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MAULES CREEK COAL MINE ENVIRONMENTAL MANAGEMENT STRATEGY

Edition	Rev.	Comments	Author	Authorised By	Date
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3	1	Regulator comments addressed	MCCM	MCCM	2021
3	2	2021 Annual Review	MCCM	MCCM	2022

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1.0 INTRODUCTION

Maules Creek Coal Pty Ltd (**MCC**) is required to prepare an Environmental Management Strategy (**EMS**) for the Maules Creek Coal Mine (**MCCM**) in accordance with Project Approval PA 10_0138 (the approval) Schedule 5, Condition 1 and the appended Statement of Commitments Reference 8. MCC operates an open cut coal mine producing up to 13 Mtpa of ROM coal until the end of December 2034.

The ownership of the MCCM currently lies with the Maules Creek Coal Joint Venture (MCJV), which is 75 percent (%) owned by Aston Coal 2 Pty Limited [a wholly owned subsidiary of Whitehaven Coal (**WHC**)], 15% owned by Itochu Coal Resources Australia Maules Creek Pty Ltd (ICRA MC) and 10% owned by J-Power Australia (J-Power). The MCCM is managed by MCC (a wholly owned subsidiary of WHC) on behalf of the MCCJV.

The MCCM is an open-cut coal mine on the north-west slopes and plains of New South Wales (**NSW**) in the Gunnedah Coal basin. It is located approximately 20 km north-east of Boggabri within the Narrabri Local Government Area (**LGA**)

1.1 Project Description

The MCCM project was approved on 23 October 2012 by the Planning Assessment Commission under delegation of the Minister for Planning and Infrastructure. Key aspects of the MCCM are illustrated in Figure 1 and include:

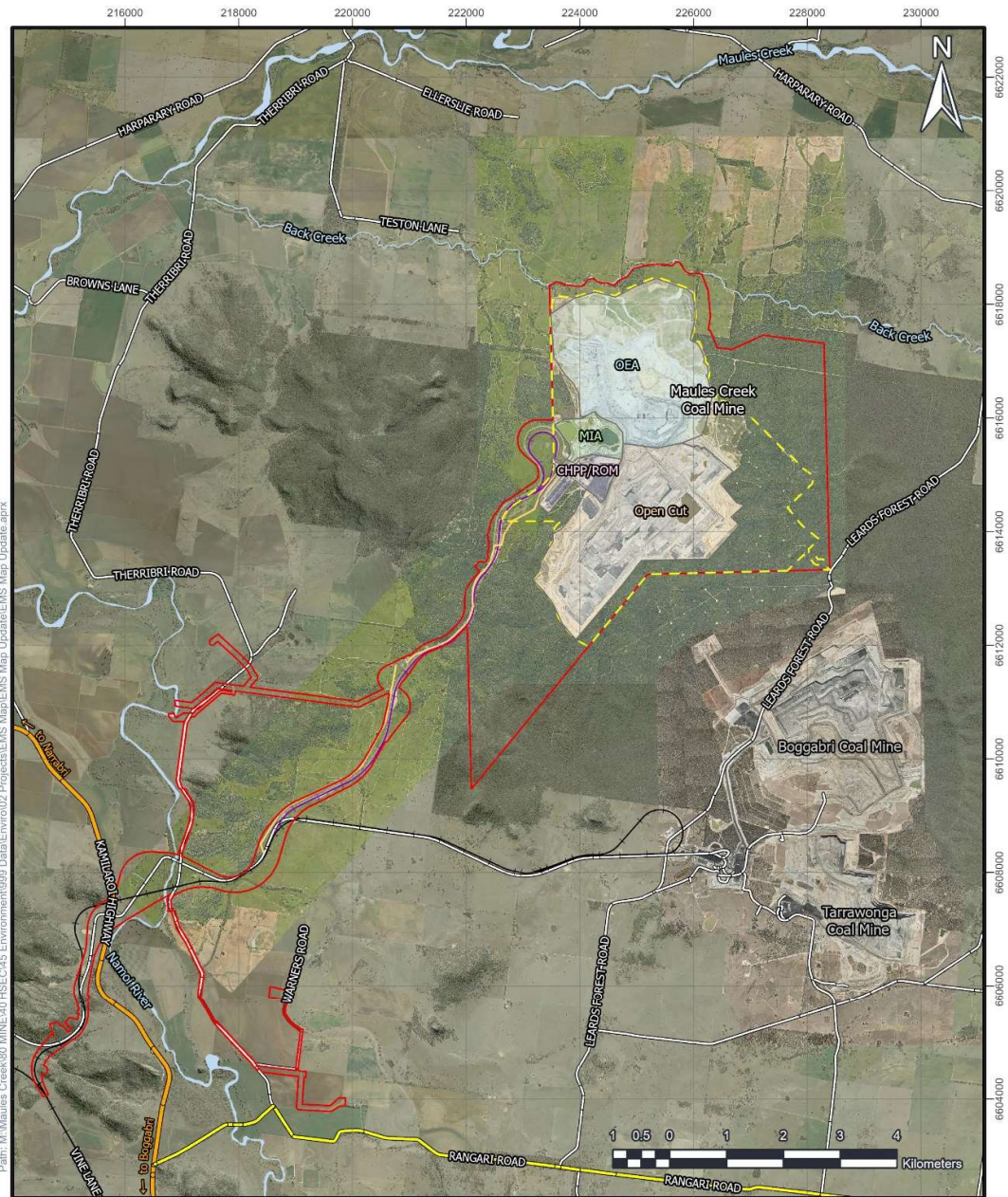
- Open cut mining operation extracting up to 13 Mtpa ROM coal to the Templemore Seam;
- Open cut mining fleet including excavator / shovels and fleet of haul trucks, dozers, graders and water carts utilising up to 470 permanent employees;
- Coal Handling and Preparation Plant (CHPP) with a throughput capacity of 13 Mtpa ROM coal;
- Tailings Drying Area;
- Rail spur, rail loop, associated load out facility and connection to the Werris Creek to Mungindi Railway Line;
- Water Management infrastructure including a water pipeline, pumping station and associated infrastructure for access to water from the Namoi River;
- Supporting power and communications infrastructure;
- Explosive magazine and storage areas;
- Mine Access Road; and
- Administration, workshop and related facilities.



