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DELTA COAL
Environmental Management Strategy
Chain Valley Colliery and Mannering Colliery

Author/s	David Richards (EMM Consulting)
	Chris Armit (Delta Coal)
	Lachlan McWha (Delta Coal)
Authorised by:	Chris Armit (Approvals Coordinator)
	Lachlan McWha (Environmental Compliance Coordinator)
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1 Introduction

1.1 Introduction

Chain Valley Colliery (CVC) and Manning Colliery (MC) are underground coal mines on the southern side of Lake Macquarie, approximately 60 kilometres (km) south of Newcastle and 80 km north of Sydney (**Figure 1**). An underground linkage within the Fassifern Seam is approved between CVC and MC, which enables coal extracted at CVC to be transferred to, and handled at, MC.

Great Southern Energy Pty Ltd, trading as Delta Coal (DC) became the owner and operator of CVC and the operator of MC on 1 April 2019. Prior to the purchase by Great Southern Energy Pty Ltd, CVC was owned and operated by LakeCoal Pty Ltd (LakeCoal). LakeCoal also operated MC under an agreement with the owners of the mine; Centennial Manning Pty Limited, a wholly owned subsidiary of Centennial Coal Company Limited.

CVC operates under Development Consent SSD-5465, as modified (most recently on the 26th June 2020, Modification 3), which was originally granted on 23 December 2013 by the then Minister for Planning and Infrastructure under Part 4, Division 4.1 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), which relates to State significant development (SSD). The consent permits the extraction of coal by bord and pillar (First Workings) and Miniwall (Second Workings) mining methods within the Fassifern Seam at a maximum rate of 2.1 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal, with all Second Workings confined to areas under the Lake Macquarie water body.

MC was granted project approval (MP06_0311) under Part 3A of the EP&A Act on 12 March 2008 and, as modified (most recently on the 26th June 2020, Modification 5), permits the extraction of up to 1.1 Mtpa of ROM coal until 31 December 2027. It also permits the handling of up to 2.1 Mtpa of ROM coal, transported via a dedicated overland conveyor to Delta Electricity's Vales Point Power Station (VPPS) for domestic energy generation.

This Environmental Management Strategy (EMS) has been prepared to satisfy Schedule 6, Condition 1 of SSD-5465 and Schedule 5, Condition 1 of MP06_0311 and provides an overview of environmental management at both CVC and MC.

1.2 Project description

1.2.1 Chain Valley Colliery

CVC is located near Manning Park and is accessed via the public Ruttleys Road and Construction Road, a private road which services CVC and VPPS. The current development consent boundary includes an area of approximately 1,425 hectares (ha) which straddles the boundary of Lake Macquarie and Central Coast local government areas (LGAs). CVC's pit top area is located within the Central Coast LGA, adjacent to VPPS, in an existing industrial area on the southern end of Lake Macquarie and west of Chain Valley Bay.

Nearby residential areas include Macquarie Shores home village, Kingfisher Shores and Chain Valley Bay to the south-east, Manning Park to the north-west and Summerland Point and Gwandalan to the north-east. CVC's ventilation fan site is located at Summerland Point, north-east of the pit top area across Chain Valley Bay.

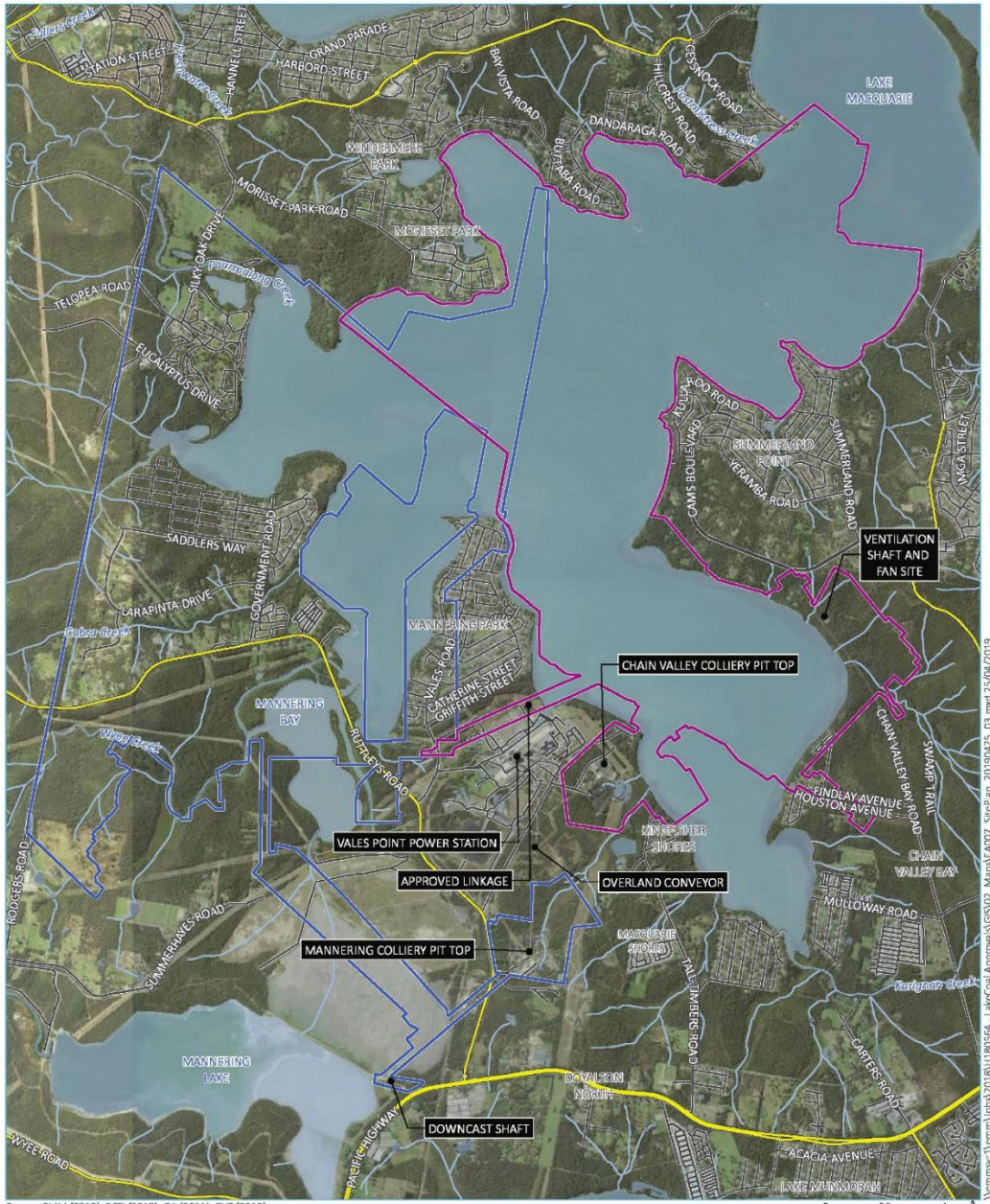
Underground mining at CVC commenced in 1962, and since that time has extracted coal from three seams; namely, the Wallarah Seam, the Great Northern Seam and the Fassifern Seam, using a combination of bord

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and pillar and miniwall mining methods. Current mining activities are generally within the Fassifern Seam. An underground linkage within the Fassifern Seam between CVC and MC enables coal extracted at CVC to be transferred and handled at MC.

Figure 1 - Local Context



Source: EMM (2019), DFSI (2017), GA (2011), CVC (2019)

- KEY**
- Chain Valley Colliery development consent boundary
 - Mannering Colliery project approval boundary
 - Main road
 - Local road
 - Watercourse/drainage line
 - Waterbody

Scale: 0 0.5 1 km
GDA 1994 MGA Zone 56

Site plan

Figure 1



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Environmental management at CVC is undertaken in accordance with:

- SSD-5465 (as modified);
- environmental management plans, including CVC’s Extraction Plans (EPs) and Subsidence Management Plans (SMPs) as detailed in **Table 3** and **Table 4** of this EMS;
- CVC’s Environment Protection Licence (EPL) 1770;
- CVC’s and MC’s combined Mining Operations Plan (MOP); and
- mining and exploration tenements and other agreements and licences.

1.2.2 Manning Colliery

MC’s pit top area is within the Central Coast LGA at the southern end of Lake Macquarie, approximately 3 km south of Manning Park and west of Chain Valley Bay. The surface facilities (or pit top) are accessed from Ruttleys Road.

The closest residential areas to MC’s pit top are the Macquarie Shores home village, Chain Valley Bay to the east, Kingfisher Shores to the north-east and Manning Park beyond VPPS to the north. VPPS lies between MC’s pit top and Manning Park. Elsewhere, the areas to the north, south and west generally comprise industrial facilities and vegetation.

Underground mining commenced at MC in 1960 and extracted coal from the Great Northern and Fassifern Seams using both the bord and pillar and longwall mining methods. Coal extracted from MC is transported via a dedicated overland conveyor to VPPS for domestic energy generation.

Environmental management at MC is undertaken in accordance with:

- MP06_0311 (as modified);
- environmental management plans (**Table 3** and **Table 4**);
- MC’s EPL 191;
- CVC’s and MC’s combined MOP; and
- Mining and Exploration tenements and other licences and agreements.

1.3 Purpose

The purpose of this EMS is to provide a strategic framework for environmental management of DCs operations at CVC and MC. The strategic framework consists of DC’s environmental policy (**Appendix 1**), environmental management plans (**Table 3** and **Table 4**), environmental procedures and environmental registers which aid in the identification, monitoring, management and control of potential environmental issues. DC’s environmental management strategic framework is visually represented in **Figure 2**. The DC environmental management system has been developed in respect of ISO14001:2015, adopting the Plan-Do-Check-Act model, continual improvement of environmental management systems and overall implementing holistic environmental management of DCs operations.

Management of environmental aspects and issues at CVC and MC are documented, regulated, controlled and measured through this EMS and environmental management plans. In addition, this EMS:

- provides an overall framework for environmental management at CVC and MC;

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- identifies key environmental aspects to be addressed and relevant supporting documents;
- facilitates the effective management of environmental issues;
- establishes procedures for reviewing progress and implementing corrective actions;
- provides a framework for continual review and improvement of environmental management; and
- facilitates compliance with regulatory environmental requirements.

1.4 Scope

This EMS applies to:

- all surface and underground operations at CVC and MC;
- all personnel who have specific responsibilities and duties within this EMS (**Section 3.4**); and
- all DC employees and contractors.

As part of the preparation of this EMS, DC has consulted with the local community (via the CVC and MC Community Consultative Committee (CCC)) and a number of regulatory agencies.

A copy of this EMS was provided to the following stakeholders on 30 November 2019:

- NSW Department of Planning, Industry and Environment (DPIE);
- DPIE – Division of Resources and Geoscience (DRG);
- DPIE – Biodiversity and Conservation Division (BCD);
- DPIE – Water;
- NSW Environment Protection Authority (EPA);
- Lake Macquarie City Council;
- Central Coast Council; and
- CVC and MC CCC members.

Evidence and a summary of the consultation and comments received, and amendments subsequently made to the document prior to finalisation are detailed in **Appendix 2**.

2 Planning

2.1 Overview

All activities conducted on a mine site are governed by statutory acts and regulations of NSW and the Commonwealth. DC is committed to complying with all regulatory requirements relevant to the environmental aspects of CVC and MC. A summary of the key legislation and the relevant approvals and licences applicable to operations at CVC and MC are provided in the following sections.

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2.2 Chain Valley Colliery

A copy of the relevant conditions of SSD-5465 and where these have been addressed in this EMS is provided in **Appendix 3**. Relevant statutory approvals and licences are summarised in **Table 1**. Copies of the approvals are available on DC's website (<http://www.deltacoal.com.au/environment/chain-valley-colliery>).

Table 1 - Statutory Approvals and Licences Applicable to CVC

Approval document	Authority
CVC Development Consent SSD-5465	DPIE
EPL 1770	EPA
Mining Lease (ML) 1632	RR
ML 1370	RR
ML 1051	RR
ML 1052	RR
ML 1308	RR
Mining Purposes Lease (MPL) 1349	RR
MPL 1389	RR
MPL 337	RR
MPL 1400	RR
Consolidated Coal Lease (CCL) 707	RR
CCL 706	RR
CCL 721	RR
Exploration Lease (EL) 8428	RR
20BL173107 under <i>NSW Water Act 1912</i>	DPIE – Water
EPs and SMPs	DPIE
MOP	RR

2.3 Mannering Colliery

A copy of the relevant conditions of MP06_0311 and where these have been addressed in this EMS is provided in **Appendix 3**. Relevant statutory approvals and licences are summarised in Table 2. Copies of the approvals are available on DC's website (<http://www.deltacoal.com.au/environment/mannering-colliery>).

