

Hunter Valley Operations

Conditions of Approval Independent Environmental Audit

Rio Tinto Coal Australia

December 2016

0372142 Final

www.erm.com

Document Control:

0372142 – Rio Tinto HVO: Conditions of Approval Independent Environmental Audit

Version	Revision	Author	Reviewed by	ERM Approval to Issue	
				Name	Date
Draft	A	Oliver Moore	Michael Gaggin	DRAFT	02/12/2016
Final	RP01	Oliver Moore	Michael Gaggin	FINAL	15/12/2016

Hunter Valley Operation (HVO)

Prepared by:	<i>Oliver Moore</i>
Position:	<i>Project Manager</i>
Signed:	
Date:	15 December 2016
Approved by:	<i>Michael Gaggin</i>
Position:	<i>Partner</i>
Signed:	
Date:	15 December 2016

Conditions of Approval Independent Environmental Audit

Rio Tinto Coal Australia

December 2016

0372142 Final

www.erm.com

This disclaimer, together with any limitations specified in the report, apply to use of this report. This report was prepared in accordance with the contracted scope of services for the specific purpose stated and subject to the applicable cost, time and other constraints. In preparing this report, ERM relied on: (a) client/third party information which was not verified by ERM except to the extent required by the scope of services, and ERM does not accept responsibility for omissions or inaccuracies in the client/third party information; and (b) information taken at or under the particular times and conditions specified, and ERM does not accept responsibility for any subsequent changes. This report has been prepared solely for use by, and is confidential to, the client and ERM accepts no responsibility for its use by other persons. This report is subject to copyright protection and the copyright owner reserves its rights. This report does not constitute legal advice.

CONTENTS

EXECUTIVE SUMMARY

1	INTRODUCTION	
1.1	MINE HISTORY & APPROVALS	3
1.2	OVERVIEW OF OPERATIONS	4
1.2.1	DESCRIPTION OF PRIMARY PROCESSES UNDERTAKEN DURING THE AUDIT PERIOD	5
1.3	AUDIT OBJECTIVES	7
1.4	AUDIT SCOPE	7
1.5	AUDIT CRITERIA	8
1.6	LIMITATIONS OF THIS REPORT	9
2	AUDIT METHODOLOGY	
2.1	METHODOLOGY AND PROCESS	10
2.2	AGENCY AND COMMUNITY CONSULTATION	11
2.2.1	SUMMARY OF CONSULTATION	11
2.3	CLASSIFICATION OF AUDIT FINDINGS	13
3	AUDIT FINDINGS	
3.1	PREVIOUS AUDIT FOLLOW - UP	15
3.2	COMPLAINTS SUMMARY	19
3.3	ENVIRONMENTAL MONITORING PERFORMANCE	19
3.3.1	NOISE	19
3.3.2	BLASTING	20
3.3.3	AIR	20
3.3.4	WATER MANAGEMENT	20
3.3.5	REHABILITATION	21
3.4	COMPLIANCE WITH REGULATORY INSTRUMENTS	21
3.5	REVIEW OF MANAGEMENT PLANS IMPLEMENTATION	45
3.6	RESPONSE TO AGENCY-REQUESTED AUDIT FOCAL AREAS	52
4	CONCLUSION	
ANNEX A	DETAILED AUDIT TABLE	
ANNEX B	DRE AND OEH CORRESPONDENCE	

EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an independent environmental audit (IEA) of the Hunter Valley Operations (HVO) located 25km north-west of Singleton, NSW on behalf of Coal & Allied managed by Rio Tinto Coal Australia. The primary purpose of the audit was to satisfy the Department of Planning and Environment (DP&E) Ministers' Conditions of Approval (MCoA) for the North and South development areas, respectively Development Consent DA 450-10-2003 (Modification 4) and Development Consent PA 06-0261 (Modification 4), which requires the commissioning of an independent audit every 3 years, unless the Director General directs otherwise. The most recent audit was completed October 2013.

The audit included a review of:

- *Conditions of Consent Hunter Valley Operations North Development (DA 450_10_2003) and Conditions of Consent Hunter Valley Operations South Development (PA 06_0261), including Statement of Commitments*
- *EPL 640*
- *Mining Leases*
- *Water Access Licence; and*
- *implementation of Management Plans developed as part of the Ministers Conditions of Approval.*

Overall, conformance was achieved with the audit documents that were reviewed. A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the Department of Planning & Environment publication "Independent Audit Guidelines" issued October 2015. The number of non-conformances with the statutory conditions and implementation of the management plans is summarised in Table below:

Summary of Audit Findings

Number of Conditions	Non conformances	Administrative Non - conformances	Observations
<i>Statutory Instruments</i>			
363	14	9	22
	High (2), Medium (7), Low (5)		
<i>Implementation of Plans</i>			
16	2	1	3

An action response table has been developed by HVO addressing all audit findings and will be submitted separately to this report.

INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an independent environmental audit (IEA) of the Hunter Valley Operations (HVO) located 25km north-west of Singleton, NSW on behalf of Coal & Allied managed by Rio Tinto Coal Australia. The primary purpose of the audit was to satisfy the Department of Planning and Environment (DPE) Ministers' Conditions of Approval (MCoA) for the North and South development areas, respectively Development Consent DA 450-10-2003 (Modification 4) and Development Consent PA 06-0261 (Modification 4), which each require the commissioning of an independent audit every 3 years, unless the Director General directs otherwise. The most recent audit was completed October 2013.. The audit period assessed in this IEA is 1 November 2013 through 31 October 2016. The audit must:

- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- (b) include consultation with the relevant agencies;
- (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);
- (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
- (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.

Within six weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

1.1

MINE HISTORY & APPROVALS

Production commenced at the mine in 1949 at the current West Pit, which was part of the Howick Mine. In 1970 Hunter Valley No.1 mine started production. The two mines were merged in 2000 when Coal & Allied created HVO. Subsequently the Lemington mine which has produced coal since 1971, was acquired and merged into HVO in 2001.

Coal & Allied received approval in March 2009 from NSW Government to replace multiple approvals under which HVO South operated. The single Project Approval for HVO South (PA 06-0261 (Modification 4) is valid through to 2030. In addition HVO North operates under Development Consent DA 450-10-2003 (Modification 4) and is valid through to 12 June 2025.

Approval for the most recent modification of Development Consent DA 450-10-2003 (Modification 4) was received January 2014, while approval for Project Approval HVO South (PA 06-0261 (Modification 4) was received 31 October 2012.

The most recent independent audit was completed in October 2013 in accordance with Condition of Consent 6 (Schedule 6) of the HVO North Development Consent DA 450-10-2003, and Condition of Consent 5 (Schedule 5) of the HVO South Development Consent PA 06_0261 Condition 6 of Schedule 5 of the original PA.

1.2 OVERVIEW OF OPERATIONS

The Hunter River geographically divides HVO into HVO North and HVO South, however the two development areas are integrated operationally. HVO is 67.4 per cent owned by Coal & Allied Industries and 32.4 per cent owned by Mitsubishi Development.

HVO lies within 31 active mining leases (MLs), and has six ML renewals pending and eight ML applications pending.

The following production limits are in place:

- HVO North, West Pit 12Mtpa
- HVO North, Carrington Pit 10Mtpa
- HVO South Riverview, Cheshunt, Deep Cheshunt and Lemington South Pits combined 16Mtpa.

The following processing limits are in place:

- HVCHPP 20Mtpa
- WCHPP 6Mtpa

Run-of-mine (ROM) coal is approved to be mined within the open cut pits using truck and shovel method.

The coal is processed on Site prior to being transported by train approximately 100 kilometres south east to the Port of Newcastle for export.

1.2.1

Description of primary processes undertaken during the audit period

Current activities at the site include the following:

Construction

Mining operations used existing infrastructure and facilities with no upgrades or additional works completed during the audit period.

Mining Operations

Overburden and interburden is generally blasted and then removed by dragline, excavators and haul trucks. Where the overburden overlying the uppermost coal seam is sufficiently weathered, it is ripped and removed by scraper and/or pushed up by bulldozer and loaded into haul trucks by an excavator.

To remove the coal, benches are developed along the length of coal seams by blasting and removal of the overburden and interburden. As sufficient coal is exposed, it is ripped, excavated and transported to the ROM coal pad within the on-site coal handling and processing area.

During 2016, Glider Pit was excavated as a satellite pit, adjacent to the east of Riverview Void.

Maintenance/Workshop Area

The maintenance workshop area activities include maintenance of mining and earthmoving equipment as well as refuelling activities. There are two main workshops, one in the north and one in the south development areas. The main work areas are provided with hardstand (concrete), with drainage to an oil water separator for treatment of any runoff prior to reporting to the mines network of water storage dams.

The workshop areas are used to store waste oils and greases which are collected by a licensed waste recycling contractor as required.

Coal Processing and Transport

Coal is transported to one of two CHPPs where it is crushed to size and processed to remove impurities. Processing produces saleable coal, along with coarse and fine reject materials. Coarse rejects are disposed of in pit and fine rejects placed in tailings dams, as outlined in the MOP.

The on-site coal handling and processing area covers and comprises the following key locations with respective capacities:

- Hunter Valley CHPP, ROM 176,000t, Saleable 29,700t
- West CHPP, ROM 15,000t, Saleable 30,000t
- Newdell CHPP, 450,000t Saleable
- Hunter Valley Loading Platform

Waste Management

Wastes produced at the site include:

- general domestic-type wastes from on-site buildings and routine maintenance consumables;
- oils and other hydrocarbons;
- sewage;
- overburden and interburden;
- coal rejects from any coal preparation undertaken; and
- mine equipment tyres.

Rehabilitation

Progressive rehabilitation activities have occurred during the audit period. The AEMR (2015) reports rehabilitation progress from the reporting periods 2013-2014 and 2014-2015 as shown in *Table 1.1* .

Table 1.1 *Land Areas Subject to Rehabilitation in Previous Two Reporting Periods (taken from Table 38 in AEMR (2015))*

Landuse Type	2013-2014 Reporting Period (ha)	2014-2015 Reporting Period (ha)
Land prepared for rehabilitation	29.1	49.3
Land under active rehabilitation	2,739.6	2,733.6

1.3

AUDIT OBJECTIVES

The primary objectives of the audit included:

- assessment of the environmental performance of the site, and its effects on the surrounding environment and sensitive receivers;
- assessment of whether the site is complying with the requirements in the Development and Project Approvals EPL 640 and any relevant Lease and Water Access Licences (including any assessment, plan or program required under these approvals);
- review of the adequacy of any approved strategy, plan, or program required under the abovementioned consents/approvals; and
- recommendation of measures or actions to improve the environmental performance of HVO, and/or any strategy/plan/program required under these consents/approvals.

1.4

AUDIT SCOPE

- the audit to be completed in accordance with DP&E's Guidelines for Independent Audits;
- the audit to also be completed in accordance with AS/NZS ISO 19011:2003: Guidelines for quality and/or environmental management systems auditing;
- review of compliance against the documentation identified in the MCoA (as it relates to the current activities of both the North Development Approval and the South Project Approval) which will include:
 - document review of compliance against the MCoA, and any other relevant consents/approvals;
 - site inspection to assess compliance against field implementation of active MCoA;
 - review of supporting plans developed as part of the MCoA and assessment of their adequacy towards effective environmental performance;
- review of monitoring results and trends with comparison of monitoring results against regulatory limits and MCoA limits (where applicable);
- confirmation if any additional monitoring required for identified trends;

- community complaints with review completed for any trends and identifying the source of an established trend;
- review of any regulatory actions including any letters, penalty notices and prosecutions; and
- review of previous Independent Environment Report (issued 2013) audit report to verify close-out of actions.
- consultation with the relevant agencies such as Department of Planning and Environment (DP&E), Environment Protection Agency (EPA), NSW Department of Industry (Division of Resource and Energy (DRE)) and DPI – Water and Singleton Shire Council (UHSC);
- draft report with results of compliance assessment to be issued for comment to HVO; and
- final report issued for submission to the DP&E.

The audit covers the period 1 November 2013 to 31 October 2016 (date of site inspection).

1.5

AUDIT CRITERIA

The audit covered the following specifications and standards, with a particular focus on activities associated with the current stages of operation. The documents relevant to this audit included:

- Conditions of Consent Hunter Valley Operations North Development (DA 450_10_2003) and Conditions of Consent Hunter Valley Operations South Development (PA 06_0261), including Statement of Commitments
- EPL 640
- Mining Leases
- Water Access Licence
- Management Plans - the commitments in the management plans developed as part of the Development and Project Approvals have been implemented including:
 - Mining Operations Plan (MOP)
 - Environment Management Strategy (EMS)
 - Noise Management Plan (NMP)
 - Air Quality and Greenhouse Gas Management Plan (AQMP)

- Blasting Management Plan (BMP)
- Heritage Management Plan (HMP)
- Water Management Plan (WMP)
- Rehabilitation and Biodiversity Management Plan
- Aboriginal Heritage Management Plan
- Hunter Valley Gliding Club Amenity Management Plan

1.6

LIMITATIONS OF THIS REPORT

This disclaimer, together with any limitations specified in the report, applies to this report and its use.

This report was prepared in accordance with the contracted scope of services for the specific purpose stated and subject to the applicable cost, time and other constraints. In preparing this report, ERM relied on:

- a) client/third party information which was not verified by ERM except to the extent required by the scope of services, and ERM do not accept responsibility for omissions or inaccuracies in the client/third party information; and
- b) information taken at or under the particular times and conditions specified, and ERM do not accept responsibility for any subsequent changes.

This report is subject to copyright protection and the copyright owner reserves its rights. This report does not constitute legal or financial advice.