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Maules Creek Locality Map

Maules Creek Coal

Legend


- Project Disturbance Boundary
- Project Approval Boundary (Mod 6)
- Mine Areas
- CHPP/ROM
- MIA
- OEA
- Open Cut
- Power Transmission Lines
- Highway
- Major Road
- Minor Road
- Railway
- MCCM Rail Spur and Loop
- Rivers and Creeks



Scale: 1:90,000
 Author: PCurtis
 Date Exported: 2/06/2021 16:32
 Spatial Reference:
 GDA 1994 MGA Zone 56

Disclaimer: Map for reference only and subject to survey. MCC makes no guarantee of the accuracy of this map and data within. MCC shall have no liability for any decisions made or actions taken based upon this map.


Figure 1: MCCM Project Location and Layout

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1.2 EMS Key Objectives and Scope

This Environmental Management Strategy (EMS) has been developed to provide a framework for environmental management at MCCM for all activities relating to its operation. It will facilitate compliance with the conditions and commitments outlined in the Maules Creek Coal Project Environmental Assessment (the EA) and PA 10_0138, Schedule 5, Condition1. The objectives of the EMS are to:

- prevent and/or minimise environmental impacts that may result from the operation or rehabilitation of the MCCM;
- ensure compliance with any relevant regulatory requirements and relevant management measures and commitments outlined in the EA;
- facilitate compliance with the approval, supporting EA and other relevant environmental licences or permits;
- develop an overarching framework for environmental management including the implementation maintenance and management of any MCCM management plans, procedures, forms and registers;
- establish roles, responsibilities and authorities for personnel;
- guide development of a work culture that recognises environmental awareness as an integral part of planning and day-to-day activities;
- establish a system for the internal review and implementation of EMPs and procedures to ensure continuous improvement; and
- ensure activities are undertaken in accordance with the Environmental Management System.

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2.0 STATUTORY REQUIREMENTS

This EMS has been prepared to fulfil the requirements of relevant legislation, approval conditions, Environment Protection Licence (EPL) conditions, EA commitments, relevant standards and guidelines.

2.1 Project Approval Conditions

Schedule 5, Condition 1 of the approval describes the various components required for the EMS. These are reproduced in Table 1.

Table 1: PA 10_0138 EMS Requirements

Requirement	EMS Reference
Schedule 1 – Administrative Conditions	
1. In addition to meeting the specific performance criteria established under this consent, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.	This document
Schedule 5 – Environmental Management, Reporting and Auditing	
1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. The strategy must:	This document
a) Be submitted to the Secretary for approval prior to the commencement of construction;	Previous version of this document
b) Provide the strategic framework for environmental management of the project;	Section 3.0
c) Identify the statutory approvals that apply to the project;	Section 2.4
d) Describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;	Section 4.3
e) Describe the procedures that would be implemented to:	Section 3.3
<ul style="list-style-type: none"> • Keep the local community and relevant agencies informed about the operation and environmental performance of the project; 	Section 4.5.2
<ul style="list-style-type: none"> • Receive, handle, respond to, and record complaints; 	Section 4.5.2,
<ul style="list-style-type: none"> • Resolve any disputes that may arise during the course of the project; 	Section 4.5.3
<ul style="list-style-type: none"> • Respond to any non-compliance; 	Section 5.3
<ul style="list-style-type: none"> • Respond to emergencies; and 	Section 5.4
f) Include:	
<ul style="list-style-type: none"> • Copies of any strategies, plans and programs approved under the conditions of this consent; and 	Section 3.3
<ul style="list-style-type: none"> • A clear plan depicting all the monitoring to be carried out in relation to the project. 	Section 5.1

2.2 Relevant Legislation

The key legislation relevant to the activities described in the approval and its supporting document include the following Acts and their respective regulations:

- *Biosecurity Act 2015* (NSW);
- *Environmental Planning and Assessment Act 1979* (NSW);
- *Environmental Protection and Biodiversity Conservation Act 1999* (Commonwealth);
- *Mining Act 1992* (NSW);
- *Explosives Act 2003* (NSW);
- *Work Health and Safety (Mines and Petroleum Sites) Act 2013* (NSW);
- *Protection of the Environment Operations Act 1997* (NSW) (POEO Act);
- *National Parks and Wildlife Act 1974* (NSW);
- *Water Act 1912* (NSW);
- *Water Management Act 2000* (NSW);
- *Fisheries Management Act 1994* (NSW);
- *Roads Act 1993* (NSW);
- *Local Government Act 1993* (NSW);
- *Contaminated Land Management Act 1997* (NSW);
- *National Greenhouse and Energy Reporting Act 2007* (Commonwealth);
- *Soil Conservation Act 1938* (NSW);
- *Threatened Species Conservation Act 1995* (NSW); and
- *Waste Avoidance and Resource Recovery Act 2001* (NSW).

2.3 Policies Guidelines and Australian Standards

The applicable policies, guidelines and Australian Standards, which further prescribe the statutory requirements to be integrated into the MCCM Environmental Management System, are detailed in the relevant Management Plans and Procedures.

2.4 Approvals, Licences, Permits and Leases

All activities at the MCCM will be undertaken in accordance with the relevant approvals, licences, permits and leases (see Table 2).

Table 2: MCCM Approvals, Leases and Licences Summary

Approval	Reference	Validity Dates
Project Approval	PA 10_0138	23 October 2012 to December 2034
Project Approval Modification	PA 10_0138 (MOD1)	Granted on 25 July 2013
Project Approval Modification	PA 10_0138 (MOD2)	Granted on 10 March 2014

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Approval	Reference	Validity Dates
Project Approval Modification	PA 10_0138 (MOD 3)	Granted 13 January 2017
Project Approval Modification	PA 10_0138 (MOD 4)	Withdrawn
Project Approval Modification	PA 10_0138 (MOD 5)	Granted 20 December 2019
Project Approval Modification	PA 10_0138 (MOD 6)	Granted 20 December 2019
Project Approval Modification	PA 10_0138 (MOD 7)	Granted 24 August 2021
Project Approval Modification	PA 10_0138 (MOD 8)	Granted 19 January 2022
Coal Lease	CL 375	4 June 1991 to 4 June 2033
Authorisation	A 346	Renewed 2016, expires 28 February 2028
Mining Lease	ML 1719	Granted 11 November 2015 to 11 November 2036
Mining Lease	ML 1701	Granted 9 October 2014 to 9 October 2035
Exploration Lease	EL 8072	Renewal Pending
Mining Operations Plan Amendment B	MOP 2017-2023	December 2017 to December 2023
Mining Operations Plan Letter Amendment	MOP 2017-2023	December 2020-December 2023
Surface Water Licence	90SL101060	Renewed November 2015
Water Supply Works Approval	90WA801901 DWE Ref no: 90AL801900	1 July 2004 to 30 June 2027
Water Supply Works Approval	90WA822412	Expires 6 June 2025
Water Supply Works Approval	90CA834999	Expires 9 November 2025
Water Supply Works Approval	90WA801901	Expires 30 June 2027
Water Supply Works Approval	90CA807012	Expires 27 May 2031
Water Supply Works Approval	90CA807023	Expires 27 May 2031
Water Supply Works Approval	90CA807230	Expires 6 November 2030
Water Supply Works Approval	90CA807676	Expires 31 October 2029
Water Supply Works Approval	90CA807654	31 October 2029
Forest Corporation NSW Compensation	N/A	From March 2014 and subsequently updated.
Bore Licence	90WA809078	Commencement 1 November 2006
Bore Licence	90WA809079	Commencement 1 November 2006