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Table 2 - Statutory Approvals and Licences Applicable to MC

Approval document	Authority
MC Project Approval MP06_0311	DPIE
EPL 191	EPA
CCL 721	RR
CCL 719	RR
CCL 722	RR
20BL172016 under <i>NSW Water Act 1912</i>	DPIE – Water
MOP	RR
Radiation Licence	EPA

2.4 Risk Assessment

A DC environmental and community aspects and impacts risk assessment is undertaken where personnel identify risks to the environment and community, prioritise them in order of risk, assess the suitability of controls and determine if any additional controls are required. The typical inputs into the risk assessment will include, but not be limited to the following: baseline environmental studies, review of environmental performance data; review of any existing and/or proposed changes to the operations, review of relevant legislation, standards, codes and additional external requirements, industry experience and input from relevant stakeholders, particular needs, interests and local knowledge.

2.5 Catastrophic Hazards

Catastrophic hazards are the most significant hazards. Generally, they have a very low likelihood but a high potential consequence, and present a particular set of risks that require additional attention, management and continuing vigilance. The DC business risk register maintains the catastrophic hazard's and associated control measures. DC management continually support and maintain catastrophic hazard management culture by; endorsing relevant requirements, maintaining knowledge and awareness of catastrophic hazards, monitoring the status of nominated control measures, reviewing and responding to recommendations and actions emanating from assurance activities and committing the organisation to the ongoing task of better anticipating, understanding and, where reasonably practicable, eliminating or controlling catastrophic hazards.

2.6 Risk and Change Management

Implications of changes operations and management are assessed against external and internal risk contexts and additional controls are identified and implemented where required. A decision, change or event is significant if it could potentially have a material impact on the achievement of objectives. The Environmental Compliance Coordinator is responsible for maintaining the changes concerning the environment and community in the compliance management tracking system.

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3 Implementation

3.1 Environmental Management Plans

Management of environmental aspects and issues at CVC and MC are documented, regulated, controlled and measured through this document and environmental management plans. The environmental management plans, strategies and programs required at CVC and MC are shown on the EMS and supporting document structure flowchart (**Figure 2**) which displays their relationships with key approvals. Copies of these environmental management plans are available on DC's website (www.deltacoal.com.au).

The environmental management plans, strategies and programs required at CVC and MC under SSD-5465 Modification 3 and MP06_0311 are outlined in **Table 3** and **Table 4** respectively.

Table 3 - Required Environmental Management Plans, Strategies and Programs at Chain Valley Colliery

Site	Management Plan	Corresponding Requirement
CVC	Biodiversity Management Plan	SSD-5465 Schedule 3, Condition 20
CVC	Water Management Plan	SSD-5465 Schedule 3, Condition 18
CVC	Air Quality Management Plan	SSD-5465 Schedule 3, Condition 13
CVC	Road Transport Protocol and Code of Conduct	SSD-5465 Schedule 3, Condition 3
CVC	Rehabilitation Management Plan	SSD-5465 Schedule 3, Condition 27
CVC	Heritage Management Plan	SSD-5465 Schedule 3, Condition 21A
CVC	Noise Management Plan	SSD-5465 Schedule 3, Condition 9
CVC	Exploration Activities and Minor Surface Infrastructure Management Plan	SSD-5465 Schedule 3, Condition 28
CVC	Multi-Seam Mining Feasibility Investigation (to be provided prior to the submission of an Extraction Plan relating to the 'Chain Valley Bay Mining Area' as shown in Appendix 3 of SSD-5465)	SSD-5465 Schedule 4, Condition 6
CVC	Extraction Plans	SSD-5465 Schedule 4, Condition 7
CVC	Benthic Communities Management Plans	SSD-5465 Schedule 4, Condition 7(h)
CVC	Seagrass Management Plan	SSD-5465 Schedule 4, Condition 7(i)
CVC	Public Safety Management Plans	SSD-5465 Schedule 4, Condition 7(j)
CVC	Subsidence Monitoring Program	SSD-5465 Schedule 4, Condition 7(k)
CVC	Built Features Management Plan	SSD-5465 Schedule 4, Condition 7(g)

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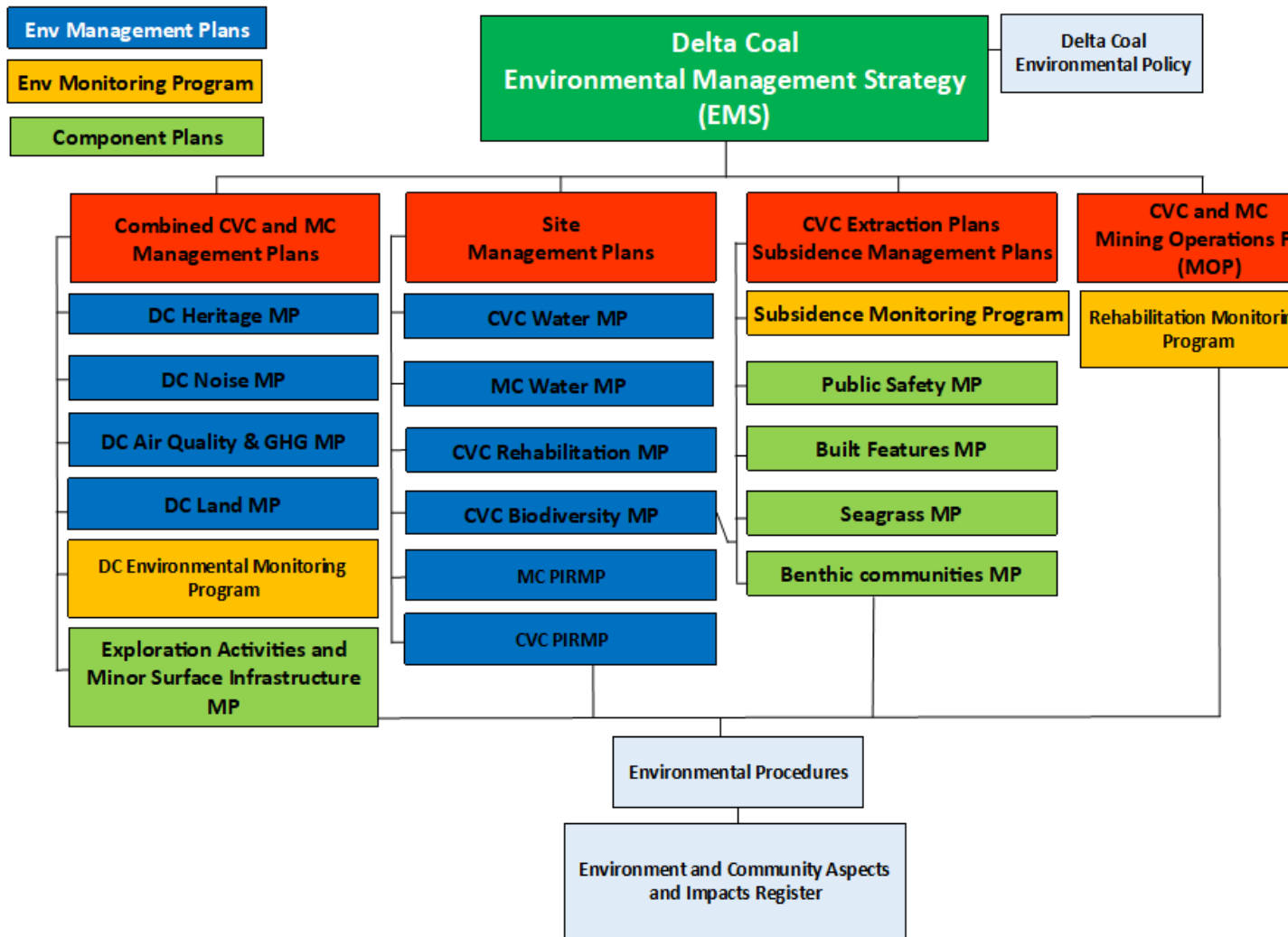
CVC	Mining Operation Plan (MOP)	Resource Regulator Requirement
CVC	Pollution Incident Response Management Plan (PIRMP)	EPL 1770 Requirement

Table 4 - Required Environmental Management Plans, Strategies and Programs at Manning Colliery

Site	Management Plan	Corresponding Requirement
MC	Water Management Plan (including the Site Water Balance, Surface Water Management Plan, Erosion and Sediment Control and Groundwater Monitoring Program)	MP06_0311 Schedule 3, Condition 8
MC	Heritage Management Plan (includes Aboriginal and non-Aboriginal heritage management)	MP06_0311 Schedule 3, Condition 18A
MC	Air Quality Management Plan (Incorporating Greenhouse Gas Management Plan)	MP06_0311 Schedule 3, Condition 17
MC	Land Management Plan	MP06_0311 Schedule 3, Condition 14
MC	Noise Management Plan	MP06_0311 Schedule 3, Condition 3C
MC	Rehabilitation Management Plan	MP06_0311 Schedule 3, Condition 15
MC	Exploration Activities and Minor Surface Infrastructure Management Plan	MP06_0311 Schedule 3, Condition 24
MC	PIRMP	EPL 1770 Requirement
MC	MOP	Resource Regulator Requirement

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Figure 2 - Delta Coal EMS and Supporting Policy and Plan Structure



3.2 Delta Coal Environmental Monitoring Program

Aspects of CVC and MC that could impact the environment are monitored on a regular basis in accordance with the relevant conditions of SSD-5465 and EPL 1770 (CVC) and MP06_0311 and EPL 191 (MC) and environmental management plans. Delta Coal has an Environmental Monitoring Program (EMP) which outlines the monitoring undertaken for CVC and MC. Monitoring locations are outlined in the individual management plans and within the CVC and MC Premise and Monitoring Plans. A copy of EMP has been included as **Appendix 7** of this EMS.

The Environmental Compliance Coordinator or delegate is responsible for ensuring environmental monitoring is undertaken in accordance with requirements. Suitably professionally trained personnel are engaged to conduct environmental monitoring applying relevant standards and using standardised monitoring techniques with calibrated equipment. Calibration of monitoring equipment is undertaken in accordance with the equipment manufacturer's recommendations and records of calibration are maintained by the Environmental Compliance Coordinator or delegate. Analysis of samples is conducted under quality control procedures. Monitoring requirements are outlined in each respective management plan associated with the aspect being examined.

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3.3 Operational Control

Where activities are identified as having an environmental impact, operational controls and procedures are to be implemented. To ensure that these activities are carried out in accordance with the objectives and targets, a range of operational controls, including (but not limited to); Environmental and Health and Safety Management Plans, Environmental Procedures, DC HSEC standards, Contractor Authority to Work Permit, Permit to Clear or Disturb Land, work permits and DC’s Environment and Community Aspects and Impacts register shall be utilised.

3.4 Work Authorisation

A Contractor Authority to Work Form must be completed prior to the commencement of; all tasks undertaken by contractors. The Contractor Authority to work Form, which incorporates a Safe Work Method Statement (SWMS), shall be maintained for the duration of the task at the job site. Upon completion of the task the completed authority to work form will be forwarded to the relevant Task Coordinator. The introduction of the Authority to Work Form approval process has been established in order to; ensure compliance with DC’s statutory obligations, appropriate environmental controls are identified and implemented for new projects/tasks and ensure due consideration is given to potential environmental, community and heritage impacts identified for new projects/tasks. Additional planning instruments may be required prior to the introduction of a new project/task to site, relative to the scale of the project proposed. The two main work permits relevant to environmental management at DC are the Permit to clear or Disturb Land and the Excavation, stake or pile driving Works Permit.

3.5 Permit to Clear or Disturb Land

The purpose of the Permit to clear or disturb land is to ensure site clearing of vegetation and topsoil is planned and carried out in a manner to minimise impacts of flora, fauna, water ways, heritage, private property for example. This work activity should comply with the site approval conditions, management plans and in accordance with this site permit. All works must be undertaken in an environmentally responsible manner so as to ensure conservation of natural resources and the natural environment. Ground disturbance includes drilling, clearing/grubbing, non-habitat tree disturbance, trenching, access roads etc. Until the Environmental Compliance Coordinator (or delegate) is satisfied that the proposed work activity complies with the site approval conditions, the proposed work should not commence.