The audit comprised a site inspection, interviews with key personnel and review of records and other related documentation over the period 24 October 2016 to 18 November 2016. The audit process included the following primary components:

- Terms of Reference developed which included:
 - audit scope and objectives;
 - date and location of audit;
 - members of audit team;
 - list of people to be interviewed; and
 - list of reference documents and audit criteria.
- a project inception meeting was held on 17 October 2016 to confirm details of the Terms of Reference, site inspection logistics and request for documentation required prior to the site inspection component of the audit;
- an opening meeting was held on 24 October 2016 at site to confirm the audit objectives and scope for the site inspection. Attendees included:
 - Oliver Moore (ERM Lead Auditor);
 - William Weir (ERM Support Auditor);
 - Andrew Speechly (HVO, Manager Environment & Community)
 - Gerard Gleeson (HVO, Environmental Specialist (Systems))
 - Chris New (HVO, Environmental Specialist, Operations); and
 - Dan Solomon (HVO, Environment Advisor)
- site inspections were undertaken between 24 and 28 October 2016;
- any identified gaps/issues were documented and followed up with site personnel and additional information was requested as required;
- a closeout meeting was held on 28 October 2016 to discuss initial findings and recommendations. Attendees included the same participants as the opening meeting with the exception of Dan Solomon and the addition of Mining Superintendent (Acting Manager, Mining), Matt Kenny;

- preparation of a draft audit report (this report);
- response to comments developed by HVO; and
- preparation of a final audit report.

2.2

AGENCY AND COMMUNITY CONSULTATION

As part of this audit, ERM and HVO consulted with the following agencies and stakeholders:

- Department of Planning and Environment (DP&E);
- NSW Environment Protection Agency (EPA);
- NSW Department of Industry (Division of Resource and Energy (DRE));
- Office of Environment and Heritage (OEH);
- NSW Office of Water (NOW); and
- Singleton Shire Council (UHSC).

In each case an email was sent to representatives of each agency requesting feedback on those issues considered most relevant by their department at the time of the audit.

2.2.1

Summary of consultation

The Terms of Reference were submitted to the DP&E on 9 September 2016 and EPA, DRE, OEH, NOW and SSC on 26 September 2016, prior to the site inspection to obtain feedback and draw attention to any key issues, within the agreed scope of the audit.

At the time of reporting responses had been received from DP&E, OEH and DRE.

DP&E responded confirming the audit team and Terms of Reference met the requirements of the IEA.

Both OEH and DRE responded with a request for the audit to focus on various aspects of rehabilitation and biodiversity including progress and accordance with the MOP, Project Approvals and Management Plans. Their responses are summarised in *Table 2.1* with a summary of audit response to these points in *Section 3.6. Assessment of;* the commitments in the MOP, success of monitoring and implementation of the rehabilitation, and biodiversity management plans have been assessed as part of this audit.

No response had been obtained from NOW, EPA and SSC by the time that this report was completed.

The Community Consultation Committee (CCC) for HVO last met in November 2016, with the annual Business Papers issued to the CCC prior to the meeting.

Refer to *Annex B* for copies of correspondence completed as part of the consultation process.

Table 2.1 *NSW Government Agency Requested Audit Focal Areas*

Agency and Method Requested	Agency-Requested Audit Focal Area
DRE	
Desktop Review	<p>Is the rehabilitation strategy as outlined in the MOP consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s)?</p> <p>Has the rehabilitation objectives and completion criteria as outlined in the MOP been developed in accordance with the proposed final land(s) as outlined in the Project Approval?</p> <p>Has a rehabilitation monitoring program been developed and implemented to assess performance against the nominated objectives and completion criteria? - verified by reviewing monitoring reports and rehabilitation inspection records.</p> <p>Has a rehabilitation care and maintenance program been developed and implemented based on the outcomes of monitoring program? - verified by reviewing Annual Rehabilitation Programs or similar documentation.</p>
Site Inspection	<p>Is rehabilitation progress consistent with the approved MOP as verified by site plans and a site inspection? This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in Project Approval.</p> <p>Based on a visual inspection, are there any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation?</p> <p>In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.</p>
OEH	
	<p>That the audit for Hunter Valley Operations North Coal Project considers the effectiveness of the salvage and reuse of soil, seeds, tree hollows, rocks and logs, from clearance ahead of mining (Schedule 4, Condition 32) and provides recommendations on how this aspect may be modified to improve environmental outcomes</p> <p>That in relation to the Hunter Valley Operations South Coal Project that the audit reviews and comments on the success of any additional measures for rehabilitation and biodiversity management that were suggested by the previous audit of the Rehabilitation and Biodiversity Management Plan (Schedule 3, Condition 36)</p>

2.3

CLASSIFICATION OF AUDIT FINDINGS

Findings resulting from an assessment of audit evidence were divided into six categories as follows:

- **Compliant (C):** the intent and all elements of the audit criteria requirements have been complied with within the scope of the audit.
- **Not Verified (NV):** insufficient verifiable evidence to demonstrate that the intent and all elements of the audit criteria have been complied with within the scope of the audit.
- **Non-compliant (NC):** Failure to meet the audit requirements, failure to achieve the field performance outcomes identified in documentation, or ineffective environmental management of the activity.
- **Administrative Non-compliance (ANC):** technical conformance with audit requirements that would not impact on performance and is considered minor in nature (e.g. report submitted but not on the due date, failed monitor or late monitoring session). This would not apply to performance-related aspects (e.g. exceedance of a noise limit) or where a requirement had not been met at all (e.g. noise management plan not prepared and submitted for approval).
- **Observation (O):** Observations are recorded where the audit identified issues of concern which do not strictly relate to the scope of the audit or assessment of compliance.
- **Not Triggered (NT)** – A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the audit inspection, and therefore a determination of compliance could not be made.
- **Note:** A statement or fact, where no assessment of compliance is required.

A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the DP&E publication "Independent Audit Guidelines" issued October 2015.

The overall level of risk was estimated by combining the likelihood of harm occurring with the estimated level of harm associated with each finding. Risk levels have been assigned as follows:

- **High:** Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence;
- **Medium:** Non-compliance with:
 - potential for serious environmental consequences, but is unlikely to occur; or
 - potential for moderate environmental consequences, but is likely to occur;
- **Low:** Non-compliance with:
 - potential for moderate environmental consequences, but is unlikely to occur; or
 - potential for low environmental consequences, but is likely to occur
- **Administrative non-compliance:** Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions).

3 *AUDIT FINDINGS*

3.1 *PREVIOUS AUDIT FOLLOW - UP*

An audit was completed in October 2013 with site inspection completed 30 October 2013. The 2013 audit reported on the audit actions from the audit completed in 2010 with actions completed with the exception of submission of reports within the required timeframes.

A summary of the previous non-compliances and their status is summarised below in *Table 3.1*.

Table 3.1 Previous Audit Findings: Summary of Actions Outstanding

Assessment Requirement	Finding	Response To Audit Finding
PA 3, 2 Noise Impact Assessment Criteria.	<p>Comment: Occasional exceedances of noise criteria.</p> <p>Recommendation: Obtain formal approval to monitor LA1 noise as per LAeq methodology, or (where a monitoring methodology is included) obtain formal approval for the Noise Management Plan. Implement noise prediction system ASAP.</p>	<p>HVO Noise Management Plan(including noise monitoring locations), which details the methodology to be employed to assess compliance of the LA1,(1 min) noise criteria, was approved by DP&E on 25 August 2015.</p> <p>Predictive noise enhancement charts (upcoming Night Shift and Night in advance) are implemented and received on a daily basis.</p>
PA Schedule 3, 10 Blasting Hours.	<p>Comment: A blast was recorded out of hours.</p> <p>Recommendation: Ensure current and forecast meteorological conditions are checked prior to loading blast holes</p>	<p>Utilisation of forecast meteorological data in the blasting process commences at the blast scheduling stage, where forecast conditions (particularly long range rainfall forecasts) are considered during scheduling of blast events considered to pose risk of fume. Meteorological forecast information is regularly reviewed with respect to blast planning, both pre and post loading.</p>
PA Schedule 3, 58 Dangerous Goods	<p>Comment: SKM audit inspection confirms Caltex Audit findings, including areas of leaks and poor containment systems (Plate 12,Appendix J), missing and out of date SDS's, SDS's not stored at locations where chemicals were stored and poor signage issues, among other aspects.</p> <p>Recommendation: HVO has had several audits during 2012 and 2013 which have identified compliance gaps and improvement recommendations associated with chemical storage and hazardous substances. It would be prudent for HVO to progress through the identified gaps and improvement opportunities.</p>	<p>A number of improvement opportunities have been identified through audits and inspections during the audit period. HVO will continue to implement these improvements on a risk basis.</p>
DA Schedule 4, 5(b). Air Quality Operating Conditions.	<p>Comment: The current system does not use a combination of predictive meteorological forecasting, predictive and real time air dispersion HVO need to address the current non-compliance with provision of an operating system that uses a combination of predictive meteorological forecasting, predictive and real time air dispersion modelling and realtime air quality monitoring data.</p>	<p>HVO Air Quality and Greenhouse Gas Management Plan approved by NSW Department of Planning and Infrastructure 12 February 2014. Section 6 of the Management Plan describes HVO's comprehensive Air Quality Management System. HVO has implemented the system as described.</p>

Assessment Requirement	Finding	Response To Audit Finding
DA Schedule 4, 10(d).Noise Management Plan.	Comment: Condition (d) is yet to be implemented, and will be incorporated into the predictive modelling interface. Recommendation: Implement the predictive modelling interface ASAP.	Refinement and Implementation of the Predictive Modelling Interface is continuing. Predictive noise enhancement charts (upcoming Night Shift and Night in advance) are implemented and received on a daily basis.
DA Schedule 4, 36. Annual review.	Comment: The Flora and Fauna Procedure EP10.2 is not being reviewed annually. It was last reviewed on the 01/07/2013. The review prior was on the 29/05/2007. Improvement opportunity: Annual reviews are required to be undertaken.	Flora and Fauna management performance is assessed in the HVO Annual Review.
DA Schedule 4, 52 (e), (f) and (g). Monitoring.	Comment: Coal haulage information was not reported as per items (e), (f) and (g) the 2011 and 2012 AEMRs. Recommendation: Report coal haulage information as required.	Coal haulage information included in Annual Reviews during the audit period.
DA Schedule 4, 54. Visual amenity.	Comment: A survey of surviving trees was conducted October 2013, showing a 45% survival rate. Recommendation: Replant to achieve the required survival rates, and then submit results to DRE and the Director-General for review and approval, providing an assessment on the requirement for visual bunding.	HVO will discuss this condition with NSW Dept. of Planning and Infrastructure prior to undertaking further work in this area. Action not addressed at time of audit.
SoC (HVO North – Carrington West Wing Extension) Visual Amenity - An annual visual assessment of operations will be undertaken, including recommendations for additional mitigation measures where necessary.	Comment: Formal annual visual assessment of operations was not undertaken during 2012. Recommendation: It is recommended that these be undertaken annually as per the commitment.	Action not addressed at time of audit.
Air Quality Management Plan Detailed Baseline Data	Recommendation: Existing air quality is described by annual average PM10 and TSP concentrations from historical monitoring data. The plan should also identify existing variations in short-term PM10 concentrations, as the short-term impacts from the operation are more likely to lead to complaints regarding dust.	AQMP has been updated to include additional information as suggested at the previous audit.
Air Quality Management Plan Proactive Management System	Recommendation: Trigger levels (that is, measured PM10 concentrations which will elicit an action) have been defined for Maison Dieu, Knodlers Lane, Warkworth and Wandewoi. These trigger levels are designed to react to potential off-site increases in PM10 concentrations due to HVO (a reactive approach). The plan should provide information on HVO's proactive approach to dust management, that is, the process or system for identifying the likelihood of adverse conditions or when trigger levels may be exceeded, on a daily basis.	Section 6.3.2.2 of the HVO Air Quality and Greenhouse Gas Management Plan details the processes currently in place for identification of adverse conditions on a forecast basis.

Assessment Requirement	Finding	Response To Audit Finding
Air Quality Management Plan Proactive Management System	<p>Recommendation: The procedure for evaluating measured concentrations above impact assessment criteria and determining the contribution from HVO should be described. Estimating the contribution from HVO may be undertaken by, for example, upwind and downwind calculation using TEOM data or by predictive modelling.</p>	<p>The Hunter Valley Operations Protocol for evaluating compliance in various sections describes the process for determining HVO contribution to measured concentrations above impact assessment criteria as follows:</p> <p><i>“Further assessment will be undertaken by a suitably qualified person, and take account of background particulate concentration, prevailing meteorology, and operational factors influencing particulate dispersion”.</i></p> <p>As committed in section 7 of the protocol, reporting to the Director-General includes provision of any investigative report into any potential exceedance.</p>

3.2

COMPLAINTS SUMMARY

Complaints received over the auditing period include:

2013 (31 October - 31 December): During November and December 2013, six complaints were received through the complaints hotline related to dust (1), light (2), noise (1) and blasting (2). All were received from residents in Jerry Pains and Masion Dieu, with the blasting complaints relating to a single blast event.

2014: During 2014, 34 complaints were received relating to blasting (24), noise (9) and dust (1).

2015 During 2015, 36 complaints were received relating to blasting (19), noise (14), lighting (2) and dust (1).

2016 (up to date of site inspection): At the time of the audit HVO had received 15 complaints in 2016 relating to blasting (4), noise (9) and dust (2).

All complaints received are recorded and followed up with the complainant and where necessary the regulatory authority.

3.3

ENVIRONMENTAL MONITORING PERFORMANCE

3.3.1

Noise

HVO operates a network of directional and real-time noise monitors in order to manage noise emissions at the mine, with the aim of remaining within statutory limits. The network was expanded in November 2015 with the installation of an Environmental Noise Compass at Jerry's Plains (sighted by auditors).

To assess compliance with the Project Approval noise criteria, HVO engages a qualified third party, Global Acoustics, to undertake one night reading per month at the stipulated residences; Knodlers Lane, Maison Dieu, Shearers Lane, Kilburnie South, Jerrys Plains, Jerry's Plains East and Warkworth Village.