Approval	Reference	Validity Dates
Bore Licence	90WA809300	Commencement 1 November 2006
Bore Licence	90WA809127	Commencement 1 November 2006
Bore Licence	90WA820120	Granted 28 February 1939 for perpetuity. Converted 16 January 2012.
Bore Licences	90BL255779 90BL255780 90BL255781 90BL255782 90BL255783 90BL255784 90BL255785 90BL255786 90BL255787 90BL255788 90BL255789 90BL255790	Granted 25 August 2010 for perpetuity.
Water Access Licence	WAL 12718	Tenure continuing
Water Access Licence	WAL 12722	Tenure continuing
Water Access Licence	WAL12811	Tenure continuing.
Water Access Licence	WAL29467	Tenure continuing
Water Access Licence	WAL29588	Granted 21 June 2012 for perpetuity.
Water Access Licence	WAL 27385	Granted 24 April 2012 for perpetuity.
Water Access Licence	WAL12479	Granted 2 November 2011 for perpetuity
Water Access Licence	WAL27383	Spare WAL. Granted 24 October 2011 for perpetuity.
Water Access Licence	WAL13050	Granted 23 August 2011 for perpetuity.
Water Access Licence	WAL 36641	Perpetuity
Water Access Licence	WAL 12491	Granted 1 November 2006 – 31 October 2019
Water Access Licence	WAL 12480	Tenure continuing
Water Access Licence	WAL 12645	Granted 1 November 2006 – 31 October 2019
Water Access Licence	WAL 41585	Tenure continuing
Environment Protection Licence	EPL 20221	Issued 2 May 2013

* Note: List of MCC approvals current at the time of revision.

3.0 MCCM ENVIRONMENTAL MANAGEMENT SYSTEM

3.1 Environmental Management Structure

The MCCM Environmental Management System includes various site specific Management Plans, procedures, protocols, forms and registers (see Figure 2). The various documents have been developed to ensure MCCM related activities are undertaken in a manner that minimises potential harm to the environment.

The EMS is a strategic framework for Environmental Management of the project. It functions within the Environmental Management System to outline the relevant statutory requirements and facilitates the implementation, maintenance and management of any MCC environmental documentation.

Each Management Plan outlines the operational controls to be implemented to facilitate compliance with the relevant regulatory requirements and statutory approvals. Procedures, forms and registers have been developed to assist with the implementation and recording of onsite activities. All documents relating to the MCC Environmental Management System are available on either the WHC website or the internal server for ease of access and use by MCCM personnel. A register of these documents is kept by the Environmental personnel at MCCM.

These documents will continue to be reviewed, revised or developed as necessary and according to Schedule 5 Condition 5 of the Project Approval.

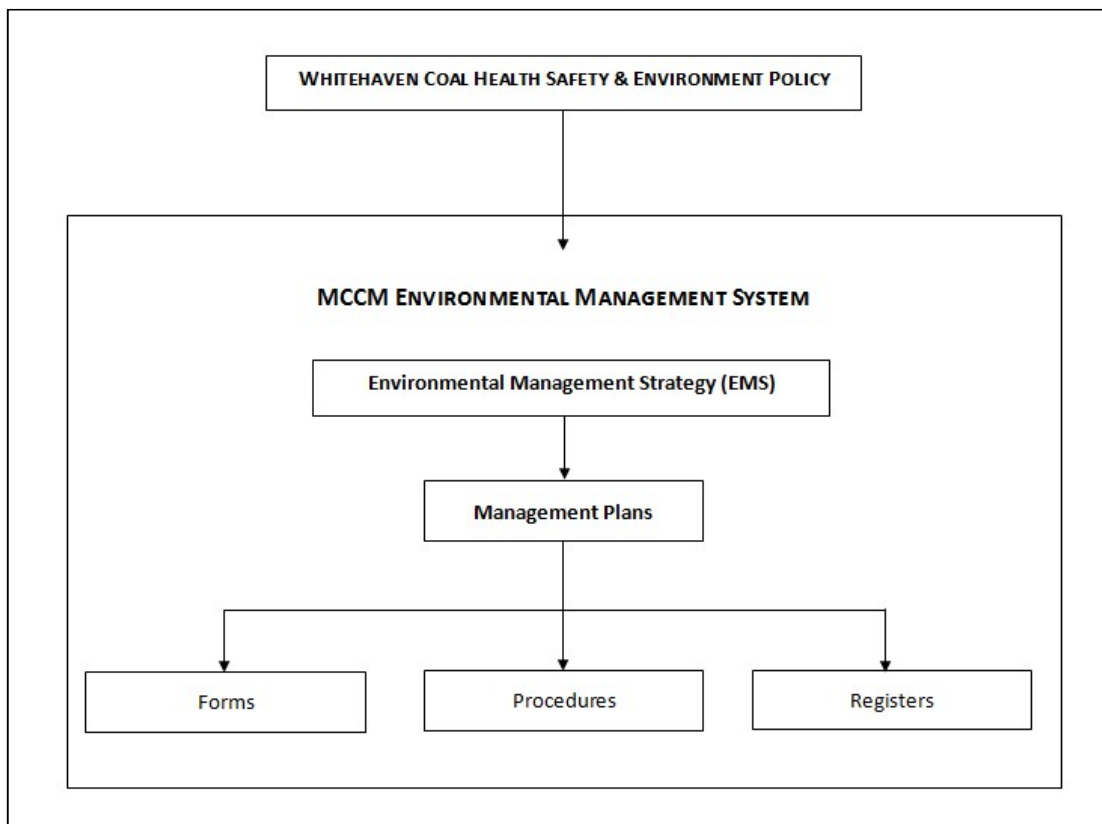



Figure 2: MCCM Environmental Management Structure

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3.2 WHC Health, Safety and Environmental Policy

Maules Creek Coal operates under Whitehaven’s Health Safety and Environment Policy (**HSE Policy**) which sets out the company’s aims and values and is applicable to all employees and contractors. The Policy (Appendix A) has been endorsed by the Managing Director and CEO and is a commitment from top management to all of Whitehaven’s employees.