3.6 Excavation, Stake or Pile Driving Works Permit

The Excavation Works Permit must be completed for any work involving the excavation or filling of trenches, drilling, placement of pegs into the ground, ditches, shafts, wells, tunnels and pier holes. Until the Environmental Compliance Coordinator (or delegate) is satisfied that the proposed work activity complies with the site approval conditions, the proposed exaction work should not commence.

3.7 Contractor Management

All contractors and suppliers (including designers and manufacturers) are to uphold DC HSEC Standards and Guidelines. Systems and procedures shall be established, implemented and maintained to confirm that contractors and suppliers (including designers and manufacturers) have adequate resources, systems and processes to identify and comply with applicable legislation, standards, codes applicable to the products or services they are supplying or their relationship with site. Contractors and suppliers (including designers and manufacturers) shall be managed and/or monitored through systems that include; documentation of roles, accountabilities and lines of communication, setting, monitoring and reporting on targets, monitoring and

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reporting on compliance with contractual obligations, feedback on performance throughout the duration of the contract, consequences for HSEC non-compliance and post completion including formal handover, briefing of safe use of plant and/or equipment installed or modified, evaluation of performance and close out of documentation etc.

3.8 Environmental Inspections

Inspections are undertaken informally at CVC and MC as part of general day-to-day activities. Monthly environmental inspections are undertaken in accordance with DC's Environmental Inspection Form. Monthly inspections are scheduled through DC's Site Maintenance System.

3.9 Environmental Procedures

Environmental Procedures have been and are developed to detail physical and administrative environmental tasks. A risk assessment process underpins each procedure to ensure procedures are commensurate with the risks involved. Environmental procedures include but are not limited to:

- Environmental Management System Administrative Procedures;
- Environmental Compliance Management Protocol;
- Environmental Incident Reporting Procedures (major and minor events);
- Spill Response Procedures;
- Transport of Equipment Off-site Procedures;
- Community Enquiry Complaint Reporting Procedures;
- Waste Disposal Procedures; and
- Hydrocarbon Disposal Procedures.

3.10 Roles and Responsibilities

All employees and contractors have a role in the implementation of this EMS. Roles and responsibilities are defined, documented and communicated in order to facilitate effective environmental management. Whilst the obligation lies with the entire workforce, management at DC have particular environmental roles which facilitate environmental management at CVC and MC and compliance with legislative requirements.

Roles and responsibilities for the implementation of this EMS are summarised in **Table 5**.

Table 5 - Roles and Responsibilities for the Implementation of this EMS

Role	Responsibilities
Mine Manager	<ul style="list-style-type: none"> • Accountable for overall environmental performance at CVC and MC • Responsible for reinforcing leadership and commitment by being actively involved in the review of DC's environment policies, objectives and targets and promoting continual improvement in environmental performance • Ensure that adequate financial and personnel resources are available for the implementation of this EMS
Technical Services Manager	<ul style="list-style-type: none"> • Responsible for ensuring mine planning and mining activities are consistent with approved activities

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Role	Responsibilities
Environmental Compliance Coordinator	<ul style="list-style-type: none"> Responsible for overseeing the development, implementation and review of this EMS to ensure effective and ongoing environmental management is employed at CVC and MC Responsible for reporting environmental performance to management for review, which forms the basis for improvement of this EMS and continual improvement in environmental management Primary contact person with regulatory and community stakeholders in relation to environmental performance at CVC and MC Promoting best practice environmental management Maintaining and aiding in the implementation of environmental policy, environmental management plans, procedures, other EMS documents and statutory requirements Coordinating monitoring in accordance with this EMS Reporting on licence/regulatory breaches and assisting in the rectification of such breaches Assisting employees, contractors and managers in fulfilling their environmental responsibilities Increasing environmental awareness amongst site personnel via training and education Maintaining environmental records including environmental monitoring data, complaints and environmental incident reports Ensuring complaints are recorded and actioned in a timely manner Keeping DC's website up-to-date with data/information (including monthly complaints summary and environmental monitoring results) Monitoring changes to regulatory requirements and ensuring relevant site personnel are made aware of these changes Coordinating 12-monthly desktop simulation or practical exercises for pollution incident response Coordinating internal and external environmental audits
Health and Safety Manager	<ul style="list-style-type: none"> Undertaking, assisting or coordinating training programs and developing competency-based training packages Raising environmental issues as required within toolbox talks Undertaking, assisting or coordinating incident investigations in relation to environmental incidents
All employees and contractors	<ul style="list-style-type: none"> Conduct work activities in accordance with this EMS Report all environmental incidents to the Environmental Compliance Coordinator or their immediate supervisor Participate in environmental training as required

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4 Communication

4.1 Overview

All DC employees can access this EMS, DC’s Environmental Policy (**Appendix 1**) and associated documents via DC’s internal document control system.

Communication requirements at CVC and MC are described in DC’s Information and Communication Standard.

Internal and external communication channels are detailed in **Section 4.2** and **Section 4.3** respectively.

4.2 Internal Communication

DC encourages a constructive and consultative approach to environmental management and active participation by all employees in the environmental management of its operations. Primary internal communication channels include:

- toolbox talks;
- safety committee meetings;
- notice boards;
- emails; and
- verbal communication.

All DC employees can access this EMS, DC’s Environmental Policy (**Appendix 1**) and associated documents via DC’s website and server. In addition, all employees and contractors receive notification of significant environmental matters via team meetings and electronic/hard copy bulletins.

Employees and contractors are encouraged to report environmental concerns regarding the operation of plant or equipment and potential or actual environmental incidents and ask questions if they’re unsure about their environmental roles and responsibilities or the implementation of this EMS. DC’s Environmental Compliance Coordinator and Mine Manager are responsible for implementing procedures to ensure that any employee concerns are addressed and that the follow-up actions are communicated to the relevant staff member.

Where appropriate, suggestions for improvements and subsequent actions should be documented in weekly/monthly meeting minutes.

4.3 External Communication

DC is committed to communicating and engaging with the community, regulators and other stakeholders regarding its activities. Consistent with this commitment, community consultation for CVC and MC is ongoing.

External communication is undertaken through the following:

- DC’s website (www.deltacoal.com.au) – this is the primary avenue for information dissemination to the community and other stakeholders. It provides a significant amount of information regarding CVC and MC (e.g. approvals, environmental management plans, monitoring results, complaints, project details, CCC minutes and contact details). DC’s Environmental Compliance Coordinator is responsible for website updates.

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- CCC meetings – the CCC operates in accordance with the *Community Consultative Committee Guideline* (DPE 2019). DC engages with the local community through the Chain Valley/Manning Community Consultative Committee (CCC), which was previously two separate CCCs, however now operates as a combined CCC for both developments (MC and CVC). The CCC is made up of an independent chairperson, along with representatives from surrounding communities, Central Coast Council and Lake Macquarie City Council. DC holds quarterly meetings with the CCC, the primary purposes of the Chain Valley/Manning CCC is to:
 - keep the community informed of the status of projects, new initiatives and the performance of the development both environmentally and commercially;
 - consult with the community on projects, management plans and proposed changes to approved projects; and
 - allow the community to provide feedback on key issues that may arise during the development or implementation of its projects.
- Meeting minutes are available on DC’s website.
- Registered Aboriginal Parties (RAPs) – DC facilitates ongoing consultation and involvement of RAPs in the conversation and management of Aboriginal cultural heritage on DC sites (CVC and MC), this is achieved by:
 - providing relevant information about the cultural significance and values of the Aboriginal objects(s) and/or place(s);
 - providing ongoing communication of information on mining operations, cultural heritage management and the Aboriginal community;
 - requesting advice on how to address community relationships; and
 - requesting comments on future draft assessment reports and management plans before they are submitted to regulatory authorities (in the context of Aboriginal cultural heritage management).
- Community newsletters – DC distributes a newsletter via post to the surrounding area and intends to circulate these to the community at least once a year. Newsletters are made available on DC’s website.
- Community information line (1800 687 260) – the information line allows enquiries to be directed to a representative from DC and also serves as a complaints line. General enquires are responded to directly and complaints are recorded and followed up. A complaints summary is compiled and uploaded to DC’s website to inform community members of complaints received and responses.
- Delta Coal Information Fact sheet is published on the DC website and provides general information on the operation’s history, employment, community involvement and contact details
- Annual reviews – completed each year, annual reviews summarise and document the environmental management, compliance, monitoring results and performance of CVC and MC throughout the previous year. Annual reviews are made available on DC’s website for all stakeholders to review.

In addition, representatives from DC will continue to attend public meetings, engage in direct consultation with the local community and neighbouring landholders and coordinate letter box drops as required.

A number of reports detailing the environmental performance of CVC and MC are distributed to regulatory stakeholders (**Table 6**).

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Table 6 - Environmental Reporting Requirements

Report	Frequency	Available
Monthly environmental reports	Monthly	Available on DC's website.
Annual reviews (AEMRs)	Once annually	Submitted to DPIE Divisions and stakeholders Available on DC's website.
Annual returns for CVC's and MC's Environmental Protection Licenses	Once annually	Submitted to EPA.
Independent Environmental Audits (IEAs) and Audit Action Plan	Once every three years	Submitted to DPIE. Available on DC's website.

DC's monthly environmental reports include consideration of environmental performance indicators at CVC and MC, including:

- positive performance indicators (e.g. incident investigations and management audits); and
- lag indicators (e.g. licence exceedances, community complaints, infringement notices, fines and other penalties).

4.4 Community Complaints

As noted above, DC has a community information and complaints line (1800 687 260) and shares a pre-recorded information line with Delta Electricity (1800 115 277) for information on recent incidents. This service aims to promptly and effectively address community concerns and environmental matters. General enquires are responded to directly and complaints are recorded and followed up. The number is listed on DC's website and is also provided on print material (e.g. newsletters). Community members are encouraged to contact the information line if they have any questions relating to environmental management at CVC or MC.

All complaints received at CVC and MC are recorded in the relevant operation's complaint register and action is taken in regard to the complaint. The procedure adopted by Delta Coal for responding to complaints is:

- Acknowledgement of the complaint to the complainant as soon as practicable;
- Investigation of the complaint by the Environmental Compliance Coordinator;
- the findings of the complaint investigation will be provided to the complainant within seven (7) days of the complaint; and
- if the investigation into the complaint is on-going, an update is provided to the complainant within seven (7) days of receiving the complaint, furthermore an update will be provided every seven (7) days thereafter until the complaint is considered to be resolved; and
- If the complainant does not consider the complaint to be resolved following the complaint investigation and potential actions taken by DC, the dispute resolution process detailed in Section 4.5 will commence.

If no action is taken then the reason why is recorded and provided to the complainant. Information recorded in the complaint register includes:

- date and time of the complaint;
- the method by which the complaint was lodged;

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- any personal details provided by the complainant, or if not provided, a note to that effect;
- nature of the complaint;
- action taken or if no action was taken, the reason why; and
- follow up contact with the complainant.

A record of each complaint is kept for at least 4 years after the complaint was received and can be produced to relevant regulators, where required. DC’s Environmental Compliance Coordinator compiles a monthly summary of all complaints and incidents, as well as any actions taken. This report is uploaded to DC’s website and an overview is provided at each CCC meeting. Complaints are summarised in the Annual Reviews undertaken for CVC and MC.

4.5 Dispute Resolution

Any disputes that are not adequately addressed by the complaints handling process are handled by DC’s Environmental Compliance Coordinator. If the response is still not considered by the complainant to satisfactorily address their concern or the matters raised, a meeting is convened with the Mine Manager and Environmental Compliance Coordinator together with the complainant.

The complainant is advised in writing of the outcomes of the meeting and the actions (where applicable) to be implemented as a result. After implementation of the proposed actions, the complainant is contacted and feedback sought as to their satisfaction or otherwise with the measures taken

If an agreed outcome cannot be determined or the complainant is still not satisfied by the actions undertaken by DC, then an independent review can be requested by the complainant to determine whether further actions should be implemented by DC to resolve the matter.

Condition 2 of Schedule 5 of SSD-5465 (CVC) lists the requirements for an independent review as follows:

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 3, then he/she may ask the **Planning Secretary** in writing for an independent review of the impacts of the development on his/her land.