During the audit period although there were six exceedances of the noise criteria, only two of these exceedances are considered non-compliant with the project approval criteria, as defined in the NSW Industria Noise Poicy. Both were on the 26 May 2015 and relate to a residence at Shearers lane and the HVO South Coal PA. An incident report was prepared and submitted to the DP&E.

3.3.2 *Blasting*

HVO operate a network of blast monitors which were upgraded in April 2015. To assess compliance with Project Approval Criteria monitors are located at; Jerrys Plains Village, Warkworth, Maison Dieu, Moses Crossing and Knodlers Lane.

During the audit period there were three blast events returned airblast overpressure results greater than the 0% allowable criterion of 120.0dB(L), one at Knodlers Lane (2014) and two at Warkworth (2015 and 2016). An incident report was prepared and submitted to the Department of Planning & Environment and the NSW EPA.

There were no exceedances of the 5mm/s or 10mm/s ground vibration criteria at any monitoring location.

3.3.3 *Air*

HVO's real time air quality monitoring stations continuously log information and transmit data to a central database. Air quality monitoring comprises a network used to assess performance against the relevant approval conditions.

HVO takes a proactive approach to air quality management with regular water cart movements and exposed areas of the mine identified as a potential source of wind generated dust being stabilised through an aerial seeding program.

During the audit period HVO complied with all air quality criteria.

3.3.4 *Water Management*

Surface Water

The HVO surface water management system comprised a network infrastructure, including dams, pipelines, channels and contour banks that have been established to enable the transfer of water around the site. The HVO Water Management Plan (4 May 2016) provides detailed figures and schematics diagrams depicting the geographic layout and specific storage and flow/transfer regimes for both HVO North and HVO South. As previously discussed the North and South operations are separated by the Hunter River.

There are four surface water discharge points identified in the EPL 640. Only one licensed discharge occurred during the audit period from Points 4 and 8. The discharge met the relevant water quality criteria and was within the allowable volume/mass limits set by the EPL. It was noted that while Conductivity is reported by HVO for Point 8 it is not required by the EPL. Clarification should be sought as to whether a conductivity reporting limit needs to be established and included in the EPL 640.

The ability to transfer water within site networks and use it for operational purposes enable HVO to manage surface water discharges with a high level of control.

Two water related incidents were reported to NSW Department of Water and NSW EPA during audit period however neither resulted in a breach of *Section 120* of the *Protection of the Environment Operations Act 1997*.

Groundwater

HVO has an extensive network of groundwater monitoring bore and piezometers screening the alluvium, coal seams and interbed. Groundwater is routinely monitored with results reported in the Annual Environmental Review report. Groundwater is monitored in accordance with the Monitoring Programme as provided in the HVO Water Management Plan (2016) with groundwater data reviewed quarterly. Groundwater monitoring and groundwater quality objectives are not included in the EPL 640.

No incidents or non-compliance with any conditions of consent or other approval conditions have been reported in relation to groundwater during the audit period.

3.3.5 *Rehabilitation*

A monitoring program was developed for rehabilitation areas (AECOM 2012). Results of this program, monitoring pasture and grassland area, is reported in the AEMR (2014). The AEMR (2015) contained the results of the first native vegetation rehabilitation campaign. The site visit and interview process identified that the rehabilitation specialist is cognisant of the recommendations of this latter campaign in their consideration of native vegetation rehabilitation practice and planning.

The rehabilitation monitoring undertaken is unable to comment on the trajectory of rehabilitation toward completion and final landuse because the MOP does not contain any completion criteria. The setting of these criteria will assist greatly in assessing rehabilitation progress towards final landuse and if the rehabilitation areas are likely to achieve a final landuse that will provide a neutral or positive legacy.

3.4 *COMPLIANCE WITH REGULATORY INSTRUMENTS*

A compliance check of the MCoA, EPL, MLs and water access licence conditions has been completed. Non-compliances and observations for each component are summarised in *Table 3.2*.

A full review and audit findings for each component are under the following Annexures:

- *Annex A* - MCoA PA 06_0308
- *Annex B* - Statement of Commitments
- *Annex C* - EPL 12957
- *Annex D* - Mining Leases 1624

As discussed in *Section 2.2*, a qualitative risk assessment was also completed on the findings as follows:

- non-compliance assessed as 'high' have been colour coded red;
- non-compliance assessed as 'moderate' have been colour coded orange;
- non-compliance assessed as 'low' have been colour coded yellow; and
- administrative non-conformances have been colour coded blue.

Table 3.2 Summary of Audit Findings

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
<i>EPL 640</i>				
A1.1	This license authorises the carrying out of the scheduled activities listed at the premises specified. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.	Site not able to provide volume of in pit crushing of road aggregate and as such the auditor is not able to verify the current extractive activities of other minerals (50,000 - 100,000T annual capacity).	NV	Ensure that records of volume of crushed aggregate are maintained.
P1.3	The utilisation areas referred to in the condition table are identified in this license for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.	Missing data from discharge point 8 raised as non-compliance in annual return to EPA. NSW office of Water (NoW) data transfer failed and resulted in failure in real time.	NC	No further action required.
L2.4	Water and/or Land Concentration Limits	Conductivity is reported but not required by licence.	O	Clarification should be obtained as to whether a conductivity should be reported for Point 8.
L4.2	The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Overpressure exceedances were reported in each year of the reporting period. One exceedance resulted in a Penalty Infringement Notice for a blast event on 25 February 2016 with a reading of 125.78dB(L) at Warkworth Monitoring Point.	NC	No further action required.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
M2.2	Air Monitoring Requirements	New condition applicable as of 3 October 2016. Real time feed of continuous monitoring reviewed for Point 13, 14, 15, 16, 17. Superseded conditions met.	O	Clarification should be obtained as to the definition of continuous monitoring and the period of time permissible for outage.
M2.3	Water and/or Land Monitoring Requirements	In reference to Condition L2.4 no reporting limit is provided for conductivity for Point 8, however there is a requirement to report conductivity in the Annual Return.	O	Clarification should be obtained as to whether a conductivity reporting limit needs to be established for Point 8.
M9.1	The licensee must continuously operate and maintain communication equipment which makes the conductivity and flow measurements, taken at Point 3, 4 and 8 available to the "Service provider" within one hour of those measurements being taken and makes them available in the format specified in the "Hunter River Salinity Trading Scheme Discharge Point Site Equipment" as published by the Department of Land and Water Conservation on 7 May 2002	Flow rate was not continuously relayed during discharge event (refer P1.3)	NC	No further action required.
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Documentation to support incident reporting is not demonstrated in all cases. The typical process followed at HVO is to call EPA Officer directly and follow-up with email outlining incident.	O	Maintain records of process for incident reporting. Keep a record of initial phone call notification and following up email.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
U1.1	The licensee must conduct a noise assessment in accordance with the document, ' <i>NSW Industrial Noise Policy</i> ', (EPA, 2000) for the operations and activities carried out at the licensed premises and submit a report to the Manager, Hunter Region, by no later than 30 June 2013.	<p>No report submitted to date.</p> <p>HVO noise studies completed during EIS phase with intent of using these reports to satisfy the Condition.</p> <p>EPA raised that two studies may not be appropriate.</p> <p>HVO offered an approach to use HVO North noise study for Jerry's Plains and HVO South for receptors in Maison Dieu.</p> <p>Uncertain outcome as to what the NSW EPA require, with discussions ongoing but no report issued by HVO.</p> <p>HVO recently approached EPA to provide guidance on this condition.</p>	ANC	Obtain confirmation from the NSW EPA as to next steps required to close out this requirement.
U1.2	The report referred to in condition U1.1 must include a number of specific items.	No report submitted to date.		Refer above. The noise assessment prepared and provided to the NSW EPA should meet the requirements of this condition.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
<i>Ministers Conditions of Approval PA 06-0261 (Modification 4)</i>				
3.2	<p>The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p>Table 2: Noise impact assessment criteria dB(A)</p> <p>However, if the Proponent has a written negotiated noise agreement with the any landowner of the land listed in Table 2, and a copy of this agreement has been forwarded to the Department and EPA, then the Proponent may exceed the noise limits in Table 2 in accordance with the negotiated noise agreement.</p>	<p>* 3dB (LAeq IAC, LAC) and 5dB (LA1,1min) exceedances - 26 May 2015 - Shearers Lane - Non - compliance</p> <p>- Report submitted to DP&E</p> <p>- Residents notified</p> <p>- Revised NMP submitted to DP&E</p> <p>- Formal non-conformance issued to contractor.</p>	NC	No further action required in relation to recorded non-conformance.
3.7	<p>The Proponent shall ensure that the airblast overpressure level from blasting at the projects does not exceed the criteria in table 6 at any residence on a private owned land.</p>	<p>* 25 July 2014 - Knodlers Lane - 120.2dB(L) - non-compliance</p> <p>- Incident Report submitted to DP&E</p> <p>- Residents notified</p> <p>- 5% compliance criteria - Compliant</p> <p>* 17 July 2015 - Warkworth - 120.55dB(L) - non-compliance</p> <p>- Incident Report submitted to DP&E</p> <p>- Residents notified</p> <p>- 5% compliance criteria - Compliant</p> <p>* 25 February 2016 - Warkworth - 125.78dB(L) - non-compliance</p> <p>- Incident Report submitted to DP&E (approval granted for extension of time)</p> <p>- Residents notified</p> <p>- Penalty Infringement Notice</p>	NC	No further action required in relation to recorded non-conformance.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
		- 5% compliance criteria - compliant YTD, not at risk.		
3.9	For St Philip's Church and the outbuildings at Archerfield, the Proponent shall ensure that ground vibration peak particle velocity generated by the project does not exceed 5 mm/s, or as otherwise approved by the Director-General.	Monitoring point, 1.5km across river to south. Mine operations over time moving further from this location, notwithstanding may need to verify calculated assumptions for location.	O	Review location of Archerfield Vibration Monitor
3.18	The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must: (a) be submitted to the Director General for approval within 6 months from the date of this approval, or as otherwise agreed by the Director-General; and (b) include a protocol for evaluating blasting impacts on, and demonstrating compliance with, the blasting criteria in this approval for all privately-owned residences and structures.	HVO Blast Management Plan approved by DP&I dated 4/4/2014 on basis of road closure plans subsequently being approved. A DP&I email correspondence dated 4 April 2016 is provided with the HVO Blast Management plan confirming acceptance of ROL 8986 Ext 4 Coal & allied Lemington Road to Comleroi Road.doc as evidence license for road closure satisfying requirement of the HVO Blast Management Plan. The above correspondence also request that the Blast management Plan on the HVO website be kept up-to-date with current approvals for road closure. The HVO Blast Management Plan on the website had not been updated at the time of the audit.	O	Review road closure plan to make sure it is correct and current.
3.27	The Proponent shall prepare and implement a Water	Some minor administrative	O	Review Appendix headings against

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
	Management Plan to the satisfaction of the Director-General.	anomalies were identified by the auditor with regard to correct referencing of Appendices.		references in Table 1 of the HVO WMP, ie. Sch. 3, Cond. 27(c) (on page 12, last row) references Appendix D - Groundwater Monitoring Programme, where it should reference Appendix C - Surface Water Monitoring Programme.
3.31	The Proponent shall protect all stands of the Hunter Lowland Red Gum Forest (also identified as Hunter Floodplain Red Gum Woodland Complex in the EA) endangered ecological community within the site, and adjacent lands under the control of the Proponent, as shown in Appendix 8, to the satisfaction of the Director-General	<p>Relevant mapped occurrences of Hunter Floodplain Red Gum Woodland Complex in Appendix 8 are those at Carrington Billabong and others further south in the MTW complex.</p> <p>The HVO River Red Gum Rehabilitation and Restoration Strategy contains controls for ecological protection such as fencing, weed and pest control.</p> <p>AEMRs (2011-2015) report that pest and weed control was undertaken during the reporting periods in the Carrington Billabong.</p> <p>AEMRs (2014-2015) report that fencing and weed control was undertaken at the Hunter River and Wollombi Brook priority sites.</p> <p>Fencing was observed at Carrington Billabong during the site visit.</p> <p>No protection from future development is afforded by any</p>	NC	Clarification should be sought to ensure protections are to the satisfaction of the Director general.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action	
		formal land covenant. No evidence exists that protection is to the satisfaction of the Director-General; that includes either of the physical infrastructure (e.g. fencing) and pest control (e.g. weed and feral animal control) or whether the Director-General requires formal protection via land covenant.			
3.34	The Proponent shall progressively rehabilitate the site in a manner that is generally consistent with the final landform set out in the EA (shown conceptually in Appendix 6) to the satisfaction of the Executive Director, Mineral Resources in DRE and the Director-General.	Two areas visited in the Riverview rehabilitation area were sown (or proposed to be sown) with woodland species although the MOP Plans (3A and 3B) show the domains as being 5C 'pasture'. This is not inconsistent with the concept in Appendix 6 which only shows the areas as 'proposed native vegetation MOP'.		O	Observation was made that areas shown in the MOP as pasture were sown with a native woodland mix. Opportunity exists to clarify and make consistent the proposed rehabilitated vegetation type across all plans.
3.40	The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General.	The ACHMP allows for bi-annual ACHMP compliance inspections. This has not strictly been undertaken with only annual inspections being reported in the AERs. It is noted however that other programs have been undertaken during the audit period.		O	Consider whether the current inspection regime is sufficiently meeting the intent of the ACHMP and this condition and seek clarification from DE&E as to the adequacy of same.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
3.50	<p>The Proponent shall:</p> <p>(a) ensure no external lights shine above the horizontal;</p> <p>(b) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting, or its latest version, and</p> <p>(c) take all practicable measures to mitigate off-site lighting impacts from the project to the satisfaction of the Director-General.</p>	<p>2013 – Two complaints (Jerry’s Plains and Maison Dieu)</p> <p>2014 – No complaints</p> <p>2015 – Two complaints (HVGC and Maison Dieu)</p> <p>2016 – One complaint (Gowrie)</p> <p>All lighting plant with potential to impact off-site properties, provided with lock-out system which requires super-intendant approval prior to relocating from approved position.</p> <p>The auditors toured the surrounding region on the evening of 26 October 2016 and clearly observed two bright lighting stands visible to residents on high ground at Maison Dieu. The site was advised and took action the following day to inform the mine operations in order to re-locate the lighting stands.</p>	<p>NC</p>	<p>As there have been complaints during the reporting period, combined with the auditor’s observation in the field, it would be advisable to review the Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting to ensure all practicable measures to mitigate off-site lighting impacts are implemented.</p>
3.52	<p>Within 3 months of the Director-General approving this report, the Proponent shall advise all owners of residences identified in the report that they are entitled to mitigation measures to reduce the visibility of the mine from their properties and reach agreement with Council about mitigation measures (if any) to be implemented for public roads. If the Proponent and Council cannot agree about these measures, the matter shall be referred by either party to the Director-General for resolution.</p>	<p>No formal feedback received from DP&I.</p> <p>The auditor was advised that the majority of properties in VIR are now under mine ownership or relate to conditions not yet triggered by current mine development.</p>	<p>O</p>	<p>Follow-up is recommended to confirm formal feedback from DP&I once the MOD is updated.</p>