3.3 EMS Documentation

A Register of EMS Documentation including; Management Plans, procedures, forms and registers will be maintained by the MCCM Environmental personnel. MCC has prepared a number of Management Plans to assist in the operation of the MCCM in accordance with the relevant regulatory requirements and statutory approvals. These have been implemented and reviewed when necessary over the operational development of MCCM. Table 3 lists the various management plans required under the conditions of the approval. Figure X details the organisational and relational structure of the EMS to the Procedure document level.

**Table 3
Management Plans and Protocols required under PA 10_0138 and EPL20221**

PA 10_0138 Requirement	Plan / Program
Schedule 3, Condition 16	Noise Management Plan
Schedule 3, Condition 16	Leard Forest Mining Precinct Noise Management Strategy
Schedule 3, Condition 25	Blast Management Plan
Schedule 3, Condition 25	Leard Forest Mining Precinct Blast Management Strategy
Schedule 3, Condition 34	Air Quality and Greenhouse Gas Management Plan
Schedule 3, Condition 34	Leard Forest Mining Precinct Air Quality Management Strategy
Schedule 3, Condition 40	Water Management Plan
Schedule 3, Condition 40	Leard Forest Mining Precinct Water Management Strategy
Schedule 3, Condition 41	Leard Forest Mining Precinct Regional Biodiversity Strategy
Schedule 3, Condition 45	Biodiversity Offset Strategy
Schedule 3, Condition 52	Biodiversity Management Plan
Schedule 3, Condition 57	Aboriginal Heritage Conservation Strategy
Schedule 3, Condition 58	Heritage Management Plan (Aboriginal Archaeology and Cultural Heritage Management Plan)
Schedule 3, Condition 64	Traffic Management Plan
Schedule 3, Condition 73	Rehabilitation Management Plan (as part of the MOP)
Schedule 3, Condition 77	Construction Workforce Accommodation Plan
Schedule 3, Condition 78	Social Impact Management Plan
Schedule 5, Condition 1	Environmental Management Strategy
EPL 20221 Condition O4.2	Pollution Incident Response Management Plan
Schedule 3 Condition 6	Out of Hours Work Protocol*

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PA 10_0138 Requirement	Plan / Program
Schedule 3 Condition 39	Soil Management Protocol

** Note: Out of Hours Work Protocol is no longer relevant as this was associated with the construction activities.*

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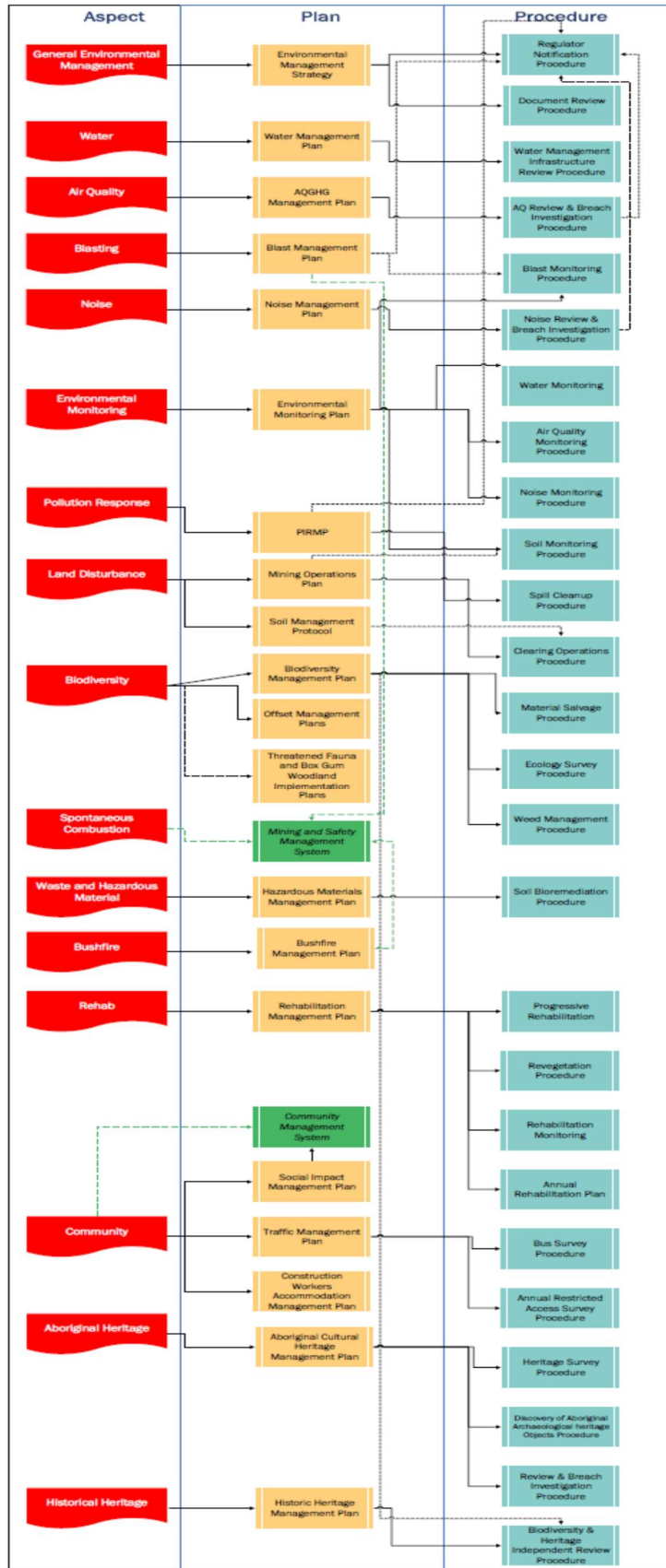



Figure 3: EMS Document Structure

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4.0 IMPLEMENTATION AND OPERATION

4.1 Risk Management

The MCC and associated activities utilise a risk based approach to minimise the potential impacts on the environment. A register of impacts will be held. Environmental improvement objectives are also included within the Annual Review (**AR**) that is submitted every March. The effective management of these hazards will reduce the potential for environmental harm to occur. To manage the environmental impacts of its activities, environmental hazards must be recognised and appropriately controlled. Management plans and procedures have been implemented in order to manage the higher level risks associated with the MCCM. The Whitehaven Coal Risk Matrix is utilised together with audits and inspections as specified in various management plans or associated procedures.