If the **Planning Secretary** is satisfied that an independent review is warranted, then within 2 months of the **Planning Secretary**’s decision the Applicant **must**:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the **Planning Secretary**, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and
 - if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the **Planning Secretary** and landowner a copy of the independent review.

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Conditions 1, 2, 3, 4 and 5 of Schedule 4 of MP06_0311 (MC) outlines the requirements for an Independent Review being:

INDEPENDENT REVIEW

1. If a landowner considers the **development** to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the **Planning Secretary** in writing for an independent review of the impacts of the **development** on his/her land.

If the **Planning Secretary** is satisfied that an independent review is warranted, the **Applicant must** within 2 months of the **Planning Secretary's** decision:

- (a) consult with the landowner to determine his/her concerns;
- (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the **Planning Secretary**, to conduct monitoring on the land, to:
 - determine whether the **development** is complying with the relevant impact assessment criteria in schedule 3; and
 - identify the source(s) and scale of any impact on the land, and the **development's** contribution to this impact; and
 - give the **Planning Secretary** and landowner a copy of the independent review.

2. If the independent review determines that the **development** is complying with the relevant impact assessment criteria in schedule 3, then the **Applicant** may discontinue the independent review with the approval of the **Planning Secretary**.

3. If the independent review determines that the **development** is not complying with the relevant impact assessment criteria in schedule 3, and that the **development** is primarily responsible for this non-compliance, then the **Applicant must**:

- (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the **development** complies with the relevant criteria; and
- (b) conduct further monitoring to determine whether these measures ensure compliance.

If the additional monitoring referred to above subsequently determines that the **development** is complying with the relevant criteria in schedule 3, or the **Applicant** and landowner enter into a negotiated agreement to allow these exceedances, then the **Applicant** may discontinue the independent review with the approval of the **Planning Secretary**.

4. If the independent review determines that the relevant criteria in schedule 3 are being exceeded, but that more than one **development** is responsible for this non-compliance, then the **Applicant must**, together with the relevant **development/s**:

- (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant criteria are complied with; and
- (b) conduct further monitoring to determine whether these measures ensure compliance; or
- (c) secure a written agreement with the landowner and other relevant **developments** to allow exceedances of the criteria in schedule 3,

to the satisfaction of the **Planning Secretary**.

If the additional monitoring referred to above subsequently determines that the **developments** are complying with the relevant criteria in schedule 3, then the **Applicant** may discontinue the independent review with the approval of the **Planning Secretary**.

5. If the landowner disputes the results of the independent review, either the **Applicant** or the landowner may refer the matter to the **Planning Secretary** for resolution.

If the matter cannot be resolved within 21 days, the **Planning Secretary** shall refer the matter to an Independent Dispute Resolution Process.

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5 Training, Awareness and Competence

5.1 Overview

Training is an essential component of the implementation of this EMS. All personnel at DC are required to undergo environmental awareness training as a minimum, which forms part of the site induction. This training is aimed at providing a minimum standard of environmental education and includes information on:

- environmental emergency response procedures;
- environmental legislation and responsibilities;
- environmental issues and site management requirements; and
- incident reporting procedures.

As part of the site induction process, all personnel complete a competency assessment, with training records maintained in accordance with DC's Training and Competency Standard.

Further training is provided to relevant personnel in line with this EMS and relevant environmental management plans. Competency is assessed in accordance with DC's Training and Competency Standard.

All visitors at CVC and MC are required to undertake a visitor's induction presentation at the point of entry, which outlines the overarching health and safety requirements and obligations for a visitor to both CVC and MC. The nominated DC employee is responsible for the actions and conduct of their visitors and will clarify and reinforce any environmental requirements as required.

5.2 Emergency preparedness

DC's Emergency Management Standard is applicable to environmental emergencies as it provides a process of response for minor and major emergencies, including pollution incidents. The standard also incorporates the use of a duty card system if required to respond to the emergency. Specifically, Duty Card 15 has been developed for pollution incidents to ensure a rapid and coordinated response in an emergency scenario. Both CVC and MC also have Pollution Incident Response Management Plans (PIRMPs) in place (refer Section 5.3).

Preparedness for emergencies is undertaken by all personnel in accordance with DC's on-site training requirements. This includes training in the use of emergency response equipment and procedures. All personnel are made aware of their responsibilities should an emergency event occur.

Emergency preparedness is reviewed annually and includes desktop simulations and/or practical exercises based on emergencies that could be encountered at CVC and MC.

5.3 Environmental Emergency response procedure

All possible actions should be taken to control the environmental / pollution incident in order to minimise health, safety and environmental consequences. These actions, to the maximum extent possible, aim to:

- Provide for the safety of people at and within the vicinity of the site, and
- Contain the incident if practicable.

The actions to be implemented at the Chain Valley Colliery on the occasion of an incident include the following:

1. Secure the scene and contain the incident

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2. Immediately notify the relevant managers and implement external notifications as appropriate and defined in this plan
3. Gather information (i.e. environmental monitoring, context)
4. Determine the investigation level
5. Commence appropriate investigation
6. Review and classify information and determine actions
7. Complete actions
8. Trend analysis reports.

Duty Card 15 documents the role of the Pollution Incident Attendant and their main responsibilities in the event of pollution incident. Duty Card 15 is contained within a folder of the CVC Control Room and contains other reference material including; Chain Valley Site Plan, pollution incident stakeholder contact procedure, emergency external contacts list. The Emergency Control Plans provides detail on designated evacuation points and procedures in the event of an emergency.

Table 7 - Delta Coal Hazards and Emergency Response Documentation

Hazard	Delta Coal Emergency Management
Spills (e.g. hydrocarbon, hazardous chemicals, etc.) resulting in land and or water contamination.	Duty Card 15 – Pollution Incident Attendant
Major Effluent Leak	Duty Card 15 – Pollution Incident Attendant
Major water discharge (e.g. dam failure or inrush).	Withdrawal Conditions (Underground) Emergency Control Plan Duty Card 15 – Pollution Incident Attendant
Fire (for example spontaneous combustion fires associated with coal stockpiles).	Withdrawal Conditions (Underground) Emergency Control Plan Fire or Explosion Management Plan Duty Card 15 – Pollution Incident Attendant

Delta Coal has limited authority to undertake pollution management activities on private property, or outside the site boundary and in such cases will liaise directly and provide appropriate assistance to the relevant authority and emergency services.

5.3.1 Minimising harm to persons on premise

Emergency arrangements in relation to activation of evacuation procedures and notifying site personnel will be undertaken in accordance with the Delta Coal Emergency Control Plan.

5.3.2 Safety and incident response equipment

Controls of incident containment and control equipment and personal protective equipment (PPE) and are stored on site and are detailed in the risk assessment documents, this includes but is not necessarily limited to:

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- Emergency spill kits;
- Portable pumping infrastructure;
- Earth moving plant;
- Floating booms and silt curtains; and
- Erosion and sediment control materials.

This equipment includes PPE for handling hazardous substances. Hazardous substances should be handled in accordance with the safety data sheet (SDS).

5.4 Incident reporting and non-compliances

Roles and responsibilities for incident reporting are detailed in DC’s Environmental Incident Reporting Procedure.

Environmental incidents and hazards at CVC and MC are reported in DC’s incident reporting and management system. Reported incidents are investigated and corrective and/or preventative actions are identified in accordance with DC’s Health and Safety Standard – Incident Reporting.

In addition to internal reporting requirements, if an incident causes or threatens to cause material harm to the environment (e.g. a pollution incident), then consistent with Schedule 6, Condition 6 of SSD-5465 and Schedule 5, Condition 6 of MP06_0311, DC must immediately notify the Department and any other relevant agencies (such as the NSW EPA and Resources Regulator) after it becomes aware of such an incident. The incident notification must identify the location and nature of the incident, the development application (name and number) and be in writing to compliance@planning.nsw.gov.au.

In accordance with Schedule 6, Condition 7 of SSD-5465 and Schedule 5, Condition 7, DC must notify the Department and other relevant agencies within seven days of becoming aware of a non-compliance to the conditions of the consent. The non-compliance notification must identify the development, set out the conditions of the consent that have not been complied with, why the non-compliance occurred and the reasons for the non-compliance (if known) as well as what actions have been, or will be, undertaken to address the non-compliance. The notification must be in writing to compliance@planning.nsw.gov.au.

CVC and MC have PIRMPs in place, which provide details on how to identify, manage, record and investigate environmental incidents and emergencies. Both PIRMPs identify clear roles and responsibilities for actions required in the event of an incident or emergency.

DC categorises environmental issues at CVC and MC as either serious (Category EI1), significant (Category EI2) or minor (Category EI3). Definitions, immediate actions and follow-up actions for each category are summarised in **Appendix 5**.

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6 Audit and Review

6.1 Overview

This EMS and associated documents (e.g. environmental management plans, standards, policies, procedures, forms, risk assessments and registers) will be reviewed every three years.

The procedures for internal and external audits of this EMS are described below. Where possible, internal and external audits will be objective and conducted by a person or organisation independent of the document being audited. Where relevant, DC's document review checklist will be used (**Appendix 6**).

All audits will be carried out by personnel who have necessary qualifications and experience to make an objective assessment of the issues. Non-conformities will be investigated and corrective and preventative actions will be implemented and their effectiveness reviewed to avoid recurrences.

6.2 Internal audits

Internal audits of this EMS and supporting documents will be undertaken every three years. In addition, regular reviews will be undertaken to track progress towards EMS objectives and targets and corrective actions required to address non-conformances, exceedances and/or community complaints.

6.3 External audits

External audits will be performed by external specialists and will consider this EMS and supporting documents (e.g. environmental management plans). External auditors will be selected based on their skills and experience.

External audits may be required in response to significant environmental incidents for which a system failure has been determined as a contributor to the incident.

An Independent Environmental Audit (IEA) will be undertaken for CVC and MC every three years by an audit team whose appointment has been endorsed by the Planning Secretary.

Any actions arising from external audits and/or IEAs will be loaded into DC's actions database to ensure actions are assigned to relevant people and completed in a timely manner.

6.4 Document control

The Environmental Compliance Coordinator is responsible for the maintenance of this EMS and supporting records including:

- monitoring data and equipment calibration;
- environmental inspections and auditing results;
- environmental incident reports;
- community complaints register; and
- licences and permits.

All records are maintained in a legible, readily retrievable format and are stored in a secure location to prevent damage, deterioration and loss. Records are maintained for a minimum of four years or as otherwise required under relevant legislation, licences, leases, permits or approvals.

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6.5 Revisions

This document and all others associated with this EMS are maintained in DC's document control system.

Within three months of the submission of an annual review, incident report, audit report or modification to the conditions of SSD-5465 or MP06_311, DC will review and, if necessary, revise this EMS and supporting documents to the satisfaction of the Planning Secretary. Where this review leads to revisions in any such document, then, within four weeks of the review, the revised document will be submitted for the approval of the Planning Secretary.

In addition to the above, new activities or changes to operations at CVC and MC that may result in environmental issues will be assessed to determine if changes are required to manage the impacts and if any revision to a particular component of this EMS is required.

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7 References

DPE (NSW Department of Planning and Environment) 2019, *Community Consultative Committee Guideline*

International Organization of Standardisation *ISO14001:2015 Environmental Management System*

Delta Coal Website www.deltacoal.com.au

Delta Coal *Monthly Environmental Inspection Form*

Delta Coal (2019) *Emergency Management Standard*

Delta Coal *Incident reporting procedure and Form*

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Abbreviations

CCC	Community Consultative Committee
CVC	Chain Valley Colliery
DC	Delta Coal
DPIE	NSW Department of Planning, Industry and Environment
EI	environmental issue
EMP	Environmental Monitoring Program
EMS	Environmental Management Strategy
EP	extraction plan
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
IEA	independent environmental audit
LGA	local government area
MC	Manning Colliery
Mining Act	NSW <i>Mining Act 1992</i>
MOP	mining operations plan
PIRMP	pollution incident response management plan
POEO Act	NSW <i>Protection of the Environment Operations Act 1997</i>
ROM	run-of-mine
Planning Secretary	Planning Secretary of DPIE (or nominee)
SMP	subsidence management plan
SSD	State significant development
VPPS	Vales Point Power Station
WMS	work management system

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Appendix 1 – Environmental policy



Environmental Policy

Delta Coal

Great Southern Energy Pty Ltd, trading as Delta Coal, is a privately owned company which operates Chain Valley Colliery and Manning Colliery which are both located on the NSW Central Coast.