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
3.57	<p>Except as expressly permitted in a licence under the Protection of the Environment Operations Act 1997 or by the Protection of the Environment Operations Amendment (Scheduled Activities and Waste) Regulation 2008, waste must not be:</p> <p>(a) received at the project site for storage, treatment, processing or disposal; or</p> <p>(b) disposed of at the project site.</p>	<p>The auditor was advised by HVO that used heavy earthmoving tyres are stockpiled then disposed of in mine voids. The location, depth and volume of tyres are tracked. Waste tyres are not considered in the current EPL 640.</p> <p>Section 7 of the Resource Recovery Exemption states that waste tyres can only be applied to land for use in civil engineering structures and road making activities (using industry recognised standards such as the Building Code of Australia). There is not currently an exemption for the disposal of tyres in mine voids.</p> <p>The HVO South Environmental Assessment states that heavy earthmoving tyres are to be reused on site as “markers or for delineation purposes” in the Section titled Recyclable Waste. It also states in this Section that the “location and depth of disposed tyres are recorded”. There is however no reference to the activity of disposing tyres in mine voids.</p> <p>Tyres are classified as special waste T140 under NSW waste classification guidelines, which means they need to be disposed of to a Licenced waste facility.</p>	NC	<p>Confirm with DP&I the current status of approval with regard to disposal of heavy earthmoving tyres.</p> <p>Confirm EPA expectations and/or approach to disposal of used tyres in mine voids.</p> <p>Consider need for inclusion of waste tyres in the EPL.</p>

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
3.58	<p>The Proponent shall ensure that the storage, handling, and transport of:</p> <p>(a) dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code; and</p> <p>(b) explosives are managed in accordance with the requirements of DRE.</p>	<p>It is further noted that the Minerals Council of Australia identified in Table 5 of its report titled <i>Issues and Option for the Management of Waste Tyres in the Australian Minerals Industry</i> that the current requirement for NSW is "No disposal of tyres in mine sites".</p> <p>Dangerous Goods observed to generally be adequately segregated with vented cabinets for Class 2 flammable gas and Class 3 combustibles cabinets. Stores of bulk dangerous goods were observed to be provided with adequate bunding and good housekeeping was demonstrated.</p> <p>In isolated cases the auditor observed small volumes of Class 3 and Class 2 flammables co-located in Class 3 cabinets in the workshops.</p> <p>IEA 2013 referenced a number of non-compliance findings from third party inspections. All actions identified have since been closed out.</p>		<p>Communicate appropriate storage and segregation rules for dangerous goods to maintenance teams, particularly with respect to segregation of incompatible Dangerous Goods, ie. Class 2 and Class 3.</p>
3.60	<p>The Proponent shall ensure that it maintains a Fire Management Plan for the site, in consultation with Council and the Rural Fire Service</p>	<p>Since the previous IEA in 2013 the Bushfire Fire Management Plan was updated in June 2015 in consultation with Rural Fire Service.</p>	 <p>ANC</p>	<p>The Bushfire Management Plan on the HVO website is dated June 2007. It is recommended the current plan is added to the website.</p>

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
4.4	<p>If a landowner considers the project to be exceeding the impact assessment criteria in Schedule 3, except where this is predicted in the EA, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision:</p> <p>(a) consult with the landowner to determine his/her concerns;</p> <p>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:</p> <ul style="list-style-type: none"> • determine whether the project 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 project's contribution to this impact; and <p>(c) give the Director-General and landowner a copy of the independent review.</p>	<p>An exceedance was recorded on 20 May 2013, landowner consulted, suitably qualified independent person commissioned for review within 2 months however the report was issued within 3 months.</p> <p>Therefore administrative non-compliance as Director-General and landowner were not provided a copy of the independent review within the stipulated time frame.</p> <p>All parties were satisfied with process.</p> <p>Independent Review (Noise) at Elbourne residence conducted by AECOM</p> <p>Letter to DG in response to request 10 July 2013.</p> <p>Considered ANC as no non-compliant findings in AECOM Report and DP&E provided email with no material comments in the report.</p>	ANC	<p>Consideration should be given to addressing wording in consent when updating the DA to reflect an appropriate timeframe for reporting.</p>
4.5	<p>If the independent review determines that the project is complying with the relevant impact assessment criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.</p>	<p>An Independent Review determines that the project complies with the noise assessment criteria however no approval has been provided by the DG to discontinue review.</p>	ANC	<p>Obtain notification from the DG that the Independent Review demonstrates compliance with noise criteria and that the review may be discontinued.</p>

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
5.4A	<p>Within 3 months of the submission of an:</p> <p>(a) incident report under condition 2 above;</p> <p>(b) annual review under condition 4 above;</p> <p>(c) audit under condition 5 below; or</p> <p>(d) any modification to the conditions of this approval,</p> <p>the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p>	<p>Site maintains a Management Plan Review Register (MPRR). This is reviewed on a quarterly basis and was implemented in March 2016. MPRR is not triggered by incidents.</p> <p>Prior to March 2016 reviews and updates were conducted on an as needs basis, however this was not tracked in a structured manner.</p> <p>Incident route cause investigation considers conformance with plans. Where process conforms to plans but results in an incident and therefore is deemed not appropriate the plan is updated.</p>	O	Review performance of system introduced in March 2016. If review indicates condition is not being met, revise as appropriate.
5.7	<p>Within 3 months of submitting the audit report to the Director-General, the Proponent shall review and if necessary revise the strategies/plans/programs required under this approval, to the satisfaction of the Director-General.</p>	<p>Some reports were not approved at time of previous audit and some were revised within three months of the audit. There is now a system in place to track and review strategies / plans / programs.</p>	ANC	As above
5.8	<p>The Proponent shall operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General in general accordance with the <i>Guideline for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version)</i>.</p>	<p>CCC generally meets guidance and is in place with an independent chairperson, with three meetings are held per year, and minutes demonstrate the required number of community representatives (three).</p>	O	Add to CCC minutes a statement that committee meets EPA Guidelines.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
<i>Ministers Conditions of Approval DA 450-10-2003 (Modification 4 issued January 2014)</i>				
4.6	<p>The Applicant shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the development to the satisfaction of the Director-General. This plan must...</p> <p>(f) include an air quality monitoring program that includes PM2.5 monitoring...</p>	<p>AQGGMP approved by DP&E in correspondence dated 12/2/14.</p> <p>The AQGGMP generally satisfies the requirements of this condition as identified with the exception of the following aspect:</p> <p>f) While PM_{2.5} monitoring is outlined in Section 6.3.2 and Section 8 of the AQMP, the prescribed monitoring has not been implemented.</p>	NC	<p>Confirm relevance of the commitments made in Monitoring Program and implement monitoring of PM_{2.5} if deemed necessary.</p>
4.9	<p>The Applicant shall:</p> <p>(a) implement best management practice to minimise the operational, low frequency, road and rail traffic noise of the development...</p> <p>(c) maintain the effectiveness of any installed noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired...</p> <p>(h) co-ordinate the noise management on site with the noise management at nearby mines (Mt Thorley Warkworth, Wambo, Ravensworth and HVO South mines) to minimise the cumulative noise impacts of these mines and the development, to the satisfaction of the Director-General.</p>	<p>The HVO Noise Management Plan adequately addresses each of the requirements of this condition.</p> <p>The auditor observed the active noise monitoring location, including directional noise monitoring.</p> <p>Noise attenuation of haul trucks - 25% attenuated <155dB(A), 75 are not attenuated >118dB(A). Management of noisy areas by campaign use of attenuated haul trucks where possible.</p> <p>The NMP indicates that HVO/MTW are investigating opportunities to coordinate noise management with Wambo mine, which once finalised</p>		O

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
4.10	The Applicant shall prepare and implement a Noise Management Plan for the development to the satisfaction of the Director-General.	<p>details will be provided in an updated NMP.</p> <p>The NMP generally addresses all requirements of this condition.</p> <p>The NMP discusses an agreement between HVO and Ravensworth Complex for investigating noise alarms and co-operation to minimise cumulative noise.</p>	O	Finalise options for coordination of noise management with adjoining Wambo mine and update NMP accordingly.
4.16B	<p>If the owner of any privately-owned land claims that buildings and/or structures on his/her land have been damaged as a result of blasting on the site, then within 2 months of receiving this claim the Applicant shall:</p> <p>(a) provide the Director-General with a report that:</p> <ul style="list-style-type: none"> • investigates the claim; and • identifies measures or works that should be implemented to rectify any blasting impacts of the development on these buildings and/or structures; and <p>(b) provide the landowner with a copy of the claim inspection report and recommendations.</p>	<p>Two claims made during the audit period for damage to properties in Jerrys Plains area approximately 3km from the site. In response to claims property inspection reports prepared by independent suitably qualified third party. Conclusion of reports did not indicate that the mine was at fault for damage to property.</p> <p>At time of response to claims, the site did not consider the condition to be triggered. As such, records were not tracked to confirm if residents were provided with report within 2 months, and the DG was not notified.</p> <p>The auditor considers this to be an administrative non-compliance as the investigation has been undertaken but not tracked in line with condition.</p>	ANC	It is recommended that the intent of the condition is confirmed with Director-General with consideration given to modification of the wording of the condition.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
4.27	<p>The Applicant shall prepare and implement a Water Management Plan for the HVO North mine to the satisfaction of the Director-General. This plan must be prepared in consultation with NOW and the EPA by suitably qualified and experienced persons whose appointment has been approved by the Director-General, and submitted to the Director-General by the end of September 2013</p>	<p>HVO WMP prepared for North and South by suitably competent and Director General approved water management expert (Chris New). Revision 1 of the Plan dated 20 December 2013 was submitted within the agreed timeframe. It has since undergone a number of revisions. The current Revision 1.3 of the plan is dated 4 May 2016.</p> <p>HVO WMP was previously approved by DP&E April 2014.</p> <p>The current revision of the HVO WMP adequately addresses all requirements of this condition.</p> <p>Some minor administrative anomalies were identified by the auditor with regard to correct referencing of Appendices.</p>	O	<p>Review Appendix headings against references in Table 1 of the HVO WMP, ie. Sch. 3, Cond. 27(c) (on page 12, last row) references Appendix D - Groundwater Monitoring Programme, where it should reference Appendix C - Surface Water Monitoring Programme.</p>
4.35	<p>The Applicant shall prepare and implement procedures for the management of flora and fauna for the development.</p>	<p>The majority of condition requirements are met. However, no details are contained regarding relocation of bat roosts or salvaging habitat resources.</p>	NC	<p>Provide details regarding relocation of bat roosts or salvaging habitat resources.</p>

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
4.54	<p>The Applicant shall plant trees to provide an effective visual screen from Lemington Road in the vicinity of the Belt Line Road and adjacent to the Mitchell pit area. The plan for this tree planting is to: (a) provide for tree planting within 2 years of the date of this consent;</p> <p>(b) achieve an 80% survival rate by the 5th year;</p> <p>(c) be submitted to DRE and Director-General for review and approval; and</p> <p>(d) provide an assessment of whether visual bunds are required to supplement the vegetative visual screen.</p>	<p>Tree screens observed to have been established on Lemington Road prior to 2010. Assessment in 2011 indicated 45% survival rate. No further planting, assessment or submission to DRE and DG.</p> <p>Mine acquired remaining private property on Lemington Road therefore visual impact screen not a priority.</p>	NC	Review the relevance for requirement for any further tree planting and bund, and report findings to DRE and DG.
4.56	All external lighting associated with the development shall comply with <i>Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting</i>	No evidence to confirm AS482 (INT) adopted.	NV	Review the Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting to ensure all practicable measures to mitigate off-site lighting impacts are implemented.
4.59	<p>The Applicant shall ensure that the storage, handling, and transport of:</p> <p>(a) dangerous goods is done in accordance with the relevant <i>Australian Standards</i>, particularly <i>AS1940</i> and <i>AS1596</i>, and the <i>Dangerous Goods Code</i>; and</p> <p>(b) explosives are managed in accordance with the requirements of DRE</p>	<p>Dangerous Goods observed to be generally adequately segregated with vented cabinets for class 2 flammables. Stores provided with appropriate bunding and good housekeeping demonstrated.</p> <p>In isolated cases observed class 3 and class 2 flammables co-located.</p> <p>IEA 2013 referenced a number of non-compliance findings from third party inspections. All actions identified have since been closed out.</p> <p>Same C59 in North</p>	O	Communicate appropriate storage and segregation for Dangerous Goods to maintenance team particularly with respect to segregation of incompatible Dangerous Goods, instance, ie. Class 2 and Class 3.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
6.2	<p>Within 14 days of the Director-General's approval, the Applicant shall:</p> <p>(a) send copies of the approved strategy to the relevant agencies, Council, and the CCC; and</p> <p>(b) ensure the approved strategy is publicly available during the development.</p>	<p>The plan was originally approved on 31st January 2013, no evidence to support it was sent to the relevant Council and CCC within 14 days. Whilst the EMS was made publically available on the company website this is considered an administrative non-compliance.</p> <p>The auditor was advised that the EMS has been updated and is currently awaiting review by the DG.</p>	ANC	Once the revised EMS is approved by the DG issue copies to Council and the CCC.
6.2A	<p>Within 6 months of the completion of the Independent Environmental Audit, the Applicant shall review, and if necessary revise, the Environmental Management Strategy to the satisfaction of the Director-General.</p>	<p>Site maintains a Management Plan Review Register (MPRR). This is reviewed on a quarterly basis and was implemented in March 2016. MPRR is not triggered by incidents.</p> <p>Prior to March 2016 reviews and updates were conducted on an as needs basis, however this was not tracked in a structured manner.</p>	O	Review performance of system introduced in March 2016. If review indicates condition is not being met, revise as appropriate.
6.5A	<p>Within 3 months of:</p> <p>(a) the submission of an annual review under Condition 5 above; (b) the submission of an incident report under Condition 5B below; (c) the submission of an audit under Condition 6 below; and</p> <p>(d) any modification to the conditions of this consent (unless the conditions require otherwise), the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Director-General.</p>	<p>As above</p> <p>Incident route cause investigation considers conformance with plans. Where process conforms to plans but results in an incident and therefore is deemed not appropriate the plan is updated.</p>	O	As above