4.2 Response to Non-Compliances

Compliance with all approvals, plans and procedures will be the responsibility of all personnel (staff and contractors) employed on or in association with the mine, and will be developed through promotion of mine ownership under the direction of the General Manager and Environmental Superintendent. The Environmental Superintendent (or delegate) will undertake regular inspections (i.e. at least monthly), internal audits (i.e. at least annually) and initiate directions identifying any remediation / rectification work required, and areas of actual or potential non-compliance. Any non-compliance with regulations, licences or approvals will be reported to the relevant authority, together with details of the corrective actions taken to avoid future occurrences. Non-compliances with the requirements of the mine's EPL will also be reported in each Annual Return. A review of MCCM compliance will be undertaken in accordance with the requirements of NSW Government Annual Review Guideline (October, 2015). Additionally, an independent environmental audit will be undertaken a minimum of once every three years and the report submitted to the Secretary and made available to the public on Whitehaven Coal's website. The independent audit will be undertaken by an appropriately certified auditor whose appointment has to be approved by the Secretary and in accordance with the NSW Government Independent Audit Guideline (October 2015). A copy of all publicly available documents will be placed on Whitehaven Coal's website.

4.3 Roles and Responsibility

All mine employees, contractors and visitors on the site have an overall site-based responsibility to conduct all activities in compliance with the applicable laws, regulations, licences and approvals detailed in **Section 2.0**.

Table 4 below outlines the roles and responsibilities for all site personnel, with an overview of the MCCM organisational structure included as Figure 4.

**Table 4
Roles and Responsibilities**

Role	Responsibility
General Manager	<ul style="list-style-type: none"> Accountable for the environmental performance of all activities associated with the MCCM.

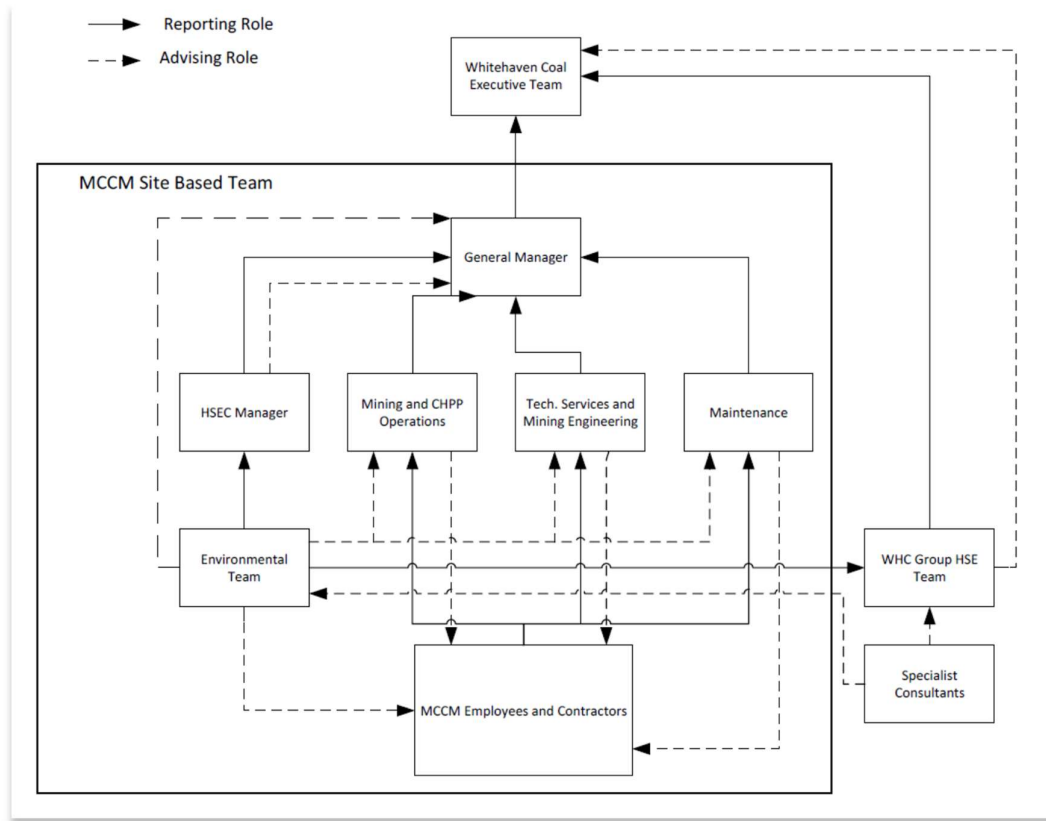


Figure 4: MCCM Management Organisational Structure

4.4 Training and Competencies


MCC will implement a training program to promote general environmental awareness and an understanding of individual responsibility. All contractors and personnel will undergo a generic induction level of training as a prerequisite to commencing work on site. The training program will aim to maintain an awareness of environmental issues and actively promote environmental understanding across the MCCM workforce.

In addition to the induction course, environmental awareness and understanding will be maintained through additional training determined on an as need basis to help refresh environmental awareness and notify MCCM personnel of any new operational practices/requirements.

4.5 Communication and Consultation

4.5.1 Internal Communication

Information about the organisation's Environmental Management System will be communicated internally among all levels and functions of the MCCM. The aim of the communication program will be to maintain and foster good working relations between operational departments and personnel. Relevant operational departments and personnel will be notified of any proposed changes to operations, environmental risks and required environmental remedial works. Environmental performance and any environmental issues will be reported to personnel and contractors using the following methods:

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- environmental training and awareness during the induction program;
- updates using briefing notes or at toolbox talk sessions as required;
- EMS being available on the WHC internal server for ease of access and use by MCCM personnel;
- provision of the EPL monthly monitoring on the WHC website; and
- internal reports/memos/presentations/notice boards prepared by the Environment team as required.


4.5.2 External Communication

WHC will implement external communication avenues to ensure up to date information on MCCM activities, management systems and environmental performance are readily available to the public. The WHC website will include up to date copies of:

- Environmental Assessment documents in support of the approval;
- all current statutory approvals;
- approved strategies, plans and programs required under the conditions of the approval;
- a comprehensive summary of the monitoring results, which have been reported in accordance with the various plans and programs approved under the conditions of the approval;
- a register of complaints;
- minutes of CCC meetings;
- independent environmental audit reports and MCC's response to the findings and recommendations;
- blast schedule notifications;
- any road closures as a result of the MCC's activities;
- any consultation materials released to the community (newsletters, fact sheets, etc);
- the last five Annual Reviews of the environmental performance of the mine submitted to DPE and other regulatory agencies;
- daily weather forecasts for the coming week;
- proposed operational response to these weather forecasts;
- real-time noise and air quality monitoring data (subject to any necessary caveats);
- any operational responses that were taken in response to the noise and air quality monitoring data; and
- Any other information required by the DPE or other regulatory agencies.