Policy Statement

Through the commitment and skills of our people we will minimise environmental impacts and take the necessary steps that achieves compliance with applicable regulatory requirements and supports the long term preservation of the natural environment in which we work.

Scope

This policy applies to Chain Valley Colliery and Manning Colliery operations and the local environment in which it operates.

Commitments

- Implementing and maintaining an Environmental Management System that aims to continuously improve environmental performance
- Minimising impacts to the environment and endorsing the principles of ecologically sustainable development
- Setting environmental objectives and targets with regular monitoring, review and reporting of environmental performance and achieving compliance with environmental legislation
- Ensuring all employees and contractors receive appropriate environmental training to exercise their responsibilities for environmental performance and operate in conformance with the principles of this policy
- Taking account of the interests of the communities in which it operates
- Developing and implementing greenhouse gas and pollution reduction strategies
- Continuing scientific investigations to enhance knowledge of the environment
- Efficiently using resources and eliminating, minimising, reusing, recycling or safely disposing of wastes

Responsibility

The Delta Coal Board, Management team, all employees and contractors are responsible for ensuring that the objectives of this Policy and Delta Coal's obligations are met.



Dave McLean
Mine Manager

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Appendix 2 – Stakeholder Consultation



Planning,
Industry &
Environment

Mr Chris Armit
Approvals Coordinator
Great Southern Energy Limited (t/as Delta Coal)
By Email: Carmit@DeltaCoal.com.au

**Planning and Assessment
Energy, Industry and Compliance**
Contact: Melissa Anderson
Phone: 8275 1392
Email: melissa.anderson@planning.nsw.gov.au

24/03/2021

Dear Mr Armit

**Chain Valley Colliery (SSD-5465) and Manning Colliery (MP 06_0311)
Approval of Combined Delta Coal Environmental Management Strategy**

I refer to the recent submission of the combined Delta Coal Environmental Management Strategy (EMS), dated 16 March 2021, which has been prepared in accordance with condition 1 of Schedule 6 of the development consent for Chain Valley Colliery (SSD-5465) and condition 1 of Schedule 5 of the development consent for Manning Colliery (MP 06_0311).

The Department has carefully reviewed the EMS and is satisfied that it generally meets the relevant conditions of both development consents.

Accordingly, the Planning Secretary has approved the EMS, dated 16 March 2021. Please ensure that the approved EMS is placed on the project website and forward a final PDF version of the EMS to the Department as soon as possible.

If you wish to discuss the matter further, please contact Melissa Anderson on the details above.

Yours sincerely



Lauren Evans
A/Director
Resource Assessments (Coal & Quarries)

As nominee of the Planning Secretary

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Appendix 3 – Compliance Table – SSD-5465

Relevant sections of SSD-5465 that detail the requirements of this EMS are reproduced in **Table A3** below along with identification of where the requirements have been addressed in this document.

Table A3 Requirements from Condition 1 of Schedule 6 of SSD-5465

Requirement	Document reference
1. The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:	This document
(a) Provide the strategic framework for environmental management of the development	This document
(b) Identify the statutory approvals that apply to the development	Section 2.2
(c) Set out the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development	Section 3.10
(d) Set out the procedures to be implemented to: <ul style="list-style-type: none"> Keep the local community and relevant agencies informed about the operation and environmental performance of the project; Receive, record, handle, respond to complaints Resolve any disputes that may arise during the course of the development Respond to any non-compliance and any incident; Respond to emergencies; and 	Section 4.3 Section 4.4 Section 4.5 Section 5.3 Section 5.2
(e) Include <ul style="list-style-type: none"> References to any strategies, plans and programs approved under the conditions of this consent; and A clear plan depicting all the monitoring to be carried out under the conditions of this consent. <p>The applicant must implement the Environmental Management Strategy as approved by the Planning Secretary.</p>	Table 3, Section 3.1 Appendix 7

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Appendix 4 – Compliance Table – MP06_0311

Relevant sections of MP06_0311 that detail the requirements of this EMS are reproduced in **Table A4** below along with identification of where the requirements have been addressed in this document.

Table A4 Requirements from Condition 1 of Schedule 5 of MP06_0311

Requirement	Document reference
1. The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary.	This document
(a) Provide the strategic framework for environmental management of the development;	This document
(b) Identify the statutory approvals that apply to the development;	Section 2.3
(c) Set out the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Section 3.10
(d) Set out the procedures to be implemented to: <ul style="list-style-type: none"> Keep the local community and relevant agencies informed about the operation and environmental performance of the development; Receive, record handle and respond to complaints; Resolve any disputes that may arise during the course of the development; Respond to any non-compliance and any incident; and Respond to emergencies; and 	Section 4.3 Section 4.4 Section 4.5 Section 5.3 Section 5.2
(e) Include: <ul style="list-style-type: none"> Reference to any strategies, plans and programs approved under the conditions of this consent; and a clear plan depicting all the monitoring to be carried out under the conditions of this consent. 	Table 3, Section 3.1 Appendix 7

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Appendix 5 – Environmental incident categories matrix

Table A5 Environmental Incident Categories Matrix

Category and definition	Immediate action(s)	Follow-up action(s)
<p>E11</p> <p>Serious environmental issues</p> <p>Issues classified E11 include:</p> <ul style="list-style-type: none"> a breach of an EPL condition, reporting or other compliance condition where clear documentary or other physical evidence of the breach exists and material harm to the environment is caused or threatened; a breach of other environmental regulations where physical evidence exists (e.g. a breach of the POEO Act leading to a Tier 1 or Tier 2 offence prosecution); an incident requiring mandatory reporting to EPA, such as spills or emissions causing or threatening material harm to the health or safety of human beings or to ecosystems; or a pollution incident related to DC's operations where actual or potential loss or property damage exceeds \$10,000 (including costs to prevent, mitigate or 'make good' the associated harm to the environment). 	<p><u>i) Emergency response</u></p> <p>Where necessary, emergency response procedures should be invoked to contain, mitigate or 'make good' any associated harm to the environment.</p> <p><u>ii) Notification</u></p> <p>In the event of any pollution incident, the Shift Manager, immediately after becoming aware of the incident, will notify the Environmental Compliance Coordinator or Mine Manager. When an environmental incident is deemed by the Environmental Compliance Coordinator to be an E11 incident:</p> <ul style="list-style-type: none"> it must be reported immediately to the relevant regulatory authorities in accordance with the PIRMP; and the Duty Shift Manager or their delegate must immediately implement the PIRMP and notify any other relevant staff as required. 	<p><u>i) Investigation</u></p> <p>All E11 incidents are investigated by DC's Environmental Compliance Coordinator using DC's Environmental Incident Investigation Procedure.</p> <p><u>ii) Internal reporting:</u></p> <p>A summary report on the incident, subsequent investigations and remedial actions is provided to the Mine Manager as soon as practicable. The Environmental Compliance Coordinator is also responsible for entering the details of the incident into DC's internal Work Management System (WMS).</p> <p>A summary of the incident is included in monthly reports for DC's Executive Strategy Committee and in the quarterly Board Environment Report.</p> <p><u>iii) External reporting:</u></p> <p>In addition to immediate notification, all serious environmental issues are reported to EPA as required by the EPL and relevant consent conditions.</p>
<p>E12</p> <p>Significant environmental issues</p> <p>Issues classified E12 include:</p> <ul style="list-style-type: none"> a breach of an EPL condition, reporting or other non-compliance condition requiring reporting to the EPA; a potential breach of an EPL condition or other environmental regulation where there is available physical evidence of a breach and/or pollution control system failure (e.g. significant and/or prolonged events that have caused observable and/or measurable environmental effects or discharges due to a system failure that flows to and is contained within a final holding pond, retention basin or other facility designed as a last line of defence against spills or discharges to the external environment); a minor technical breach of an EPL condition where no environmental harm has occurred but results in a penalty notice or formal warning being issued by EPA; or a failure or overload of an activity's upstream pollution control equipment. 	<p><u>i) Emergency response</u></p> <p>Where necessary, emergency response procedures should be invoked to contain, mitigate or 'make good' any associated harm to the environment.</p> <p><u>ii) Notification</u></p> <p>When a breach of regulation is suspected or in the event of any pollution incident, the Shift Manager, immediately after becoming aware of the incident or breach, will notify the Environmental Compliance Coordinator or Mine Manager. If satisfied that the incident or breach is classified E12 (i.e. not threatening or causing material environmental harm), the Environmental Compliance Coordinator will notify any other relevant personnel as soon as practicable.</p> <p><u>iii) Adjudication</u></p> <p>Where there is doubt whether an incident is E11 or E12, the matter is referred to the Mine Manager for determination. If considered sufficiently serious, the Mine Manager may establish a formal investigation committee.</p>	<p><u>i) Investigation</u></p> <p>The Environmental Compliance Coordinator and a representative from the relevant production group will investigate the cause of the incident and instigate action(s) to prevent recurrence. The investigation will use the Environmental Incident Investigation Procedure.</p> <p><u>ii) Internal reporting:</u></p> <p>A summary report on the incident, subsequent investigations and remedial actions will be prepared by the Environmental Compliance Coordinator and communicated to the Mine Manager.</p> <p>The Environmental Compliance Coordinator is also responsible for entering the details of the incident into DC's internal WMS.</p> <p>Where there has been a technical breach of an EPL condition, a review of the breached condition will be undertaken with recommendations for corrective action or amendment to the EPL.</p> <p>A summary of the incident is included in monthly reports for DC's Executive Strategy Committee and in the quarterly Board Environment Report.</p> <p><u>iii) External reporting:</u></p> <p>Details of all significant environmental issues are reported in accordance with relevant EPL conditions and/or as directed by EPA.</p>
<p>E13</p> <p>Minor environmental issues</p> <p>Issues classified E13 include:</p> <ul style="list-style-type: none"> a minor technical breach of an EPL or discharges to the environment that are not included in any of the above categories and where it is confirmed no environmental harm has occurred or was threatened; or on-site incidents contained locally at the site of the incident in accordance with site procedures and controls. 	<p><u>i) Emergency response</u></p> <p>Where necessary, emergency response procedures should be invoked to contain, mitigate or 'make good' any associated harm to the environment.</p> <p><u>ii) Notification</u></p> <p>All minor environmental issues contained on-site should be reported to the Environmental Compliance Coordinator as soon as practicable. In the event of any pollution incident threatening environmental harm, the Shift Manager, immediately after becoming aware of the incident or breach, will notify the Environmental Compliance Coordinator or Mine Manager.</p> <p><u>iii) Adjudication</u></p> <p>Where there is any doubt as to whether the incident E12 or E13, the matter is referred to the Mine Manager for determination.</p>	<p><u>i) Investigation</u></p> <p>The Environmental Compliance Coordinator will investigate the cause of the incident and instigate action(s) to prevent recurrence. The investigation will use the Environmental Incident Investigation Procedure.</p> <p><u>ii) Internal reporting:</u></p> <p>The Environmental Compliance Coordinator is also responsible for entering the details of the incident into DC's internal WMS. Details should include any subsequent corrective and preventative actions.</p> <p>A summary of the incident will be tabled at quarterly EEC meetings.</p> <p><u>iii) External reporting:</u></p> <p>None.</p>

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Appendix 6 – Delta Coal Environmental Document Review Checklist

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Form Title	ENVIRONMENTAL DOCUMENT AUDIT/REVIEW CHECK SHEET
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Document Being Reviewed			
Document No			
Dates of Review			
Persons conducting Review/Audit			

Audit/Review Action	Yes	No	N/A	Comments
Review latest development Consent / Project Approval				
Review site Environment Protection Licence (EPL)				
Check relevant risk assessment outcomes / actions against document				
Check relevant environmental Incident / Actions / Outcomes have been addressed				
Review relevant sections of the EIS				
Confirm development consent is consistent with future mine planning Example mining is consistent within mining approval areas				
Review relevant sections of MOP				
Check relevant associated documents such as procedures, TARPs, e.g. if any relevant alterations have been identified that may require a change to the document or associated documents				

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Audit/Review Action	Yes	No	N/A	Comments
reference quoted Standards in document are current e.g. Aust Standards				
Check Environmental requirements from clients and/or stakeholders if applicable example Noise monitoring locations				
Check relevant environmental legislation are referenced Example POEO Act 1997				
Check actions from latest independent environmental audits				
Check EMS elements are correctly referenced e.g. are document numbers correct in Data Base				
Check that the document has been reviewed in Consultation with relevant stakeholders' representatives				
Complete Form-0010 for change management				
Additional Items for investigation				

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Appendix 7 – Environmental Monitoring Program

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	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Doc Owner:</td> <td style="text-align: right;">Environmental Compliance Coordinator</td> </tr> <tr> <td>Doc No:</td> <td></td> </tr> </table>	Doc Owner:	Environmental Compliance Coordinator	Doc No:	
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Doc No:					
<p>DELTA COAL</p> <h1>Environmental Monitoring Program</h1>					

Author	Chris Armit (Delta Coal – Approvals Coordinator)
	Katie Weekes (EMM Consulting)
	Lachlan McWha (Environmental Compliance Coordinator)
Authorised by:	Chris Armit (Approvals Coordinator)
	Lachlan McWha (Environmental Compliance Coordinator)
Date:	29/01/2021

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1 Commitment and Policy

1.1 Purpose

The Project Approval for Manning Colliery (MC) PA 06_0311 as modified) as part of the Statement of Commitments requires an Environmental Monitoring Program (EMP) to be prepared and implemented to monitor and report on environmental performance.