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
<i>Statement of Commitments (South Operations) PA 06-0261</i>				
<p>In addition to the mitigation measures undertaken at HVO for blast and vibration management, blasts will be designed to minimise impacts on neighbouring mine ventilation structures and minimise the potential for fracture development along pit walls to assist with pit wall stability:</p>	<p>The previous IEA verified that the requirements of this commitment were adequately addressed by Environmental Procedure EP9.2 Blasting.</p> <p>The current BMP references this commitment, however does not provide information to address the specific requirements of this condition or reference EP9.2 as a source of this information.</p>	O	<p>Consider updating the BMP to address the specific requirements of this commitment.</p>	
<p>In addition to the mitigation measures undertaken at HVO for management of flora and fauna, the following controls specific to the proposal will be implemented:</p> <p>the River Red Gum Rehabilitation and Restoration Strategy prepared by CNA will be updated to include the stands along the Hunter River and Wollombi Brook, will include collection and storage of seed from existing stands, and will ensure the health of these River Red Gums is periodically monitored;</p> <p>Studies will be undertaken to investigate the preferred water source of River Red Gums and develop appropriate management measures;</p> <p>Rehabilitation planning will identify opportunities to create similar ecological characteristics (such as habitat types) of proposed extension areas;</p>	<p>No evidence exists of <i>Environmental Procedure 10.2</i> which is stated in the HVO River Red Gum Rehabilitation and Restoration Strategy as being the guiding document for seed collection and planting of River Red Gums in the Carrington Billabong area.</p> <p>No evidence exists of whether collection and storage of seed from local sources is occurring.</p>	NC	<p>Collect River Red Gum seed from existing stands.</p>	

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
	<p>The Warkworth and Wambo Green Offset areas and the Hunter Valley Synoptic Plan will be considered with rehabilitation planning to enhance linkage where practical.</p>			
	<p>Provision is to be made for the management of collected cultural heritage material; provision will be made in the ACHMP for the Working Group to undertake an independent compliance audit of the management programme on a six monthly basis. In the event that any non-compliant activities are identified at any time, an additional compliance audit may be undertaken as part of the investigation process;</p>	<p>PA 06-0261 Schedule 3, condition 40, The Aboriginal Cultural Heritage Working Group (CHWG) met on 4 occasions in 2015; 5 occasions in 2014; and 3 occasions in 2013.</p> <p>No Aboriginal cultural heritage assessment or salvage projects were undertaken in 2013. No ACHMP compliance inspection was undertaken in 2013 within the audit period.</p> <p>An ACHMP compliance inspection was undertaken in June 2014. An Aboriginal cultural heritage Salvage Collection Programme was also undertaken in October 2014.</p> <p>An ACHMP compliance inspection was undertaken in June 2015. A scarred tree verification and condition inspection programme was also undertaken in July 2015.</p> <p>The ACHMP allows for bi-annual ACHMP compliance inspections. This has not strictly been undertaken with only annual inspections being</p>	O	<p>Consider whether the current inspection regime is sufficiently meeting the intent of the ACHMP and seek clarification from DE&E as to the adequacy of same.</p>

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
	Remnant vegetation located within the Project Application area and outside proposed disturbance areas will be protected and enhanced to improve the ecological value and biodiversity.	<p>reported in the AERs. It is noted however that other programs have been undertaken during the audit period.</p> <p>The commitment is largely met however River Red Gum monitoring partially addresses the requirement for monitoring of remnant vegetation within the Project Application Area but outside the proposed disturbance areas, although no other vegetation monitoring exists.</p> <p>Habitat ponds are incorporated into rehabilitation areas. Salvage and use of logs in rehabilitation areas largely absent.</p>	NC	<p>Identify opportunities to monitor vegetation within the Project Application area but outside the proposed disturbance area.</p> <p>Incorporate more log reuse in rehabilitation areas for habitat creation and enhancement for common and threatened species.</p>

Statement of Commitments (HVO North - Carrington West Wing Extension)

b	Continued monitoring will include: <ul style="list-style-type: none"> - two-monthly monitoring of water levels in any new standpipe piezometer in proximity to the proposed extension area and quarterly monitoring elsewhere, unless water level changes dictate otherwise; - daily or more frequent monitoring of pore pressures by installed auto recorders at some existing piezometers in order to discriminate between oscillatory groundwater movements attributed to rainfall recharge, and longer term pressure losses related to open cut and underground mining; and 	<p>Addressed in Table 8 of the WMP.</p> <p>The prescribed monitoring to be commenced once mining begins in the Carrington West Wing extension area.</p> <p>Construction of additional piezometers to be as deemed necessary based on information generated by existing network, once mining commences.</p>	O	Correct the title of Table 8 in future version.
---	---	--	---	---

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
	- construction of additional piezometers where deemed necessary, as information is generated from within the existing network, during the course of mining. Permeability testing will be completed on new piezometers in order to facilitate estimation of leakage and subsurface flows.	Table 8 of the WMP is incorrectly titled "on-site monitoring of Stream and Riparian Vegetation Health of the Hunter River".		
k	<ul style="list-style-type: none"> Disturbed areas will be progressively rehabilitated, and revegetation of rehabilitated areas will be undertaken as soon as practical after final landforms and drainage structures are completed. Lighting instalments will be designed and placed to minimise lighting impacts wherever possible, including provision of shields on floodlights, fitting lights with sensor switches or time switches and/ or directing lighting away from mine boundaries where possible. All external lighting will comply with AS4282-1997 Control of Obtrusive Effects of Outdoor Lighting. Response procedures will be in place for the advent that lighting is observed to be impacting public roads or sensitive receptors or if a complaint is received. 	<p>Refer to DA - 450-10-2003 Schedule 4, Condition 53-55</p> <p>The EMS outlines complaints response procedures.</p>	O	Review the Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting to ensure all practicable measures to mitigate off-site lighting impacts are implemented.
	<ul style="list-style-type: none"> An annual visual assessment of operations will be undertaken, including recommendations for additional mitigation measures where necessary. 	The previous IEA identified that no formal annual assessments undertaken. HVO committed to address this and visual assessments yet to be completed	NC	Complete annual visual assessments.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
<i>Statement of Commitments (HVO North - Carrington Pit Extended)</i>				
Development and implementation of a monitoring programme to assess groundwater conditions and the health of the stand of River Red Gums in the billabong area; and	Section 7.1.2 describes baseline and subsequent surveys (2007 and 2008). Section 7.1.3 contains a timetable for future monitoring including year 3 (2010), year 5 (2012) and year 10 (2017) monitoring.	Other timing for actions are stated in Section 5.3, Table 5.1.	ANC	Future monitoring to ensure access to all required stands is available well in advance
	AER (2013) Section 5.1.1.2 contains reported results of the year 5 monitoring event undertaken in 2013 although the HVO River Red Gum Rehabilitation and Restoration Strategy designates that monitoring should have been undertaken in 2012. This explained by RTCA by:			
	<i>Monitoring delayed due to access to Camyr Allyn control site not being available. Decision was made to proceed with monitoring of Carrington Billabong in Oct 2013 despite access to Camyr Allyn still not being available. Dispute with Camyr Allyn land owner was resolved and monitoring of this site was undertaken in May 2014.</i>			

3.5

REVIEW OF MANAGEMENT PLANS IMPLEMENTATION

A check against commitments made in the management plans developed as part of the statutory instruments for the site was completed. Non-conformances and observations for each commitment in the plans are summarised in *Table 3.3*.

As discussed in *Section 2.2*, a qualitative risk assessment was also completed on the findings as follows:

- non-compliance assessed as 'high' have been colour coded **red**;
- non-compliance assessed as 'moderate' have been colour coded **orange**;
- non-compliance assessed as 'low' have been colour coded **yellow**; and
- administrative non-conformances have been colour coded **blue**.

Table 3.3 Summary of Plan Implementation Review Findings

Assessment Requirement	Comment	Audit Classification	Recommended Action
<p>Within 6 months of the date of this consent, the Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Director-General.</p>	<p>Environmental Management Strategy was most recently approved February 2016.</p>	C	
<p>The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <ul style="list-style-type: none"> (a) be submitted to the Director General for approval within 6 months from the date of this approval, or as otherwise agreed by the Director-General; and (b) include a protocol for evaluating blasting impacts on, and demonstrating compliance with, the blasting criteria in this approval for all privately-owned residences and structures. 	<p>HVO Blast Management Plan approved by DP&I dated 4/4/2014 on basis of road closure plans subsequently being approved.</p> <p>A DP&I email correspondence dated 4 April 2016 is provided with the HVO Blast Management plan confirming acceptance of ROL 8986 Ext 4 Coal & allied Lemington Road to Comleroi Road.doc as evidence license for road closure satisfying requirement of the HVO Blast Management Plan.</p> <p>The above correspondence also request that the Blast Management Plan on the HVO website be kept up-to-date with current approvals for road closure. The HVO Blast Management Plan on the website had not been updated at the time of the audit.</p>	O	<p>Ensure up-to-date Blast Management Plan is uploaded to website.</p>
<p>The Applicant shall prepare and implement a Noise Management Plan for the development to the satisfaction of the Director-General.</p>	<p>The NMP generally addresses all requirements of this condition.</p> <p>The NMP discusses an agreement between HVO and Ravensworth Complex for investigating noise alarms and co-operation to minimise cumulative noise.</p>	O	<p>Finalise options for coordination of noise management with adjoining Wambo mine and update NMP accordingly.</p>

Assessment Requirement	Comment	Audit Classification	Recommended Action
<p>The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General.</p>	<p>AQMP approved by DP&E in correspondence dated 12/2/14.</p> <p>The AQMP generally satisfies the requirements of this condition as identified with the exception of the following aspect:</p> <p>f) While PM_{2.5} monitoring is outlined in Section 6.3.2 and Section 8 of the AQMP, the prescribed monitoring has not been implemented.</p>	<p>NC</p>	<p>Confirm relevance of the commitments made in Monitoring Program and implement monitoring of PM_{2.5} if deemed necessary.</p>
<p>The Proponent shall prepare and implement a Water Management Plan to the satisfaction of the Director-General.</p>	<p>HVO WMP prepared for North and South by suitably competent and Director General approved water management expert (Chris New). Revision 1 of the Plan dated 20 December 2013 was submitted within the agreed timeframe. It has since undergone a number of revisions. The current Revision 1.3 of the plan is dated 4 May 2016.</p> <p>HVO WMP previously approved by DP&E April 2014.</p> <p>The current revision of the HVO WMP adequately addresses all requirements of this condition.</p> <p>Some minor administrative anomalies were identified by the auditor with regard to correct referencing of Appendices.</p>	<p>O</p>	<p>Review Appendix headings against references in Table 1 of the HVO WMP, ie. Sch. 3, Cond. 27(c) (on page 12, last row) references Appendix D - Groundwater Monitoring Programme, where it should reference Appendix C - Surface Water Monitoring Programme.</p>

Assessment Requirement	Comment	Audit Classification	Recommended Action
The Proponent shall prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of the Director-General and the Executive Director, Mineral Resources in DRE.	Landscape Management Plan satisfies these points.	C	
The Rehabilitation and Biodiversity Management Plan.	Rehabilitation and Biodiversity Management Plan approved by DP&E. The Rehabilitation Management Plan for HVO North is the MOP.	C	
Final Void Management Plan	Auditor informed that Final Void Management Plan information is incorporated in the RLMP however mining to continue beyond 5 years.	NT	
The Mine Closure Plan must: (a) be prepared in consultation with NOW, DRE and Council; (b) define the objectives and criteria for mine closure; (b) investigate options for the future use of the site, including the final void; (c) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local employment levels; (d) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and (e) describe how the performance of these measures would be monitored over time.	Auditor informed that Mine Closure Plan information is incorporated in the RLMP however mining to continue beyond 5 years.	NT	