Other methods of external communication will include;

- advertisements;
- the 24-hour Community Hotline: 1800 942 836 (1800 WHAVEN); and

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- a provision on the WHC website which shows a method for community feedback via email.

4.5.2.1 Leard Forest Mining Precinct Consultative Meetings

Consultative meetings has been implemented between the three member mines of the Leard Forest Mining Precinct. This meeting provides a mechanism to discuss the implementation of the Leard Forest Mining Precinct strategies that are in place to minimise the cumulative impacts on the surrounding area.

4.5.2.2 Community Consultative Committee

MCCM has established a MCCM Community Consultative Committee (CCC) in accordance with Schedule 5, Condition 7 of PA 10_0138.

The CCC acts as an advisory body to help raise any MCCM related issues, address community concerns and monitor the performance and compliance with the approval. Meetings are held on a basis determined to be appropriate by the CCC. Currently, CCC meetings are held approximately every three months.

CCC meeting minutes are made available to the public on the WHC website.

4.5.2.3 Community Complaints

MCC will continue to maintain a community contact line (Phone number 1800 MAULES, 1800 628 537) for members of the public to lodge complaints and raise concerns associated with MCCM operations.

The objective of the hotline will be to enable the community to raise concerns with the operation of the Project, possible environmental impacts, complaints, or to seek further information on environmental aspects.

The hotline will be the principal method for recording any community complaints and issues. However correspondence will also be accepted and promoted using any appropriate medium including the WHC website, fax, e-mail or letter.

All complaints received will be recorded and lodged in the Complaints Register. The details of each complaint and any response will be documented in the complaints register and will be uploaded to the WHC website and reported in the relevant Annual Review.

4.5.3 Dispute Resolution

In the event that any complainant does not consider MCC's response or reactions adequately address their concerns, the following process may be adopted.

1. If possible, a meeting will be convened with the General Manager and/or MCCM representative to seek a resolution on the matter.
2. Where required, MCC will undertake reasonable additional measures to effectively resolve the issue and satisfy all parties involved.
3. The complainant will be provided with a response from MCC detailing the outcomes of the complaint investigation if requested. If requested, the General Manager and/ or Environmental Superintendent will convene a follow-up meeting 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 the Secretary of DPE (the Secretary) consistent with the Project Approval.

5.0 MONITORING, REPORTING & CORRECTIVE ACTIONS

The environmental monitoring, corrective actions and auditing procedures have been developed in order to monitor environmental performance and promote continuous review and improvement in accordance with the relevant regulatory requirements.

5.1 Environmental Monitoring Program

MCC have developed an extensive environmental monitoring program within and surrounding the MCCM operation in accordance with approvals.

Various monitoring programs for specific environmental impacts are detailed in the relevant EMPs. Further detail on environmental monitoring and management for specific environmental issues is included in the management plans required by the approval (see **Section 3.3**).

Table 5: MCCM Environmental Monitoring Network

Aspect	Mechanism	Monitoring Location	Parameters Monitored	Frequency
Meteorological	Automatic Weather Station (AWS)	Western edge of the Project Boundary	<ul style="list-style-type: none"> Rainfall Temperature @ 2m Temperature @ 10m Wind Speed @ 10 m Wind Direction @ 10m Sigma Theta Solar Radiation 	Continuous
Ambient Air Quality	Depositional Dust Gauges (DDG)	4 Locations: <ul style="list-style-type: none"> Leard Forest Road (DDG1) Maules Creek (DDG2) Teston Land (DDG3) Therribri Road (DDG4) 	Monthly dust deposition rates (g/m ² /month)	Monthly
	High Volume Air Sampler	Therribri Road (HVAS 1)	TSP and PM ₁₀	Every 6 days
Air Quality - Continuous Real Time Monitoring	Tapered Element Oscillating Microbalance (TEOM)	3 locations: <ul style="list-style-type: none"> Maules Creek TEOM1 TEOM2 (management) TEOM3 (management) 	PM ₁₀ and PM _{2.5} (µg/m ³)	Continuous
Blasting	Vibration & Blast Overpressure	4 Locations: <ul style="list-style-type: none"> Harparary Road (BM1) Ellerslie Road (BM2) Teston Lane (BM3) Therribri Road (BM4) 	<ul style="list-style-type: none"> Ground Vibration mm/sec Overpressure level dB(Lin Peak) 	Blasting
	<ul style="list-style-type: none"> Visual Assessment of dust & NOx fume Video recordings of blasts Dispersion modelling utilising Leard Mining Precinct Data 	Locations are subject to blast location.	<ul style="list-style-type: none"> NOx Visible Dust 	During Blasting
Noise	Attended Noise Monitoring Surveys	6 Locations: <ul style="list-style-type: none"> North (NM 1) North West (NM 2) Southwest (NM 3) North West (NM 4) North East (NM 5) North West (NM 6) 	<ul style="list-style-type: none"> Mining LAeq (15minute) LA1 	Per EPL20221

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Aspect	Mechanism	Monitoring Location	Parameters Monitored	Frequency
Real-time Noise	Unattended Noise loggers	Six locations: <ul style="list-style-type: none"> North (RT1) North West and West (RT2) South West (RT3) North (RT4) North East (RT5) East (RT 6) 	<ul style="list-style-type: none"> Omnidirectional low pass and relevant frequencies Meteorological conditions 	Continuous
Real-time Noise	Unattended Noise loggers	One Location <ul style="list-style-type: none"> North East 	<ul style="list-style-type: none"> Directional low pass and relevant frequencies 	Continuous
Surface Water	Sample Collection	Seventeen Locations: <ul style="list-style-type: none"> Maules Creek (SW1 & SW2) Namoi River (SW5, SW6, SW7 & SW8) Back Creek (SW4, SW3, SW10 & SW9) Clean discharge point (SW11) MWD RWD & Sed. Dams Sediment dam overflows Mine void water (including emplacement seepage) 	Various depending on frequency. In general parameters include: <ul style="list-style-type: none"> pH EC TSS TDS Turbidity Major Anions Major Cations Alkalinity Metals Total Nitrogen Total Phosphorus 	Sediment dams – monthly and daily during discharge Pit water seepage emplacement SW - monthly
	Automatic water level logger	Four Locations: <ul style="list-style-type: none"> Namoi River SW5 Namoi River SW8 Back Creek SW4 Back Creek SW9 	Flow Volume	Continuous
Groundwater	<ul style="list-style-type: none"> Sample Collection Vibrating Wire Piezometers Automated Loggers 	Various Locations: <ul style="list-style-type: none"> MCCM existing Monitoring Bores MCCM existing VWP NOW registered Bore Replacement Bores/VWPs 	<ul style="list-style-type: none"> Water quality <ul style="list-style-type: none"> Major Cations and anions Nutrients & metals Depth Pressure 	Pressure - Continuous Depth - Monthly Quality – 6 monthly
Flora and Fauna	<ul style="list-style-type: none"> Various approved methods 	Offset properties and pre clearing	<ul style="list-style-type: none"> Species population distribution density 	Seasonally
Aboriginal Archaeology	<ul style="list-style-type: none"> Ground inspection 	During clearing activities & annual inspections	<ul style="list-style-type: none"> Artefacts, sensitive areas 	Annually

* Monitoring points and parameters may be subject to change as required. There will be periods of non-operation due to technicalities, calibration and routine & non-routine maintenance.