Manning Colliery is one of two underground coal mines owned and operated by Great Southern Energy Pty Ltd (trading as Delta Coal). Chain Valley Colliery (CVC) is an adjacent coal mine which transfers ROM coal via the shared underground workings to Manning Colliery for processing at the surface processing plant. Whilst an Environmental Monitoring Program (EMP) is not required for Chain Valley Colliery under SSD 5465 approval the EMP has been combined for both sites to detail their environmental monitoring.

The purpose of this plan is to outline the environmental monitoring requirements for the CVC and MC operations to maintain regulatory compliance and implement the Delta Coal (DC) Environmental Policy and Environmental Management Strategy (EMS). This includes (but is not limited) to monitoring for:

- Weather (meteorological);
- Noise;
- Air quality (dust/greenhouse gases);
- Surface water;
- Groundwater;
- Potable water usage;
- Soil;
- Marine ecology (benthic communities and seagrass);
- Terrestrial ecology (threatened species, weeds and feral pests);
- Built features;
- Subsidence;
- Heritage;
- Rehabilitation;
- Waste;
- Coal transfers;
- Social and community impacts;
- Visual and stray light; and
- Radiation apparatus integrity.

1.2 Scope

The EMP applies to:

- the existing and future operations within land owned or managed by DC associated with CVC and MC (Figure 1); and
- all mine employees and contractors.

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1.3 Background and Operations

DC commenced operation and ownership of CVC and MC on the 1 April 2019.

CVC and MC are both underground coal mines with surface mine infrastructure areas located on the southern side of Lake Macquarie approximately 60 km south of Newcastle and 80 km north of Sydney (**Figure 1 of EMS**) within the Central Coast Council (CCC) and Lake Macquarie City Council (LMCC) Local Government Areas (LGAs).

Development of both mines began in the 1960s in conjunction with the construction of Vales Point Power Station (VPPS) with several previous owners and operators. Mining is currently undertaken at CVC, with the coal being transported underground to MC where the coal is crushed and screened and sent directly to VPPS.

The area is primarily surrounded by industrial, native bushland, suburban, water courses and recreational land. The surface operations are located within the Lake Macquarie catchment area.

1.4 Consultation

The draft MC EMP was originally developed and prepared by Centennial Coal in 2003 for Manning Colliery. This revision of the DC EMP has utilised the approved MC EMP as a basis for the document and updated it to include any new conditional requirements from the recent MC Modification 5 and CVC Modification 3 approvals and recommendations from the 2019 Independent Environmental Audit.

This revised EMP was distributed to EPA and Department of Planning, Industry and Environment (DPIE) on the 8th November 2019 and again as an appendix to the Delta Coal Environmental Management Strategy (EMS) on the 16th March 2021.

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2 Approval Requirements

2.1 Key Legislation, Policy and Guidelines

Both State and Commonwealth environmental legislation applies to DC's operation and activities. Compliance with state regulations requires the implementation of a range of activities.

NSW State Environmental Planning Policies (SEPPs) aim to strengthen the assessment framework associated with new developments. SEPPs also are in place to determine planning controls and in help to streamline the development application process should compliance with development codes arise.

Key legislation relevant to this EMP include, but are not limited to:

- *Protection of the Environment Operations Act 1997* (POEO Act);
- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *Mining Act 1992*; and
- *Radiation Control Act 1990*.

2.2 Licences

CVC and MC have separate Environment Protection Licences (EPLs) numbered 1770 and 191 respectively. The Environment Protection Authority (EPA) transferred these environment protection licences under the *Protection of the Environment Operations Act 1997* (POEO Act) to Great Southern Energy Pty Ltd on 1 April 2019. Licence conditions relate to pollution prevention and monitoring, and cleaner production through recycling and reuse and the implementation of best practice.

CVC and MC have separate groundwater licences which require monitoring and are administered by Water NSW.

MC has a radiation user licence for its 'coalscan' analyser which contains a regulated, radioactive material. The *Radiation Control Act 1990* and Radiation Control Regulation 2013 provides for the EPA to license users of regulated material and for conditions to be imposed on the licence. The maintenance and monitoring conditions are in the licence conditions of this apparatus.

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3 Monitoring Programs and Management Plans

A summary of each of the monitoring programs is described in the sections below, including a figure showing the monitoring locations. Detailed information about any one monitoring aspect (including relevant criteria) can be found in specific monitoring programs, management plans, approvals and licences.

3.1 Monitoring Locations

EPL1770 and EPL191 both have associated premise and environmental monitoring location plans **Attachment 2**. These locations may change from time to time with updates to the licences and approvals.

3.2 Surface Water

Surface water monitoring is undertaken at both CVC and MC. This monitoring is a requirement of both EPL 1770 and EPL 191. The types of surface water monitoring conducted includes:

- grab samples for water quality analysis; and
- flowmeters recording continuous volumes discharged.

MC is permitted to discharge water off site from one licensed discharge point (LDP1) which is located as a piped, gravity fed discharge from Dam B into Lake Macquarie, via an unnamed drainage line. MC's EPL 191 details the conditions and monitoring requirements for the discharge of water off site.

CVC is permitted to discharge water off site from two licenced discharge points, EPA Point 1 and Point 27. Point 1 is a piped, gravity fed discharge point from Dam 10. Point 27 is the high flow concrete spillway point on the same dam (Dam 10) as Point 1 and captures flows and Point 27 enables a 1:100 year flood condition to be monitored. Under EPL 1770 a sample of this overflow water (from Point 27) is required to be taken and analysed each time water flows through Point 27, an empty, rising stage sample bottle is located at the spillway for this.

Monitoring of heavy metals at the monitoring location identified as 'Downstream' for MC is also undertaken.

Further information on the monitoring locations and frequencies can be found in the CVC and MC Water Management Plans.

3.3 Groundwater

There is daily volumetric monitoring of the pump out quantities from both CVC and MC. This data is collated and reported on a calendar year basis for the annual reviews and collated on a financial year basis for WaterNSW reporting.

As part of MC's project approval, underground water levels will be recorded (where practical) to monitor changes in the level of water stored in underground depressions and to verify that the rate of extraction is sufficient.

As part of the CVC approval, there is a condition to measure water levels and quality within private bores (where access is possible).

3.4 Potable water usage

CVC and MC import potable water from the CC council potable water supply to both sites. These potable water lines currently have turbine (or paddle wheel) flowmeters which are to be read on a monthly basis. The Council also supply the meter readings for payment purposes. This data is collated, reviewed and reported in the internal monthly report and on a calendar year basis in the Annual Review.

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3.5 Soil

Annual soil monitoring is undertaken adjacent to the aerated wastewater treatment system (AWTS) at the CVC office building. An auger hole is dug in the areas where the treated effluent is irrigated to recover soil samples at various depths. These samples are dispatched to a laboratory for analysis. This data is collated, reviewed and reported on a calendar year basis in the Annual Review.

Soil sampling for rehabilitation projects may also be undertaken to assist with growth medium development.

3.6 Weather

There is a meteorological station located at MC and its data is used for both CVC and MC (location identified in **Attachment 2**). This monitoring is a requirement of both EPL 1770 and EPL 191.

The MC meteorological station is located adjacent to the site sediment dams. Data is available in real time and accessed through a web-based portal. The weather station is operated generally in accordance with NSW EPA Approved Methods. All monitoring equipment will be maintained and calibrated in accordance with the original equipment manufacturers requirements.

The parameters measured at the MC weather station include, temperature at 2 m and 10 m height, relative humidity, rainfall, wind speed, wind direction at 10 m height, barometric pressure and solar radiation. From these parameters statistical analysis can be applied and a combination of the parameters to derive relationships for environmental assessments. e.g. stability classes for applicability in noise monitoring.

3.7 Noise

Noise monitoring locations for CVC are shown in **Attachment 2**. Operator attended noise monitoring is undertaken for both CVC and MC. In this type of monitoring the technician can identify noise sources, noise levels and source directions, but is limited to the period in which a technician can attend the monitoring locations. 15-minute operator-attended noise measurements are undertaken during day, evening and night periods at quarterly (CVC) and monthly (MC) intervals.

Unattended or continuous noise monitoring is when a noise monitoring logger is stationed in the field collecting data continuously. The data is collated and analysed for later use, or if the logger is fitted with data communications, can be used in real time.

The Delta Coal Noise Management Plan outlines monitoring required to be undertaken to ensure compliance with statutory requirements. The purpose of these documents is to ensure that the noise generated by the operations does not exceed the noise impact assessment criteria at any residence on privately owned land.

3.8 Air Quality

3.8.1 Dust

In order to determine the effectiveness of the DC's dust control measures, a network of dust depositional monitoring gauges has been established. Depositional gauges are located adjacent to DC's surface facilities or on private property in close proximity to the surface facilities of CVC and MC. Dust deposition gauge locations are shown on **Attachment 2**.

The samples are collected and forwarded to the laboratory for analysis. Samples are taken from the depositional gauges every 30 days (± 2 days) as per Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA, 2007). The units of measure of dust deposition shall be recorded in grams per meter squared per month.

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A tapered element oscillating microbalance (TEOM) monitor is an instrument used for real-time detection of PM10 aerosol particles by measuring their mass concentration. A TEOM unit is located adjacent the Wyong Sewerage Treatment Plant. This unit is calibrated and serviced by an external contractor.

Vales Point Power Station (VVPS) operate a beta-attenuation monitor (BAM) to record atmospheric PM_{2.5} concentrations at Forest Road, Wyee, and actively provides PM_{2.5} air quality data to DC via real-time data sharing. Sampling and maintenance of the unit is undertaken in accordance with OEM specifications and AS/NZS 3580.9.12:2013: *Methods for sampling and analysis of ambient air method 9.12: Determination of suspended particulate matter – PM_{2.5} beta attenuation monitors*. Compliance will be assessed annually as part of the Annual Review.

3.8.2 Greenhouse Gas

There are both direct and indirect sources of greenhouse gas emissions from DC’s activities. The main source of direct emissions at CVC and MC are from dilute, fugitive gas emissions at the respective ventilation fan sites from the underground mining processes. There are other greenhouse gases emitted from site as part of associated industrial activities e.g. acetylene for welding activities, oils and greases used, SF6 gases contained in underground transformers. Indirect emissions are related to the direct consumption of electricity and diesel at the site.

There are real time gas monitors at the CVC and MC fan sites that test gases. These gas levels include methane (CH₄), carbon dioxide (CO₂) and oxygen. On a monthly basis gas bag “grab” samples are taken and are analysed with a gas chromatograph either using the site gas chromatograph or a NATA certified laboratory.

The mine site Ventilation Officer conducts a monthly ventilation survey and quantities of gas can be determined from the gas concentrations and ventilation quantities.

Monitoring of CH₄, CO₂ fugitive emissions, ROM tonnage, electricity and diesel usage are reported in the Annual Review and annual National Greenhouse and Energy Report (NGER) submitted to the Clean Energy Regulator.

