepared by a suitably qualified and experienced person/s;	Section 1.4
	b) be prepared in consultation with the Resources Regulator; and	
	c) describe the measures to be implemented to minimise the risk of spontaneous combustion on the site.	Section 5
B22.	The Applicant must not commence second workings under this consent until the Spontaneous Combustion Management Plan is approved by the Planning Secretary.	Section 1.2
B23.	The Applicant must implement the Spontaneous Combustion Management Plan as approved by the Planning Secretary	
Adaptive management		
E4.	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Any exceedance of these criteria or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria or performance measures has occurred, the Applicant must, at the earliest opportunity:	
	a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;	Section 7.2
	b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and	
	c) implement reasonable remediation measures as directed by the Planning Secretary.	
	to the satisfaction of the Planning Secretary.	
Management plan requirements		
E5.	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
	a) a summary of relevant background or baseline data;	Section 4
	b) details of:	


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Condition	Requirement	Document reference
	i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Section 3 Appendix B Appendix C
	ii) any relevant limits or performance measures and criteria; and	Section 1.3
	iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 5
	c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c);	Section 3.1.1 Appendix C
	d) a description of the management measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 5
	e) a program to monitor and report on the:	
	i) impacts and environmental performance of the development; and	Section 6
	ii) effectiveness of the management measures set out pursuant to paragraph (d);	
	f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 7.2
	g) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 8.4
	h) a protocol for managing and reporting any:	
	i) incident, non-compliance or exceedance of any impact assessment criterion or performance criterion;	Section 7
	ii) complaint; or	Section 9
	iii) failure to comply with other statutory requirements;	Section 7.2
	i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	Section 1.5 Section 10
	j) a protocol for periodic review of the plan.	Section 8.3
Revision of strategies, plans and programs		
E7.	Within three months of the:	Section 8.3
	a) submission of an incident report under condition E9 or E10;	
	b) submission of an Annual Review under condition E11;	
	c) submission of an Independent Environmental Audit under condition E13;	
	d) approval of any modification of the conditions of this consent (unless the conditions require otherwise); or	
	e) notification of a change in development phase under condition A14,	
	the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.	
E8.	If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.	Section 8.3

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Condition	Requirement	Document reference
	<p><i>Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.</i></p>	
Incident notification		
E9.	<p>The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.</p>	Section 7.1
Non-compliance notification		
E10.	<p>Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance.</p> <p>The Notification must be in writing via the Department's Major Projects Website And identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why 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.</p> <p><i>Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</i></p>	Section 7.2
Annual Review		
E11.	<p>By the end of March in each year after the commencement of the development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:</p> <ol style="list-style-type: none"> a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year; b) include a comprehensive review of the monitoring results and complaints record of the development over the previous calendar year, including a comparison of these results against the: <ol style="list-style-type: none"> i) relevant statutory requirements, limits or performance measures/criteria; ii) requirements of any plan or program required under this consent; iii) monitoring results of previous years; and iv) relevant predictions in the document/s listed in condition A2(c); c) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence; d) evaluate and report on: <ol style="list-style-type: none"> v) the effectiveness of the noise and air quality management systems; and vi) compliance with the performance measures, criteria and operating conditions of this consent; e) include an addendum report on Scope 1 and Scope 2 GHGE, which reports: <ol style="list-style-type: none"> i) annual methane and annual total CO₂-e emissions (both categorised by source) and emissions intensity (based on ROM coal production); ii) overall annual emissions intensity, benchmarked against representative industry sectors and the predictions in the EIS, and performance measures in Table 3; and 	Section 8.1


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Condition	Requirement	Document reference
	iii) measures undertaken to minimise Scope 1 and Scope 2 GHGE, including actions under condition B19, and estimated reductions in CO ₂ -e as a result of measures implemented; f) identify any trends in the monitoring data over the life of the development; g) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and h) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.	
E12.	Copies of the Annual Review must be submitted to the IAPUM (via the Department as Secretariat), NSC and GSC and regulatory agencies and made available to the CCC and any interested person upon request.	Section 8.1
Independent Environmental Audit		
E13.	Within one year of commencement of development under this consent, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development.	Section 8.2
E14.	Within three months of commencing an Independent Environmental Audit, or other timeframe agreed by the Planning Secretary, the Applicant must submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Planning Secretary.	
Access to information		
E17.	Before the commencement of construction until the completion of all rehabilitation required under this consent, the Applicant must:	
	a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: <ul style="list-style-type: none"> i) the documents referred to in condition A2(c) of this consent; ii) all current statutory approvals for the development; iii) all approved strategies, plans and programs required under the conditions of this consent; iv) the proposed staging plans for the development if construction, mining operations or decommissioning is to be staged; v) minutes of CCC meetings; vi) 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 consent; vii) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; viii) a summary of the current phase and progress of the development; ix) contact details to enquire about the development or to make a complaint; x) a complaints register, updated monthly; xi) the Annual Reviews of the development; 	Section 1.5 Section 3.1.1 Section 7 Section 8 Section 9 Appendix C

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Condition	Requirement	Document reference
	xii) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; xiii) any other matter required by the Planning Secretary; and	
	b) keep such information up to date, to the satisfaction of the Planning Secretary.	

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Appendix C - Key EIS commitments


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Table C-1 Key EIS spontaneous combustion management commitments

Source	Aspect	Details	Reference
EIS Section 2.3.4	Spontaneous combustion management measures	<p>The Narrabri Mine would continue to implement the following spontaneous combustion management measures to the physical layout and design of the Project:</p> <ul style="list-style-type: none"> • ventilation shaft design to reduce a pressure differential across goaves and, therefore, reduce potential for spontaneous combustion; • pre-mining and goaf gas drainage systems would be implemented for gas management purposes, minimising ventilation pressures that would result if the ventilation system were only used to maintain gas concentration to acceptable levels; • installation of high standard ventilation control devices such as stopping, regulators and overcasts; • installation of high standard ventilation control devices such as stopping, regulators and overcasts; • on-site gas chromatograph; and • on-site inertisation capability including: <ul style="list-style-type: none"> ▪ pipework and valves fitted to goaf seals to allow the injection of inert gas; ▪ potential utilisation of in-seam drainage ranges; and ▪ a nitrogen generating plant is located on-site and reticulated underground via a dedicated pipeline. 	Section 5
EIS Section 6.18.3	Coal stockpile management	Coal stockpiles would be managed to reduce the potential for spontaneous combustion.	Section 5.4