Assessment Requirement	Comment	Audit Classification	Recommended Action
<p>The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General.</p>	<p>The Aboriginal Heritage Management Plan was approved by DP&I and Hunter Valley Aboriginal Cultural Working Group as verified in the 2010 IEA. The 2013 IEA confirmed the Plan meets the requirements of this condition.</p> <p>The Cultural Heritage Advisor informed that auditor that:</p> <ul style="list-style-type: none"> • All known sites are recorded on the AIHMS database • The sites GIS is linked to Management Plans and requirements • The site maintains a Cultural heritage zone plan • Recovered artefacts are located at Hunter Valley Services storage shed in compliance with OEH storage standards. • The above facility approved by OEH as per the Care and Control Plan. • Repatriation of artefacts to be on rehabilitation final land form. • Awareness for employees and contractors continues to be raised through general site induction and on specific toolbox induction on projects as required. • Mandatory cultural awareness training is provided for all FTEs and contractors. 	C	

Assessment Requirement	Comment	Audit Classification	Recommended Action
The Applicant shall prepare and implement a Heritage Management Plan for the development to the satisfaction of the Director-General.	HVO North HMP prepared by suitably competent heritage expert (David Cameron) and approved by Director General 12 February 2014. The current revision of the HVO WMP adequately addresses all requirements of this condition.	C	
The Proponent shall develop an Amenity Management Plan for HVGC's facilities within the site.	Amenity Management Plan (AMP) approved by DP&E 22/01/13. The AMP adequately satisfies the requirements of this condition. Monthly meetings with HVGC include standing line items for updates relating the AMP.	C	
Within 12 months of this approval or otherwise agreed by the Director-General, the Proponent shall prepare and implement a Greenhouse and Energy Efficiency Plan for the project.	Requirements met during previous audit period, reported through AEMR.	C	
The Proponent shall ensure that it maintains a Fire Management Plan for the site, in consultation with Council and the Rural Fire Service	Since the previous IEA in 2013 the Bushfire Fire Management Plan was updated in June 2015 in consultation with Rural Fire Service.	ANC	The Bushfire management Plan on the HVO website is dated June 2007. It is recommended the current plan is added to the website.
The Agricultural Land Reinstatement Management Plan required under Condition 62C of Schedule 4 is intended to ensure that the alluvial lands are restored to a productive capacity at least equivalent to their pre-mining state and are able to be managed using techniques and equipment common to management of equivalent lands in the district.	The Agricultural Land Reinstatement Management Plan contained in Appendix A of the MOP addresses these conditions in these sections: a) chapter 4 b) s2.4 states what has been used in preparation. No evidence of using relevant DPI guidelines for the plan	NC	

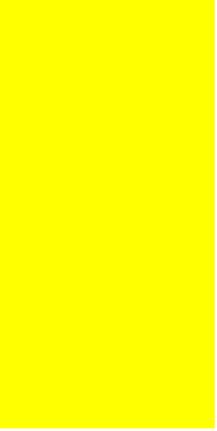
Assessment Requirement	Comment	Audit Classification	Recommended Action
<p>The Proponent shall continue to implement its existing Road Closure Management Plan for the project to the satisfaction of RTA, Council and DRE.</p>	<p>outline however the plan is underpinned by agricultural land classes defined by NSW DPI.</p> <p>c) MOP main body s6.9, Table 30 contains a description of the ultimate phase of rehabilitation areas at completion: Ecosystem and Landuse Sustainability. This table contains no specific completion criteria.</p> <p>d) chapter 7</p> <p>e) chapter 9</p>		<p>C</p>
	<p>The auditor was advised that the frequency and duration of road closures is managed by implementation road closure management plan. Where opportunity arises to fire a number of blasts during road closure this is undertaken. Road closure briefing arranges the minimum time to complete blast and clear road minutes in advance of blast and once safe after blast. The auditor sighted examples of correspondence advising of road closures.</p>		

Table 3.4 contains the audit response to the NSW Government Agency s (DRE and OEH) requested focal areas.

Table 3.4 NSW Government Agency Requested Audit Focal Areas

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
DRE		
Desktop Review	Is the rehabilitation strategy as outlined in the MOP consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s)?	HVO North and South Project Approvals each contain the proposed final land uses at Appendix 6. The rehabilitation strategies in the MOPs (both HVO North and South) and the Rehabilitation and Landscape Management Plan (HVO South only) contain progressive rehabilitation schedules consistent with the proposed final land uses shown in the Project Approvals.
	Has the rehabilitation objectives and completion criteria as outlined in the MOP been developed in accordance with the proposed final land(s) as outlined in the Project Approval?	HVO North: Appendix 6 of Project Approval shows proposed final lands as 'rehabilitation'. MOP rehabilitation objectives are consistent with that. Completion criteria for final landuse not set. Therefore comparison against those not possible. HVO South: Appendix 6 of Project Approval shows proposed final lands as 'proposed native vegetation MOP'. MOP rehabilitation objectives are consistent with that. Completion criteria for final landuse not set. Therefore comparison against those not possible.
	Has a rehabilitation monitoring program been developed and implemented to assess performance against the nominated objectives and completion criteria? - verified by reviewing monitoring reports and rehabilitation inspection records.	Rehabilitation monitoring programs are set out in section 8.1 of the MOPs (both HVO North and South) although that section does not detail locations and frequency of repeated monitoring. A monitoring methodology was developed for post-mined lands at HVO (AECOM 2012). The first year of native vegetation rehabilitation monitoring results are contained in the AEMR (2015) Appendix 5. Including 19 sites across HVO North and South.

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
Site Inspection	<p>Has a rehabilitation care and maintenance program been developed and implemented based on the outcomes of monitoring program? – verified by reviewing Annual Rehabilitation Programs or similar documentation.</p> <p>Is rehabilitation progress consistent with the approved MOP as verified by site plans and a site inspection? This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in Project Approval.</p> <p>Based on a visual inspection, are there any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation?</p> <p>In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.</p>	<p>First year of native vegetation rehabilitation monitoring was dated 29 March 2016 and reported in the AEMR (2015) therefore insufficient time for formal feedback between monitoring program and revision of care and maintenance programs. Site visit and interview identified that rehabilitation specialist is cognisant of recommendations in their consideration of rehabilitation practice and planning.</p> <p>Completion criteria for the final rehabilitation phase are not set and are shown in the relevant MOP table as ‘To Be Determined’. Therefore, a visual inspection could not gauge vegetative or floristic performance towards those goals. Rehabilitation was found to be generally in accordance with the conceptual final landform in the Project Approvals. Some examples were observed where rehabilitation areas had been sown with woodland seed mix where they were designated on the MOP plans as pasture. These were in the Riverview rehabilitation area of HVO South and the West Pit rehabilitation of HVO North. Although not inconsistent with the approval conditions, clarifying the seed mixes and matching the proposed ultimate landuse is recommended.</p> <p>General site-wide issues surround successful weed control in rehabilitation areas. If left unchecked weeds are likely to cause rehabilitation failure, however site interview indicated RTCA’s diligent and continuous efforts on weed control, including using a variety of techniques and machinery. This includes a constant revision and self-assessment of weed control methods success looking back through the soil preparation and species establishment phases to identify preventative measures, rather than focussing just on the curative weed treatment methods.</p> <p>AEMRs contain trials and check around weed-wiper methods. Native grass seeding trials are being developed including media to assist seed broadcast through improving spreading machinery throughput. Composting methods are being trialed including a green compost and a mixed compost (derived from landfill-destined</p>

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
		<p>composted general waste). HVO South MOP (Table 30) contains criteria for seed supply which are thorough, provide flexibility within functional groups (for seasonal supply issues) and are aimed at an ecologically functional rehabilitated area.</p>
OEH		
	<p>That the audit for Hunter Valley Operations North Coal Project considers the effectiveness of the salvage and reuse of soil, seeds, tree hollows, rocks and logs, from clearance ahead of mining (Schedule 4, Condition 32) and provides recommendations on how this aspect may be modified to improve environmental outcomes</p> <p>That in relation to the Hunter Valley Operations South Coal Project that the audit reviews and comments on the success of any additional measures for rehabilitation and biodiversity management that were suggested by the previous audit of the Rehabilitation and Biodiversity Management Plan (Schedule 3, Condition 36)</p>	<p>Hollow bearing trees, logs and suitable seed providing trees are marked ahead of proposed clearance. Site inspection identified that hollow logs were not being redistributed through the rehabilitation areas, however site staff stated this was to maintain the most effective tool in broadscale weed control across these areas - the use of tractor-mounted boom spraying. More logs in place through these rehabilitation areas, reduces the accessibility for these mechanical weed control. Comments were made that hollow logs would be redistributed across the rehabilitation areas at a later stage. It is preferable in these younger rehabilitation areas to maintain effective weed control at this stage and redistribute hollow logs later. Site visit observed a recreated ephemeral pond with salvaged timber and rocks. Whilst limited evidence exists of seed salvage from proposed clearing areas, local seed is sourced using a robust, functional procedure and guidelines (outlined in HVO South MOP). Evidence from seed supplier demonstrates a deep commitment to local seed source and supply. Seed salvage from proposed clearing areas is inherently impeded by seasonal limitations.</p> <p>IEA (2013) contained no additional measures for rehabilitation and biodiversity for HVO South.</p>

CONCLUSION

An audit of MCoA conditions has been completed as well as a check against commitments made in the management plans developed as part of MCoA conditions for the site.

Overall, conformance was achieved with the audit documents that were reviewed. The number of non-conformances with the statutory conditions and implementation of the management plans is summarised in *Table 4.1* below:

Table 4.1 *Summary of Audit Findings*

Number of Conditions	Non conformances	Administrative Non - conformances	Observations
<i>Statutory Instruments</i>			
363	14	9	22
	High (2), Medium (7), Low (5)		
<i>Implementation of Plans</i>			
16	2	1	3

An action response table has been developed by HVO addressing all audit findings and will be submitted separately to this report.

Annex A

Audit Table - Conditions of Approval

Table A.1 Compliance Assessment EPL

Table A.1 Compliance Assessment – Environmental Protection Licence (EPL) 640

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
ML640					
Responsibilities of Licences					
	Separate to the requirements of this license, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 (“the Act”) and the Regulations made under the Act. These include obligations to: <ul style="list-style-type: none"> ensure persons associated with you comply with this license, as set out in section 64 of the Act; control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act. 	-	-	Note	-
Variation of licence conditions					
	The license holder can apply to vary the conditions of this license. An application form for this purpose is available from the EPA. The EPA may also vary the conditions of the license at any time by written notice without an application being made. Where a license has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the license is first reviewed under Part 3.6 of the Act.	-	-	Note	-
Duration of licence					
	This license will remain in force until the license is surrendered by the license holder or until it is suspended or revoked by the EPA or the Minister. A license may only be surrendered with the written approval of the EPA.	-	-	Note	-
Licence review					
	The Act requires that the EPA review your license at least every 5 years after the issue of the license, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the license review.	POEO Register	Licence reviews completed 2003, 2006, 2009 and 2014.	C	-
Fees and annual return to be sent to the EPA					
	For each license fee period you must pay: <ul style="list-style-type: none"> an administrative fee; and a load-based fee (if applicable). The EPA publication “A Guide to Licensing” contains information about how to calculate your license fees. The license requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the license (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements. Usually the license fee period is the same as the reporting period.	-	-	Note	-
Transfer of licence					
	The license holder can apply to transfer the license to another person. An application form for this purpose is available from the EPA.	EPA NSW Transfer Form, dated 30 December 2015.	Changed business name from Coal & Allied Operations to HV Operations Pty Limited. Transfer Confirmed through application form dated 30 December 2015.	C	
Public register and access to monitoring data					
	Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example: <ul style="list-style-type: none"> license applications; license conditions and variations; statements of compliance; load based licensing information; and load reduction agreements. 	-	-	Note	-

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations										
	Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.														
1. Administrative Conditions															
A1 What the licence authorises and regulates															
A1.1	<p>This license authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation. Unless otherwise further restricted by a condition of this license, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.</p> <table border="1"> <thead> <tr> <th>Scheduled Activity</th> <th>Fee Based Activity</th> </tr> </thead> <tbody> <tr> <td>Coal works</td> <td>5000000 T annual handing capacity</td> </tr> <tr> <td>Crushing, grinding or processing capacity</td> <td>2000000 T annual separating</td> </tr> <tr> <td>Extractive activities</td> <td>50000 - 100000 T annual capacity to extract, process or store</td> </tr> <tr> <td>Mining for coal</td> <td>5000000 T annual production capacity</td> </tr> </tbody> </table>	Scheduled Activity	Fee Based Activity	Coal works	5000000 T annual handing capacity	Crushing, grinding or processing capacity	2000000 T annual separating	Extractive activities	50000 - 100000 T annual capacity to extract, process or store	Mining for coal	5000000 T annual production capacity	<p>Interview with Environmental Specialist - Systems & Monitoring HVO_2013_AER</p> <p>HVO Annual Review 2014</p> <p>HVO Annual Review 2015</p>	<p>2016: Target of 13.2 Million of Saleable, but currently running behind target.</p> <p>2015: 17.99 MT ROM, 13.81 Saleable Coal</p> <p>2014: 17.16MT ROM, 13.01 MT Saleable Coal</p> <p>2013: 18.1MT ROM, 13.6 MT Saleable Coal</p> <p>Site not able to provide volume of in pit crushing of road aggregate and as such the auditor is not able to verify the current extractive activities of other minerals (>50,000 - 100,000T annual capacity).</p>	NV	Ensure that records of volume of crushed aggregate are maintained.
Scheduled Activity	Fee Based Activity														
Coal works	5000000 T annual handing capacity														
Crushing, grinding or processing capacity	2000000 T annual separating														
Extractive activities	50000 - 100000 T annual capacity to extract, process or store														
Mining for coal	5000000 T annual production capacity														
A2. Premises or plant to which this licence applies															
A2.1	<p>The license applies to the following premises:</p> <p>LEMINGTON RD SINGLETON NSW 2330</p> <p>PREMISES AS SHOWN ON PLAN TITLED "COAL & ALLIED HUNTER VALLEY OPERATIONS - EPL 640" DATED 2 AUGUST 2016 AND THE MGA</p> <p>56 EASTING AND NORTHING GRID COORDINATE LIST SUPPLIED WITH THAT PLAN AND RECEIVED BY THE EPA ON 2 AUGUST 2016,</p>	-	-	Note	-										
A3. Information supplied to the EPA															
A3.1	<p>Works and activities must be carried out in accordance with the proposal contained in the license application, except as expressly provided by a condition of this license. In this condition the reference to "the license application" includes a reference to:</p> <p>a) the applications for any licenses (including former pollution control approvals) which this license replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and</p> <p>b) the license information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this license.</p>	-	-	Note	-										