3.9 Marine Ecology – Benthic Community and Seagrass

The marine ecology monitoring is related to the potential subsidence impacts associated with the CVC underground mining activities. With each Extraction Plan prepared for the operation, a separate Benthic Community Management Plan and Seagrass Management Plan is updated. The appropriate monitoring locations and monitoring frequencies are also reviewed and updated where required.

3.10 Terrestrial Ecology – Threatened species, weeds, feral animals, channel stability

Annual biodiversity monitoring of threatened species, weeds and feral animals is conducted for CVC. The Weed Action Plan outlines the management and monitoring of weeds on MC and CVC.

A visual assessment (including photographic monitoring) of the unnamed creek is undertaken every 6 months to monitor creek line channel stability, riparian health and erosion downstream of MC.

3.11 Built Feature – Navigational markers, jetties, survey marks, dwellings, roads

Monitoring of built features is related to the potential subsidence impacts associated with CVC underground mining activities. With each Extraction Plan a separate Built Features Management Plan is reviewed and updated. The appropriate subsidence monitoring locations and monitoring frequencies (usually pre, during and post mining activities) are also reviewed and updated where required. The monitoring program is developed and reviewed in consultation with the built feature owner, Resource Regulator and DPIE.

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3.12 Subsidence

A Subsidence Monitoring Program is updated and approved for each Extraction Plan. The program outlines the required monitoring for subsidence associated with a second workings mining area. The Subsidence Monitoring Program (foreshore, land and bathymetric subsidence survey monitoring) ties in with the seagrass and benthic communities ecological monitoring and monitoring of built features.

Regular and routine monitoring of the foreshore, lake bed, seagrass communities and benthic communities provide a means to verify and validate that predicted subsidence levels are not being exceeded.

3.13 Heritage

There are currently no requirements to conduct heritage monitoring at MC as part of the approval, as there are no known heritage locations at the MC surface site and only first workings with <20 mm subsidence is consented.

There is a condition in the CVC project approval which stipulates the monitoring of site 45-7-0189 at Summerland Point. This monitoring has been conducted in accordance with the approved CVC Heritage Management Plan and no further monitoring is currently required or proposed for this site.

Any future changes to heritage monitoring for MC and CVC are largely dependent on the surface subsidence impacts caused by underground mining. As required, heritage monitoring will be updated in the respective Heritage Management Plans.

3.14 Rehabilitation

Analogue site rehabilitation monitoring for CVC and MC was established by consultant ecologists in April 2019 and reported to the Resources Regulator (RR). The frequency and type of rehabilitation monitoring is in the Mining Operations Plan (MOP) / Rehabilitation Plan. Further detail on rehabilitation monitoring will be determined prior to and during the mine closure project phase.

3.15 Waste

A Total Waste Management Contractor is engaged to monitor and record the types, volumes and weights of the waste removed from site. The waste monitoring report is generated each month with the applicable invoice and a collation of this data is presented in the Annual Review.

3.16 Coal Transfer

The annual tonnage limits of coal permitted to be mined and handled is set out in the project approvals and EPLs. The number and tonnages permitted on the public roads is also limited in the approvals. Coal tonnages are measured at both the mine site and power station by either on conveyor belt weighing or truck weighbridge.

Due to coal being directly supplied to VPPS, the on-belt conveyor weighing is the main method of coal tonnage monitoring. There is some remnant coal on the stockpile at CVC which is removed intermittently and the trucks are weighed and counted at the CVC weighbridge and records kept.

Coal transport on public roads is not currently conducted for MC or CVC due to the sole conveyance of coal to VPPS. CVC has project approval conditions to keep accurate records of the amount of coal transported from the site (on a weekly basis) and make these records publicly available on its website at the end of each calendar quarter.

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3.17 Security

CVC and MC have a security company engaged to undertake security monitoring on both sites during unattended times. There are also surveillance cameras and monitors in the CVC Control Room which assist in detecting and responding to entry of unauthorised personnel.

Security surveillance is important in minimising environmental harm, including the detection of illegal dumping of rubbish, illegal clearing of trees in surrounding bushlands for firewood, vandalism, early detection of bushfires, sabotage and theft.

3.18 Social and Community Impacts

In order to gauge community sentiment and opinions towards DC and their operations, formal and informal methods of monitoring are utilised. Community complaint and incident information is collated and reported on a monthly basis and uploaded onto the DC website.

Combined CVC and MC Community Consultative Committee (CCC) meetings are held each quarter. DC also undertake community surveys, information sessions, face to face meetings and general media monitoring in order to better target communications, understanding and responding to community expectations. Feedback and reviews assist in targeting areas for improvement.

3.19 Radiation Gauge

Great Southern Energy has a radiation user licence for its coalscan (Ash) analyser, which contains a regulated, radioactive material. The *Radiation Control Act 1990* and Radiation Control Regulation 2013 provides for the EPA to license users of regulated material and for conditions to be imposed on the licence. The maintenance and monitoring conditions of this apparatus are in the licence.

3.20 Visual and Stray Light

A lighting and visual review was completed in 2019 as per the project approval conditions and the findings detailed in the most recent independent environmental audit (IEA). A letter was received from DPIE on 17th February 2020 noting that “no lighting complaints have been received by the site in 2018 or 2019. As such, future lighting survey reports are not considered necessary, unless otherwise directed by the Secretary”.

In accordance with the relevant Australian standard, no lights are directed offsite or installed to shine above the horizontal. Additionally, the nearest residents to MC and CVC sites are approximately 800 m and 300m respectively. Lighting or visual amenity complaints will also be tracked and acted upon where required.

3.21 Other Monitoring

The monitoring outlined in the sections above are the minimum amount of monitoring to be carried out. Additional monitoring may be required from time to time, including monitoring undertaken internally for the day to day management of the mine operations and any other externally requested monitoring.

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4 Quality Assurance

The following controls are in place to ensure environmental monitoring equipment is fit for purpose, the environment monitoring procedures, sample collection, analysis, calibration, data entry, data review and reporting are adequate.

Controls include:

- employment or engagement of experienced, qualified and competent environmental personnel and technicians to manage the environmental monitoring;
- use of NATA accredited laboratories as required;
- regular internal reporting requirements – maintenance of the site's work order system and Lawlex compliance monitoring; and
- regular external reporting and auditing requirements – public website, incident/environmental monitoring criteria, exceedance reporting and independent environmental audits

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5 Reporting

5.1 Regular Reporting

Environmental monitoring data is reported monthly and is publicly available on the DC website.

5.2 Annual Return

The DC Environmental Compliance Coordinator shall report the results of monitoring in the Annual Return as required under the POEO Act and detailed in the respective EPLs. The Annual Return is to be completed and submitted to the EPA within 60 days after the end of the reporting period.

5.3 Annual Review

Both CVC and MC have a set of annual reporting conditions which are to be complied with. In accordance with the development consent/project approval, the Annual Review will report the applicable monitoring data, trends and data and be submitted to DPIE by the end of March in each year after the commencement of the development or other timeframe agreed by the Planning Secretary.

5.4 Incident or Non-Compliance Reporting

Refer **Section 5.4** of the EMS.

5.5 Missing Samples

The Load Calculation Protocol (DECC, 2009) sets out methods that holders of an EPL must use to calculate assessable pollutant loads. The section relevant to missing samples is Section 2.1.2 and it shows what must be done when the required frequency of sampling has not been met. The procedure for missed samples has been reproduced in **Table 1** below.

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Table 1: Procedure for Missed Samples

Required Sampling Frequency					Procedure for missed samples*
<5 per year	5-12 per year	13-25 per year	26-53 per year	>53 per year or continuous	
N/A	N/A	Miss 1 sample	Miss 1 or 2 samples	Miss up to 2.5% of samples or, for continuous monitoring, miss up to 15% of monitoring time	Action 'A': Replace missing data with mean of data obtained over the previous 12 months
N/A	Miss 1 or 2 samples	Miss 2 or 3 samples	Miss 3 or 4 samples	Miss between 2.5% and 5% of samples or, for continuous monitoring, miss up to 15-20% of monitoring time	Action 'B': Replace missing data with mean of data obtained over the previous 12 months + 20%
Miss any samples	Miss >2 samples	Miss >3 samples	Miss >4 samples	Miss >5% of samples or, for continuous monitoring, miss >20% of monitoring time	Action 'C': Report failure to collect required samples to DECC Regional Manager within 7 days of failure. Use data from the same time period for the previous year + 30%, or the mean of data obtained over the current 12 months + 30%

*The arithmetic mean should be used when using historical data.
N/A is not applicable

6 Training, Awareness and Competence

Training is an essential component of the implementation phase of the environmental management system. All personnel (employees, contractors (and their sub-contractors) are required to undergo environmental awareness training as a minimum, which is contained within the site induction and are to be 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 as per the development approval.

Training is aimed at providing a minimum standard of environmental education. Topics covered in environmental awareness training include:

- environmental emergency response;
- environmental legislation and responsibility;
- key environmental issues and management requirements; and
- incident reporting.

As noted above, the general environmental training is included within the site induction program. This involves the completion of a competency assessment, with training records being kept as per the DC Training and Competency Standard

More detailed training based on specific management documents is completed by relevant site personnel, with all training conducted to assess competence in accordance with the Training and Competency Standard

During the contractor and employee preselection process consideration should be given to ensure qualified, experienced and competent personnel undertake the environmental sampling, analysis, monitoring and calibration activities to the appropriate standards.

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7 Roles and Responsibilities

All employees and contractors at MC are responsible for environmental management. However, various positions in the organisation have roles, responsibilities and authorities for managing environmental aspects, action plans, programs and controls. Roles and responsibilities specific to completing the requirements of this EMP are identified in **Table 2**.

Table 2: Environmental Monitoring Plan- Roles and Responsibilities

Role	Responsibilities
Managing Director	<ul style="list-style-type: none"> Ensure that adequate financial and personnel resources are made available for the implementation of the EMP.
Mine Manager	<ul style="list-style-type: none"> Maintain overall responsibility for environmental compliance with Mining Leases, EPL, consents and other mining approvals as they pertain to environmental monitoring Ensure that adequate training is provided Ensure that a maintenance system is in place to ensure plant and equipment is maintained in a proper and efficient manner
Environmental Compliance Coordinator or delegate	<ul style="list-style-type: none"> Undertake planning to ensure adequate resources are available to implement this EMP Review and update the EMP when required Co-ordinate external audits, corporate reporting and management; Co-ordinate environmental monitoring, reporting, inspections, environmental training, authority liaison, maintenance of complaints register and community liaison Ensure appropriate allocation of resources within area of responsibility and budget Implementation and adherence to this EMP Provide adequate training to employees and contractors regarding their requirements under this EMP Delegate tasks associated with this EMP when responsible personnel are absent Co-ordinate environmental monitoring Develop management actions, if required, from the monitoring results Review attended monitoring results when received from the monitoring consultant Instruct the monitoring consultant to report any incidents as soon as practicable Compile the Annual Review/s Follow up monitoring related complaints or disputes. Complete environmental monitoring data summaries and place on the DC website Ensure meteorological monitoring is undertaken at the site. Respond to any potential or actual non-compliances and report these as required to regulatory bodies and other stakeholders Undertake reviews of this document Undertake or coordinate the required audits of this document. Periodically review monitoring results
All employees and contractors	<ul style="list-style-type: none"> Comply with the requirements of this EMP

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8 Document Information

8.1 Document Review

Endorsement of the author of this review was received from DPIE on the 14 August 2019 (**Attachment 3**)

8.2 Related Documents

Related documents, listed in **Table 3**, are documents directly related to or referenced from this document.

Table 3: Related Documents

Title
Delta Coal Environmental Policy
Delta Coal Environmental Management Strategy
CVC and MC Environmental Management Plans

8.3 Change Information

This document and all others associated with the Environmental Management System shall be maintained in a document control system which is in compliance with the site Document Control Standard which is available to all site personnel.

Any proposed change to this document will be via the Environmental Compliance Coordinator or appropriate delegate. Details on document revisions are provided in **Table 4**.

Table 4: Change Information Summary

Version	Date	Change Summary
1	Unknown	Centennial Coal MC (formerly Wyee State Mine)
1.1	October 2008	Centennial Coal MC EMP review
1.2	November 2011	Centennial Coal MC EMP review
1.3	December 2012	Centennial Coal MC EMP review
2	Unknown	LakeCoal MC EMP review
3	10/09/2020	Combined DC EMP incorporating CVC and MC monitoring requirements

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9 References

Documents used in the preparation of this management plan are detailed in Error! Reference source not found..