MCC will ensure that all monitoring and measurement equipment is calibrated and appropriately maintained when conducting monitoring and measurements as prescribed by PA 10_0138. The Environmental Department is also responsible for recording and maintaining accurate documentation of all parameters recorded as part of the environmental monitoring undertaken for the MCCM.

5.2 Scheduled Reporting

MCC has committed to an extensive environmental monitoring reporting and publication schedule. The aim of externally communicating the environmental monitoring results is to maintain and foster transparency of the MCCM environmental practices while promoting continued improvement.

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5.2.1 Annual Review

MCC will submit an Annual Review (AR) by the 31st of March each year for the previous calendar year. The AR will be prepared in accordance with the NSW Government (2015) *Annual Review Guideline; Post-approval requirements for State Significant Mining Development* (or latest version) to address the reporting requirements outlined in Schedule 5, Condition 4 of PA 10_0138 and in individual MCCM management plans. The AR consolidates government regulated environmental reporting requirements and will be sent to the required government departments and councils.

5.2.2 Daily Website updates for Real time Air Quality and Noise recordings

MCC updates and publishes the daily recordings of real time air quality and noise impacts from mining on the WHC website.

5.2.3 Monthly Summary

MCC prepares a monthly environmental monitoring summary in alignment with the requirements of the EPL 20221. The summary report is published on the WHC website.

5.2.1 Complaints Register

MCC maintains a summary of community complaints (refer to section 4.5.2) received in relation to MCCM activities. As required under the approval, the community complaints register is updated on a monthly basis and is published on the WHC website.

5.2.2 Quarterly Summary

A summary report of environmental monitoring results is prepared for the CCC on a quarterly basis. The quarterly monitoring report and CCC meeting minutes are published on the WHC website.

5.2.3 EPL Annual Return

In accordance with the requirements of EPL 20221 MCC submits an annual report to the EPA (currently required to be submitted by 1 July for the preceding twelve month period beginning on the 2nd May). The summary report includes:

- a statement of compliance against the conditions of EPL 20221; and
- monitoring and complaints summary for the EPL 20221 reporting period.

5.2.4 Independent Environmental Audit

In accordance with the requirements of Schedule 5, Condition 10 of the approval, MCC will commission and pay the full cost of an Independent Environmental Audit (IEA) to review the environmental performance of the MCCM and/or any strategy, plan or program required under PA 10_0138. The first IEA was commissioned by the end of June 2015 and submitted to the DP&E within three months of commissioning, together with the MCC response to the IEA recommendations. An IEA will be undertaken every three years thereafter and submitted to the DP&E within three months of commissioning, together with the MCC response to the IEA recommendations unless otherwise directed by the Secretary.

The IEA Report and MCC's response to audit findings and recommendations will be published on the WHC website.

5.3 Corrective Actions

The MCC Environmental Department will be responsible for evaluating the appropriate response if an environmental incident is identified.

5.3.1 Response Procedure

Should an environmental incident occur, MCC will action an appropriate response by:


1. Initiating the Pollution Incident Response Management Plan (PIRMP) where required and taking measures to “control, contain and clean-up”.
2. Immediately informing the Supervisor of the relevant work area of any incidents. The Supervisor or Operations Manager will inform the Environmental Department of any environmental incidents.
3. If there is “an immediate threat to human health or property” an Emergency Response will be required. The potentially affected landholder, tenant or lessee will be notified about the incident immediately and informed as to any appropriate actions.
4. The supervisor will initiate any additional containment/control of the incident and coordinate required clean-up activities. The supervisor will continue to liaise with the Environmental Department to determine any relevant authorities that may need to be notified.
5. The Environmental Department will record any environmental incidents in an incident register including any actions undertaken.
6. If the Environmental Department determines the incident is notifiable (i.e. caused or threatens to cause material harm to the environment or for any other relevant reason), then, in consultation with the Group Manager Risk and Assurance, they will notify the relevant agencies immediately after becoming aware of the incident.
7. Within 7 days of the incident occurring the MCC Environmental Department, in consultation with the Group Manager Risk and Assurance, will provide reports to the relevant agencies relating to the cause, response and mitigation measures enacted to manage the pollution incident.
8. Following an incident report to the relevant agencies MCC will take preventative actions and review any applicable management plans. MCC will also continue to liaise with the relevant agencies to communicate any actions taken and provide information if requested.

5.4 Emergency response

MCC have developed a PIRMP as part of the requirements of EPL 20221 and the POEO Act. The PIRMP provides emergency procedures for environmental incidents. Should an emergency occur the aim of any emergency procedure is to take immediate action to minimise environmental harm and to mitigate the environmental impact, followed by corrective action to avoid a recurrence.

If a pollution incident occurs, all necessary action should be taken to minimise the size and any adverse effects of the release. In the case of an environmental incident if there is a risk of material harm to the environment or an immediate threat to human health or property, prior to any other action, MCC must notify the affected residence, Fire and Rescue NSW, NSW Police and NSW Ambulance – by calling 000 if required. The other response and regulatory agencies must still be contacted after that to satisfy notification obligations.

MCC will regularly review and, where necessary, revise its emergency preparedness and response procedures. Following an emergency incident, these procedures will be carefully reviewed to ensure the response is practical and appropriate in practice.

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5.5 External Notification Procedure

Under Part 5.7 of the POEO Act and in accordance with the requirements of PA 10_0138 Schedule 5, Condition 8 and EPL 20221 R2, following “...any incident that has caused, or threatens to cause, material harm to the environment...” the MCC Environmental department, in consultation with the Group Environmental Manager, will:

- Notify any relevant regulatory authorities immediately; and
- Provide a detailed report on the incident, and such further reports as may be requested within 7 days of the date on which the incident occurred.