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																												
2. DISCHARGES TO AIR AND WATER APPLICATION TO LAND																																	
P1 - Location of monitoring/discharge points and areas																																	
P1.1	<p>The following points referred to in the table below are identified in this license for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;"><i>Air</i></th> </tr> <tr> <th style="text-align: left;">EPA identification no.</th> <th style="text-align: left;">Type of Monitoring Point</th> <th style="text-align: left;">Type of Discharge Point</th> <th style="text-align: left;">Location Description</th> </tr> </thead> <tbody> <tr> <td>13</td> <td>Particulate Matter Monitoring</td> <td></td> <td>Monitor "Howick" at coordinates 308512 6411424 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.</td> </tr> <tr> <td>14</td> <td>Particulate Matter Monitoring</td> <td></td> <td>Monitor "HC1" at coordinates 310903 6407928 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.</td> </tr> <tr> <td>15</td> <td>Particulate Matter Monitoring</td> <td></td> <td>Monitor "Wandewoi" at coordinates 306985 6402062 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.</td> </tr> <tr> <td>16</td> <td>Particulate Matter Monitoring</td> <td></td> <td>Monitor "Knoddlers" at coordinates 317957 6397799 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.</td> </tr> <tr> <td>17</td> <td>Particulate Matter Monitoring</td> <td></td> <td>Monitor "Golden Highway" at coordinates 317439 6393199 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.</td> </tr> </tbody> </table> <p>Note: The EPA notes that Licensee will also use monitoring data from the Upper Hunter Air Quality Monitoring Network monitors at Maison Dieu and Warkworth when deriving a differential between upwind and downwind PM₁₀ concentrations.</p>	<i>Air</i>				EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	13	Particulate Matter Monitoring		Monitor "Howick" at coordinates 308512 6411424 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.	14	Particulate Matter Monitoring		Monitor "HC1" at coordinates 310903 6407928 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.	15	Particulate Matter Monitoring		Monitor "Wandewoi" at coordinates 306985 6402062 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.	16	Particulate Matter Monitoring		Monitor "Knoddlers" at coordinates 317957 6397799 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.	17	Particulate Matter Monitoring		Monitor "Golden Highway" at coordinates 317439 6393199 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.	HVO Monitoring locations observed Wandewoi (Location 15) Submission to EPA (ref 160624)	The updated monitoring network has been, online since the 3 rd October 2016 and was observed by the auditor at Wandewoi. The EPL variation dated 11 th October 2016 removed the condition "to install monitoring network".	C	
<i>Air</i>																																	
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description																														
13	Particulate Matter Monitoring		Monitor "Howick" at coordinates 308512 6411424 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.																														
14	Particulate Matter Monitoring		Monitor "HC1" at coordinates 310903 6407928 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.																														
15	Particulate Matter Monitoring		Monitor "Wandewoi" at coordinates 306985 6402062 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.																														
16	Particulate Matter Monitoring		Monitor "Knoddlers" at coordinates 317957 6397799 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.																														
17	Particulate Matter Monitoring		Monitor "Golden Highway" at coordinates 317439 6393199 (Easting Northing) as shown on plan titled "Rio Tinto Coal Australia - Hunter Valley Operations Real Time Air Quality Monitoring Locations" dated 14/04/2016, DOC16/324564.																														
P1.2	The following points referred to in the table are identified in this license for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.	-	-	Note	-																												
P1.3	The following utilisation areas referred to in the table below are identified in this license for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.	Observed locations 3, 4 and 8. Mapped Monitoring locations Review annual returns. HVO HRSTS Report 2014/15	Auditor sighted discharge points 3, 4 and 8. With monitoring location 6 and 7 sighted at distance. Signage was observed to be in place. Discharge recorded for points 4 and 8 in April 2015. Missing data from discharge point 8 raised as non-compliance in annual return to EPA. NSW Office of Water (NoW) data transfer failed and resulted in failure in real time data collection.	NC	No further action required.																												

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																												
	<p style="text-align: center;"><i>Water and land</i></p> <table border="1"> <thead> <tr> <th>EPA identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Location Description</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring</td> <td>Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring</td> <td>Discharge pipe from Dam 11 shown as DISCHARGE POINT 3 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations" dated 27.10.14 (DOC 14/252114).</td> </tr> <tr> <td>4</td> <td>Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring</td> <td>Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring</td> <td>Discharge end of outlet pipe on Pamell's Dam shown as DISCHARGE POINT 4 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114).</td> </tr> <tr> <td>5</td> <td>Alluvial Lands Discharge Point; Discharge quality and volume monitoring</td> <td>Alluvial Lands Discharge Point; Discharge quality and volume monitoring</td> <td>At the discharge end of the alluvial lands discharge pipeline shown as DISCHARGE POINT 5 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114).</td> </tr> <tr> <td>6</td> <td>Tributary Monitoring Point; Ambient water monitoring</td> <td>Tributary Monitoring Point; Ambient water monitoring</td> <td>In Farrells Creek within 100 metres, and upstream, of the confluence of flow from POINT 3 (4172) as shown on plan titled "Hunter Valley Operations Environmental Protection Licence HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114)</td> </tr> <tr> <td>7</td> <td>Tributary Monitoring Point; Ambient water monitoring</td> <td></td> <td>In Farrells Creek within 100 metres, and downstream, of the confluence of flow from POINT 3 (4172) as shown on plan titled "Hunter Valley Operations Environmental Protection Licence 640 Discharge & Monitoring Locations", dated 27.10.14 (DOC 14/252114)</td> </tr> <tr> <td>8</td> <td>Discharge and monitoring point under Hunter River Salinity Trading Scheme.</td> <td>Discharge and monitoring point under Hunter River Salinity Trading Scheme.</td> <td>Outlet of discharge pipe from Lake James storage dam as shown on plan titled " Hunter Valley Operations Environmental Protection Licence 640 Discharge and Monitoring Locations", dated 27.10.14 (DOC 14/252114).</td> </tr> </tbody> </table>	EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	3	Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring	Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring	Discharge pipe from Dam 11 shown as DISCHARGE POINT 3 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations" dated 27.10.14 (DOC 14/252114).	4	Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring	Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring	Discharge end of outlet pipe on Pamell's Dam shown as DISCHARGE POINT 4 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114).	5	Alluvial Lands Discharge Point; Discharge quality and volume monitoring	Alluvial Lands Discharge Point; Discharge quality and volume monitoring	At the discharge end of the alluvial lands discharge pipeline shown as DISCHARGE POINT 5 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114).	6	Tributary Monitoring Point; Ambient water monitoring	Tributary Monitoring Point; Ambient water monitoring	In Farrells Creek within 100 metres, and upstream, of the confluence of flow from POINT 3 (4172) as shown on plan titled "Hunter Valley Operations Environmental Protection Licence HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114)	7	Tributary Monitoring Point; Ambient water monitoring		In Farrells Creek within 100 metres, and downstream, of the confluence of flow from POINT 3 (4172) as shown on plan titled "Hunter Valley Operations Environmental Protection Licence 640 Discharge & Monitoring Locations", dated 27.10.14 (DOC 14/252114)	8	Discharge and monitoring point under Hunter River Salinity Trading Scheme.	Discharge and monitoring point under Hunter River Salinity Trading Scheme.	Outlet of discharge pipe from Lake James storage dam as shown on plan titled " Hunter Valley Operations Environmental Protection Licence 640 Discharge and Monitoring Locations", dated 27.10.14 (DOC 14/252114).				
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description																														
3	Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring	Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring	Discharge pipe from Dam 11 shown as DISCHARGE POINT 3 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations" dated 27.10.14 (DOC 14/252114).																														
4	Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring	Discharge point under the Hunter River Salinity Trading Scheme; Discharge quality and volume monitoring	Discharge end of outlet pipe on Pamell's Dam shown as DISCHARGE POINT 4 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114).																														
5	Alluvial Lands Discharge Point; Discharge quality and volume monitoring	Alluvial Lands Discharge Point; Discharge quality and volume monitoring	At the discharge end of the alluvial lands discharge pipeline shown as DISCHARGE POINT 5 on plan titled "Hunter Valley Operations Environmental Protection Licence 640 HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114).																														
6	Tributary Monitoring Point; Ambient water monitoring	Tributary Monitoring Point; Ambient water monitoring	In Farrells Creek within 100 metres, and upstream, of the confluence of flow from POINT 3 (4172) as shown on plan titled "Hunter Valley Operations Environmental Protection Licence HRSTS Discharge and Monitoring Locations", dated 27.10.14 (DOC14/252114)																														
7	Tributary Monitoring Point; Ambient water monitoring		In Farrells Creek within 100 metres, and downstream, of the confluence of flow from POINT 3 (4172) as shown on plan titled "Hunter Valley Operations Environmental Protection Licence 640 Discharge & Monitoring Locations", dated 27.10.14 (DOC 14/252114)																														
8	Discharge and monitoring point under Hunter River Salinity Trading Scheme.	Discharge and monitoring point under Hunter River Salinity Trading Scheme.	Outlet of discharge pipe from Lake James storage dam as shown on plan titled " Hunter Valley Operations Environmental Protection Licence 640 Discharge and Monitoring Locations", dated 27.10.14 (DOC 14/252114).																														
P1.4	The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.	-	-	Note	-																												
	<p style="text-align: center;"><i>Noise</i></p> <table border="1"> <thead> <tr> <th>EPA identification no.</th> <th>Type of monitoring point</th> <th>Location description</th> </tr> </thead> <tbody> <tr> <td>9</td> <td>Air blast overpressure & ground vibration peak particle velocity monitoring</td> <td>Monitoring location identified as "Jerrys Plains" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"</td> </tr> <tr> <td>10</td> <td>Air blast overpressure & ground vibration peak particle velocity monitoring</td> <td>Monitoring location identified as "Moses Crossing" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"</td> </tr> <tr> <td>11</td> <td>Air blast overpressure & ground vibration peak particle velocity monitoring</td> <td>Monitoring location identified as "Warkworth" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"</td> </tr> <tr> <td>12</td> <td>Air blast overpressure & ground vibration peak particle velocity monitoring</td> <td>Monitoring location identified as "Maison Dieu" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"</td> </tr> </tbody> </table>	EPA identification no.	Type of monitoring point	Location description	9	Air blast overpressure & ground vibration peak particle velocity monitoring	Monitoring location identified as "Jerrys Plains" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"	10	Air blast overpressure & ground vibration peak particle velocity monitoring	Monitoring location identified as "Moses Crossing" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"	11	Air blast overpressure & ground vibration peak particle velocity monitoring	Monitoring location identified as "Warkworth" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"	12	Air blast overpressure & ground vibration peak particle velocity monitoring	Monitoring location identified as "Maison Dieu" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"	<p>Monthly Environment Report, August 2016</p> <p>Sighted monitoring points Jerry's Crossing (Location 9) and Moses Crossing (Location 10)</p> <p>Specification of locations as per correspondence dated 22/05/2015.</p>	<p>Map of blast network provided in monthly environmental report.</p> <p>There are five monitoring locations with only four actually required under licence conditions since acquisition of property.</p>	C														
EPA identification no.	Type of monitoring point	Location description																															
9	Air blast overpressure & ground vibration peak particle velocity monitoring	Monitoring location identified as "Jerrys Plains" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"																															
10	Air blast overpressure & ground vibration peak particle velocity monitoring	Monitoring location identified as "Moses Crossing" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"																															
11	Air blast overpressure & ground vibration peak particle velocity monitoring	Monitoring location identified as "Warkworth" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"																															
12	Air blast overpressure & ground vibration peak particle velocity monitoring	Monitoring location identified as "Maison Dieu" in the document titled: "Coal & Allied, Hunter Valley Operations, Blast Monitoring Locations, 22-05-2015"																															

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																																																
3. LIMIT CONDITIONS																																																					
L1 - Pollution of waters																																																					
L1.1	Except as may be expressly provided in any other condition of this license, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.	HVO_2013_AER HVO Annual Review 2014 HVO Annual Review 2015 EPA Annual Returns	Two water related incidents were reported to NSW Department of Water and NSW EPA during audit period however neither resulted in a breach of Section 120 of the Protection of the Environment Operations Act 1997.	C	No further action required																																																
L2 - Concentrations limits																																																					
L2.1	For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	-	-	Note	-																																																
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	-	-	Note	-																																																
L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.	-	-	Note	-																																																
L2.4	Water and/or Land Concentration Limits																																																				
	<p>POINT 3,4</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>6.5 - 9.5</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>120</td> </tr> </tbody> </table> <p>POINT 5</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td></td> <td></td> <td></td> <td>400</td> </tr> </tbody> </table> <p>POINT 8</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>6.5 - 9.5</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>120</td> </tr> </tbody> </table>	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	pH	pH				6.5 - 9.5	Total suspended solids	milligrams per litre				120	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Conductivity	microsiemens per centimetre				400	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	pH	pH				6.5 - 9.5	Total suspended solids	milligrams per litre				120	Annual Return Period 2013-14 Annual Return Period 2014-15 Annual Return Period 2015-16 HRSTS_Discharge Checklist_2016	No discharge reported during annual return periods 2013 through 2015. One discharge reported in the Annual Return Period 2015 - 2016: April 2015 Point 4: pH 8-9, TSS max. 99 Point 8: pH 9-9.3, TSS max. 6 No discharge reported to date calendar Year 16	O	Clarification should be obtained as to whether conductivity should be reported for Point 8.
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit																																																
pH	pH				6.5 - 9.5																																																
Total suspended solids	milligrams per litre				120																																																
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit																																																
Conductivity	microsiemens per centimetre				400																																																
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit																																																
pH	pH				6.5 - 9.5																																																
Total suspended solids	milligrams per litre				120																																																
L2.5	In addition to the concentration limit specified against Point 5 in the table above, waste water must not be discharged from Point 5 if the conductivity of the waste water is greater than the conductivity of the receiving waters in the Hunter River at the time of discharge.	Interview with Environmental Specialist Systems & Monitoring	No discharge reported from Point 5.	NT	-																																																