Table 8: References

Reference	Title
Australian Standards	<p>AS/NZS ISO 14001:2004 Environmental management systems – Requirements with guidance for use</p> <p>AS/NZS ISO 14004:2004 Environmental management systems – General guidelines on principles, systems and support techniques</p> <p>AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method</p> <p>AS 3580.14-2011: Methods for sampling and analysis of ambient air - Meteorological monitoring for ambient air quality monitoring applications</p> <p>AS/NZS 4282:2019 – Control of the obtrusive effects of outdoor lighting</p>
Legislation and Regulations	<p><i>Biodiversity Conservation Act 2016</i></p> <p><i>Biosecurity Act 2015</i></p> <p><i>Biosecurity Regulation 2017</i></p> <p>Development consent SSD-5465 (as modified)</p> <p>Environment Protection Licence (EPL) 191</p> <p>Environment Protection Licence (EPL) 1770</p> <p><i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i></p> <p><i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i></p> <p>Environment Protection and Biodiversity Regulations 2000</p> <p><i>Fisheries Management Act 1994</i></p> <p><i>Game and Feral Animal Control Act 2002</i></p> <p>Game and Feral Animal Control Regulation 2012</p> <p><i>Heritage Act 1977</i></p> <p>Lake Macquarie City Council LEP 2014</p> <p><i>Local Land Services Act 2013</i></p> <p><i>Mining Act 1992</i></p> <p><i>National Greenhouse and Energy Reporting Act 2007</i></p> <p>National Greenhouse and Energy Regulations 2008</p> <p>National Greenhouse and Energy Reporting (Measurement) Determination</p>

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Reference	Title
	<p><i>National Parks and Wildlife Act 1974</i></p> <p><i>Pesticides Act 1999</i></p> <p>Project Approval (PA) 06_0311 (as modified)</p> <p><i>Protection of the Environment Operations Act 1997 (POEO Act)</i></p> <p><i>Radiation Control Act 1990</i></p> <p>Radiation Control Regulation 2013</p> <p><i>Rural Fires Act 1997</i></p> <p><i>Water Act 1912</i></p> <p><i>Water Management Act 2000</i></p> <p>Wyong Local Environmental Plan 2013</p>
Delta Coal documents	EMS 001 Manning Colliery - Environmental Management Strategy
External documents	Department of Environment and Climate Change NSW June 2009, Load Calculation Protocol. For use by holders of NSW environment protection licences when calculating assessable pollutant loads.

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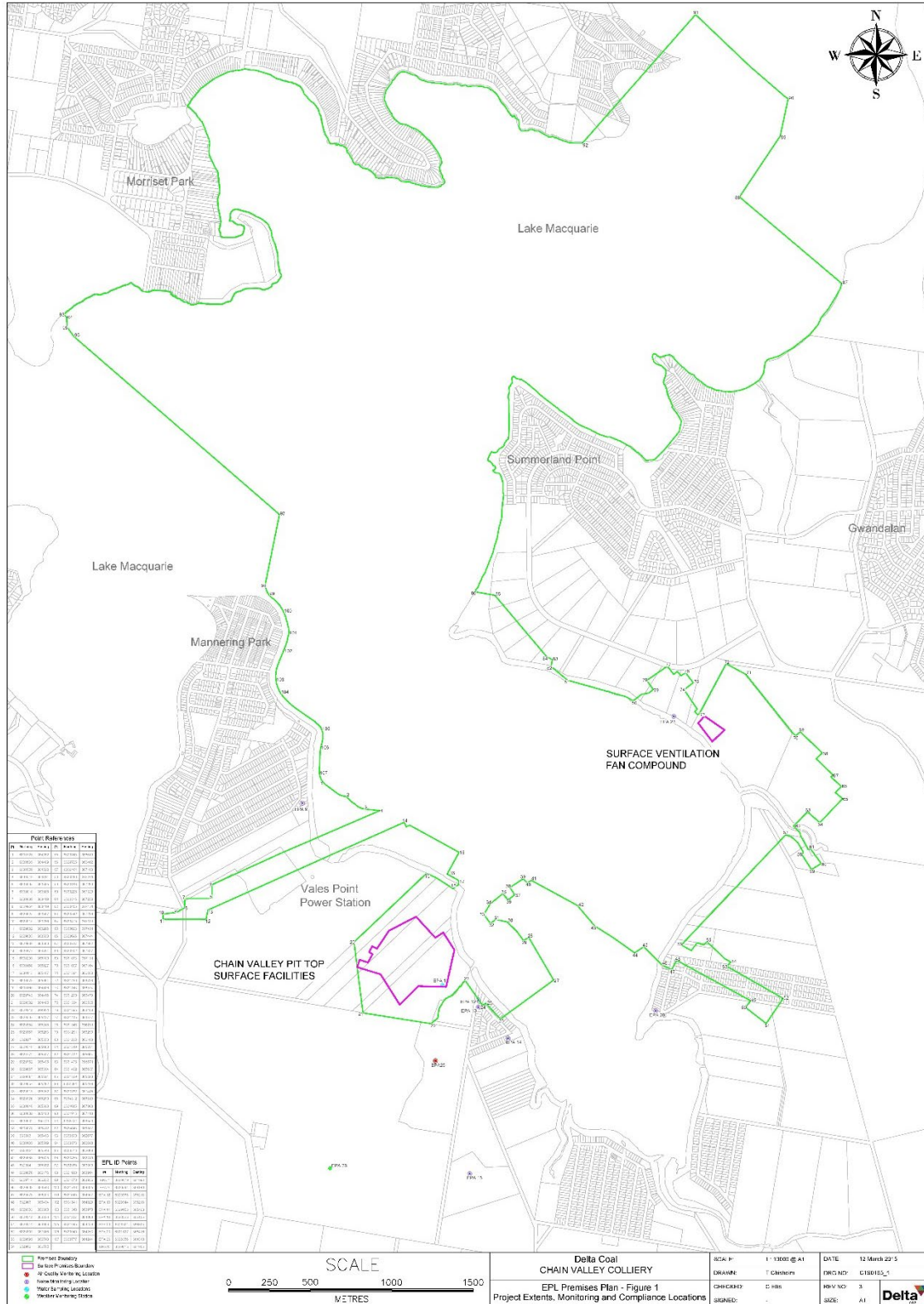
EMP Attachment 1: Compliance with PA 06_0311 Modification 1

Schedule	Condition		Section
Statement of Commitments	N/A	The Environmental Monitoring Program will be reviewed and updated, as required, to incorporate the commitments made in the Environmental Assessment and any additional consent conditions.	This document
2	21	Compliance 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 6
2	22	Applicability of Guidelines 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.	Section 9
2	23	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 compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.	Section 9

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EMP Attachment 2: EPL Monitoring Plans

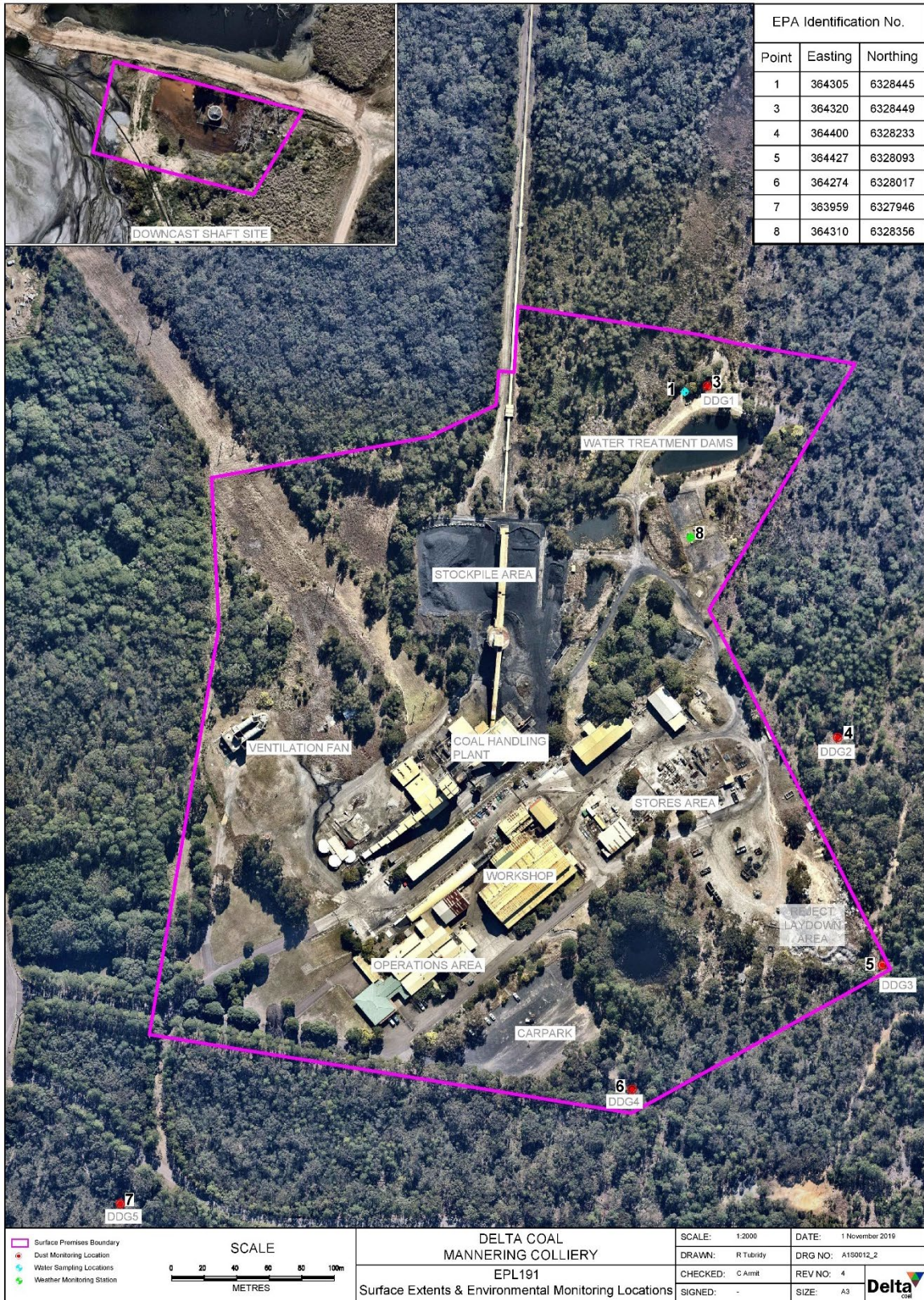
Chain Valley Colliery – EPL 1770 Monitoring Plan



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Mannering Colliery – EPL 191 Monitoring Locations



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EMP Attachment 3: Endorsement of person to author Environmental Monitoring Program



Planning,
Industry &
Environment

Planning and Assessments
Energy and Resource Assessments
Contact: Anthony Barnes
Phone: 8289 6709
Email: anthony.barnes@planning.nsw.gov.au

Mr Chris Armit
Environment and Community Coordinator
LakeCoal Pty Ltd
PO Box 7115
Manning Park NSW 2259

Dear Mr Armit

**Manning Colliery Continued Mining Project (MP 06_0311) and
Chain Valley Extension Project (SSD-5465)
Appointment of Experts**

I refer to your email dated 22 July 2019, seeking approval of environmental consultants to review the Management Plans, Strategies and Programs for the Manning Colliery Continued Mining Project (MCCMP) and Chain Valley Extension Project (CVEP).

The Secretary has approved the following environmental consultants to review and revise the Environmental Management Plans, Strategies and Programs for the MCCMP and CVEP:

- Morgan Wilcox, EMM Consulting (Heritage specialist);
- Ryan Desic, EMM Consulting (Heritage specialist);
- Jessica Bowditch, EMM Consulting (Environmental Management);
- Steve Boxall, EMM Consulting (Water specialist);
- Katie Weekes, EMM Consulting (Environmental Management);
- Katie Teyhan, EMM Consulting (Noise specialist);
- Brendan Rice, EMM Consulting (Environmental Management); and
- Chris Armit, EMM Consulting, Delta Coal Environmental Coordinator (Environmental Management).

Please contact Anthony Barnes if you have any enquiries.

Yours sincerely



Howard Reed *19.8.19*
Director, Resource Assessments
Energy and Resource Assessments
as nominee of the Secretary

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