Material harm to the environment is defined in section 147 of the POEO Act to include:

147 Meaning of material harm to the environment

(1) For the purposes of this Part:

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

(b) 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.


(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

5.5.1 Environmental Non-Conformance

An environmental non-conformance is identified if one or more of the following has occurred:

- failure to comply with legislative requirements;
- failure to comply with the PA 10_0138, including Schedule 5 Condition 2 and operational criteria;
- failure to comply with EPL 20221 requirements;
- failure to comply with reasonable directions from regulatory agencies;
- failure to comply with management plans or procedures;
- repeated environmental incidents of similar nature; and
- failure to comply with the MCCM HSE Policy.

Where relevant, an incident report is required to be submitted to the Secretary, DPE and relevant regulatory agencies within 7 days of the incident. As a result of incident reporting, regulators may provide specific direction as to the required remediation measures to be undertaken.

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6.0 REVIEW AND IMPROVEMENT

6.1 Review

In accordance with Schedule 5, Condition 5 of the approval, all management plans, programs and strategies will be reviewed and if necessary revised within 3 months of the Annual Review, notifiable incident report or audit (required under Schedule 5 Condition 8) or modification to PA 10_0138 Conditions.

Additionally, this EMS may be reviewed and revised in accordance with a requirement issued by the Secretary under Schedule 2 Condition 4 of the approval.

Should this review identify any requirement to change the EMS, this document will be updated in accordance with the approval. Any changes required to the EMS following the management review will be submitted to DPE for approval.


6.2 Document control

All EMS documentation will be subject to a review and revision process to ensure guidelines and internal policies managing environmental aspects meet any legislative requirements and remain specific to MCCM.

6.3 Continuous Improvement


MCC will investigate ways to improve environmental performance of MCCM over time. This will be achieved through:

- stakeholder feedback and recommendations;
- reporting on environmental performance annually in the AR and associated measures proposed to be implemented to improve performance; and
- implementation maintenance and management of any EMS documentation and continuous improvement.

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7.0 DEFINITIONS

Abbreviation	Description
MCC	Maules Creek Coal, A joint venture between Aston Coal 2 Pty Ltd (75%), ICRA MC (15%) and J-Power Australia Pty Limited (10%).
AACHMP	Aboriginal Archaeological Cultural Heritage Management Plan
AQGHGMP	Air Quality and Greenhouse Gas Management Plan
AR	Annual Review, previously the Annual Environmental Management Report (AEMR)
ARTC	Australian Rail Track Corporation
Aston	Aston Coal 2 Pty Limited, a wholly owned subsidiary of Whitehaven Coal Limited
AWS	Automatic Weather Station
CCC	Community Consultative Committee
CHPP	Coal Handling and Preparation Plant
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DPE	NSW Department of Planning, Industry and Environment
EA	Environmental Assessment
EMS	Environmental Management Strategy/System
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environment Protection Licence
ha	Hectare
LGA	Local Government Area
MCC	Maules Creek Coal Pty Limited
MCCM	Maules Creek Coal Mine
MOP	Mining Operations Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PA	Project Approval under Part 3A of the EP&A Act
PIRMP	Pollution Incident Response Management Plan
The approval	PA 10_0138 (as modified) granted for Maules Creek Coal Mine activities
WAL	Water Access Licence
WSW	Water Supply Works
Whitehaven, WHC	Whitehaven Coal Limited

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8.0 REFERENCES

Department of Environment, Water, Heritage and Arts (2004) Environmental Management System Tool AS/NZS 14001: 2016 Environmental management systems- Requirements with guidance for use.

Department of Environment, Water, Heritage and Arts (2013) Approval, Maules Creek Coal Mine Project (EPBC 2010/5566).

Hansen Bailey (2011) Maules Creek Coal Project Environmental Assessment.

Hansen Bailey (2013) Maules Creek Coal Mine Project Approval Modification Environmental Assessment.


Hansen Bailey (2014) Maules Creek Coal Mine Project Approval Modification 2 Environmental Assessment.

NSW DPIE (2019) Project Approval 10_0138 (Modifications 1-6).

NSW EPA (2015) Environment Protection Licence 20221 (as varied).

NSW Government (2013), NSW Environmental Management Systems Guidelines- Edition 3.

NSW Government (2015) Annual Review Guideline; Post-approval requirements for State Significant Mining Development.

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9.0 APPENDIX A - WHC HEALTH SAFETY, ENVIRONMENT & COMMUNITIES POLICY

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WHC-POLICY-HEALTH, SAFETY, ENVIRONMENT & COMMUNITIES			

Whitehaven Coal intends to conduct business in a way that maintains a safe and healthy workplace for its workers, visitors and the surrounding community, and protects the environmental, community and cultural heritage values of the area throughout all stages of exploration, development, operation, closure and associated activities.

Whitehaven Coal aims to:

- Achieve zero workplace injuries and illnesses.
- Achieve zero environmental incidents.
- Maintain mutually beneficial relationships with the communities which host our operations.

Whitehaven Coal will strive to achieve these goals by:

- Considering health, safety, environment and community (HSEC) matters when planning and undertaking work activities.
- Consulting and communicating HSEC matters in a fair and effective manner.
- Having processes in place for identifying and eliminating or minimising HSEC risks and impacts and sharing and applying learnings' in a timely manner.
- Working to continuously improve HSEC performance.
- Providing an effective injury management and return to work program for workers.
- Complying with applicable HSEC legal and other requirements.
- Providing workers with necessary HSEC information, instruction, training and supervision to enable effective performance of their work.
- Utilising HSEC resources and processes to implement and maintain the requirements of this Policy and associated management systems.

Responsibilities of Workers:

- Workers have a responsibility to comply with applicable legislation, this policy and associated management systems. No work is to be undertaken without a clear understanding of a safe method that minimises the risk of injury or illness, plant or equipment damage, environmental, community or cultural harm.
- Workers must present for work in a fit and healthy state, take reasonable care for their own health and safety and have an obligation to take reasonable care for the health and safety of others.
- Workers must report any workplace incidents or injuries to their supervisors in a timely manner.
- Workers must also comply with any reasonable instruction given by Whitehaven Coal.

This policy applies to all workers and visitors at sites managed by Whitehaven Coal and its subsidiaries. Disciplinary action may be taken for a breach of this policy or associated management systems.


 Paul Flynn
 Managing Director & CEO

Date: 8/01/2020

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"If it's not safe, don't do it."
 UNCONTROLLED COPY WHEN PRINTED.

REFER TO INTRANET FOR LATEST VERSION