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations															
L3 - Volume and mass limits																				
L3.1	<p>For each discharge point or utilisation area specified below (by a point number), the volume/mass of:</p> <p>a) liquids discharged to water; or</p> <p>b) solids or liquids applied to the area</p> <p>must not exceed the volume/mass limit specified for that discharge point or area.</p> <table border="1"> <thead> <tr> <th>Point</th> <th>Unit of Measure</th> <th>Volume/Mass Limit</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>megalitres per day</td> <td>100</td> </tr> <tr> <td>4</td> <td>megalitres per day</td> <td>130</td> </tr> <tr> <td>5</td> <td>megalitres per day</td> <td>7</td> </tr> <tr> <td>8</td> <td>megalitres per day</td> <td>120</td> </tr> </tbody> </table>	Point	Unit of Measure	Volume/Mass Limit	3	megalitres per day	100	4	megalitres per day	130	5	megalitres per day	7	8	megalitres per day	120	HRSTS Report dated 20/08/15	<p>One discharge reported during the audit period:</p> <p>April 2015:</p> <p>Point 4: max discharge 69.76</p> <p>Point 8: max discharge 101.36</p>	C	-
Point	Unit of Measure	Volume/Mass Limit																		
3	megalitres per day	100																		
4	megalitres per day	130																		
5	megalitres per day	7																		
8	megalitres per day	120																		
L4 Blasting																				
<i>Note: Noise sensitive location includes any residence, hospital, school, childcare centre, theatre, place of worship, other similar building occupied by people, and any land within 30 metres of any afore-mentioned buildings.</i>																				
L4.1	Blasting in or on the premises must only be carried out between 0700 hours and 1800 hours, Monday to Saturday. Blasting in or on the premises must not take place on Sundays or Public Holidays without the prior approval of the EPA.	<p>Blast Monitoring Spreadsheets 2013 - 2016</p> <p>2013 Blasting.xls</p> <p>2014 Blasting.xls</p> <p>2015 Blasting.xls</p> <p>2016 Blasting.xls</p>	<p>The auditor reviewed blast timings, with no blast identified outside of permitted timeframe.</p> <p>2013: Reviewed timings, no blast outside of permitted timeframe. Earliest 07.54 - Latest 17.03</p> <p>2014: Reviewed timings, no blast outside of permitted timing. Earliest 07.08 - Latest 16.19</p> <p>2015: Reviewed timings, no blast outside of permitted timing. Earliest 07.39 - Latest 16.43</p> <p>2016: Reviewed timings, no blast outside of permitted timing. Earliest 07.52 - Latest 17.17</p>	C																
L4.2	The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Annual Returns	<p>Overpressure exceedances were reported in each year of the reporting period.</p> <p>One exceedance resulted in a Penalty Infringement Notice for a blast event on 25 February 2016 with a reading of 125.78dB(L) at Warkworth Monitoring Point.</p>	NC	Further action required.															
L4.3	The airblast overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded	Annual Returns, AEMR	No exceedance identified during the reporting period.	C																
L4.4	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Annual Returns, AEMR	No exceedance identified during the reporting period..	C																

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
L4.5	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded. <i>A noise sensitive location</i> excludes: a) any of the afore-mentioned buildings or land that is the subject of a private agreement between the owner of the noise sensitive site and the licensee as to an alternative airblast overpressure or ground vibration level; or b) any premises owned by the licensee.	Annual Returns, AEMR	No exceedance identified during the reporting period.	C	
4. OPERATING CONDITIONS					
O1 Activities must be carried out in a competent manner					
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Site Observation Competency Tracking Qualification Profiles	The auditor observed a well managed site and reviewed a sample of qualification profiles on site as well as letter of competency for contractors.	C	
O2 Maintenance of plant and equipment					
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Interview with Maintenance Dept.	The Asset Health team monitor real time leading indicators. Planned maintenance programs are in place.	C	
O3 Dust					
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Site observations	Rehabilitation program in place. Water carts were observed to be actively being utilised on hauls roads and the ROM. Two meteorological stations are in place to pre-empt climatic conditions.	C	
O3.2	Activities occurring in or on the premises must be carried out in a manner that will minimise the generation or emission from the premises, of wind-blown or traffic generated dust.	Site observations	ROM dust conditions were observed to be being kept under control during windy conditions. Dust suppression controls in place.	C	
O3.3	All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.	Site observations	Mine road dust conditions were observed to be being kept under control during observed windy conditions. Dust suppression controls in place.	C	
O3.4	Trucks transporting coal from the premises must be covered immediately after loading to prevent wind-blown emissions and spillage. The covering must be maintained until immediately before unloading the trucks.	Interview with Environmental Specialist Systems & Monitoring	No truck movements off site.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations								
O3.5	The tailgates of all haulage trucks leaving the premises must be securely fixed prior to loading or immediately after unloading to prevent loss of material.	Interview with Environmental Specialist - Systems & Monitoring	No truck movements off site.	NT									
O4. Other operating conditions													
O4.1	There must be no incineration or open burning of any material(s) on the premises, except as specifically authorised by the EPA	Site observations Interview with Environmental Specialist - Systems & Monitoring	No incineration reported to or observed by auditor.	C									
5. MONITORING and RECORDING CONDITIONS													
M1 Monitoring Records													
M1.1	The results of any monitoring required to be conducted by this license or a load calculation protocol must be recorded and retained as set out in this condition.	-	-	Note	-								
M1.2	All records required to be kept by this license must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Review of sample documents	The auditor reviewed a sample of documents observed to date back to 2012 and beyond.	C									
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this license: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Review of sample documents	Reports reviewed for ground water and surface water May 2016, and dust for August 2016.	C									
M2.2 Requirement to monitor concentration of pollutants discharged													
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	-	-	Note	-								
M2.2	Air Monitoring Requirements POINT 13,14,15,16,17 <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>micrograms per cubic metre</td> <td>Continuous</td> <td>AM-22</td> </tr> </tbody> </table>	Pollutant	Units of measure	Frequency	Sampling Method	PM10	micrograms per cubic metre	Continuous	AM-22	Review SCADA sample of continuous monitoring. HVO EPL 640 Monthly obtained data summary	New condition applicable as of 3 October 2016. Real time feed of continuous monitoring reviewed for Points 13, 14, 15, 16, 17. Superseded conditions met.	O	Clarification should be obtained as to the definition of continuous monitoring and period of time permissible for outage.
Pollutant	Units of measure	Frequency	Sampling Method										
PM10	micrograms per cubic metre	Continuous	AM-22										
M2.3	Water and/or Land Monitoring Requirements	Annual Returns	In reference to Condition L2.4 no reporting limit is provided for conductivity for Point 8, however there is a requirement to report conductivity in the Annual Return.	O	Clarification should be obtained as to whether a conductivity reporting limit needs to be established for Point 8.								

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																																																
	<p>POINT 3,4</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>Continuous during discharge</td> <td>A probe designed to measure the range 0 to 10,000 uS/cm</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Daily during any discharge</td> <td>Grab sample</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td>Daily during any discharge</td> <td>Grab sample</td> </tr> </tbody> </table> <p>POINT 5</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>Special Frequency 1</td> <td>Probe</td> </tr> </tbody> </table> <p>POINT 6,7</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>Special Frequency 2</td> <td>A probe designed to measure the range 0 to 10,000 uS/cm</td> </tr> </tbody> </table> <p>POINT 8</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>Continuous during discharge</td> <td>A probe designed to measure the range 0 to 10,000 uS/cm</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Daily during any discharge</td> <td>Grab sample</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td>Daily during any discharge</td> <td>Grab sample</td> </tr> </tbody> </table>	Pollutant	Units of measure	Frequency	Sampling Method	Conductivity	microsiemens per centimetre	Continuous during discharge	A probe designed to measure the range 0 to 10,000 uS/cm	pH	pH	Daily during any discharge	Grab sample	Total suspended solids	milligrams per litre	Daily during any discharge	Grab sample	Pollutant	Units of measure	Frequency	Sampling Method	Conductivity	microsiemens per centimetre	Special Frequency 1	Probe	Pollutant	Units of measure	Frequency	Sampling Method	Conductivity	microsiemens per centimetre	Special Frequency 2	A probe designed to measure the range 0 to 10,000 uS/cm	Pollutant	Units of measure	Frequency	Sampling Method	Conductivity	microsiemens per centimetre	Continuous during discharge	A probe designed to measure the range 0 to 10,000 uS/cm	pH	pH	Daily during any discharge	Grab sample	Total suspended solids	milligrams per litre	Daily during any discharge	Grab sample				
Pollutant	Units of measure	Frequency	Sampling Method																																																		
Conductivity	microsiemens per centimetre	Continuous during discharge	A probe designed to measure the range 0 to 10,000 uS/cm																																																		
pH	pH	Daily during any discharge	Grab sample																																																		
Total suspended solids	milligrams per litre	Daily during any discharge	Grab sample																																																		
Pollutant	Units of measure	Frequency	Sampling Method																																																		
Conductivity	microsiemens per centimetre	Special Frequency 1	Probe																																																		
Pollutant	Units of measure	Frequency	Sampling Method																																																		
Conductivity	microsiemens per centimetre	Special Frequency 2	A probe designed to measure the range 0 to 10,000 uS/cm																																																		
Pollutant	Units of measure	Frequency	Sampling Method																																																		
Conductivity	microsiemens per centimetre	Continuous during discharge	A probe designed to measure the range 0 to 10,000 uS/cm																																																		
pH	pH	Daily during any discharge	Grab sample																																																		
Total suspended solids	milligrams per litre	Daily during any discharge	Grab sample																																																		
M3 Testing methods – concentrations limits																																																					
<i>Note: The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</i>																																																					
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this license must be done in accordance with: <ul style="list-style-type: none"> a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or b) if no such requirement is imposed by or under the Act, any methodology which a condition of this license requires to be used for that testing; or c) if no such requirement is imposed by or under the Act or by a condition of this license, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place. 	Interview with Site Environmental Specialist Systems & Monitoring	TEOM used to monitor PM10 to standard 3580.9.8 2011 Continuous monitoring demonstrated	C																																																	
M3.2	Subject to any express provision to the contrary in this license, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any test are conducted.	Sample of AECOM Surface Water Monitoring Report	AECOM Report references relevant standards and methodology. Contractors and labs accredited. HVO environment team audit methodology and QAQC review of data to verify historical norms.	C																																																	
M4 Weather monitoring																																																					
M4.1	The licensee must collect and analyse meteorological data at the following monitoring point for the parameters specified, at a frequency specified, and using a method as specified for each parameter. <i>Meteorological Monitoring</i> Point: HVO Weather Station located at Easting 310315; Northing 6406189	Review SCADA sample of continuous monitoring. Site observations.	Location of HVO Weather Station confirmed and sighted. All parameters observed to be monitored on continuous basis.	C																																																	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																																			
	<table border="1"> <thead> <tr> <th>Parameter</th> <th>Units of Measure</th> <th>Averaging Period</th> <th>Method (see note 1)</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Siting</td> <td>NA</td> <td>NA</td> <td>AM-1 & AM-4</td> <td></td> </tr> <tr> <td>Measurement</td> <td>NA</td> <td>NA</td> <td>AM-2 & AM-4</td> <td></td> </tr> <tr> <td>Wind Speed @ 10m</td> <td>m/s</td> <td>10 minutes</td> <td>AM-2 & AM-4</td> <td>Continuous</td> </tr> <tr> <td>Wind Direction @ 10m</td> <td></td> <td>10 minutes</td> <td>AM-2 & AM-4</td> <td>Continuous</td> </tr> <tr> <td>Temperature @ 1.2m</td> <td>0C</td> <td>1 hour</td> <td>AM-4</td> <td>Continuous</td> </tr> <tr> <td>Rainfall</td> <td>mm</td> <td>24 hours</td> <td>Standard rain gauge</td> <td></td> </tr> </tbody> </table> <p>Note: (1) All methods are specified in the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> and all monitoring must be conducted strictly in accordance with the requirements outlined in this document.</p>	Parameter	Units of Measure	Averaging Period	Method (see note 1)	Frequency	Siting	NA	NA	AM-1 & AM-4		Measurement	NA	NA	AM-2 & AM-4		Wind Speed @ 10m	m/s	10 minutes	AM-2 & AM-4	Continuous	Wind Direction @ 10m		10 minutes	AM-2 & AM-4	Continuous	Temperature @ 1.2m	0C	1 hour	AM-4	Continuous	Rainfall	mm	24 hours	Standard rain gauge					
Parameter	Units of Measure	Averaging Period	Method (see note 1)	Frequency																																				
Siting	NA	NA	AM-1 & AM-4																																					
Measurement	NA	NA	AM-2 & AM-4																																					
Wind Speed @ 10m	m/s	10 minutes	AM-2 & AM-4	Continuous																																				
Wind Direction @ 10m		10 minutes	AM-2 & AM-4	Continuous																																				
Temperature @ 1.2m	0C	1 hour	AM-4	Continuous																																				
Rainfall	mm	24 hours	Standard rain gauge																																					
M5 Recording of pollution complaints																																								
M5.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this license applies	HVO Website AEMR 2013, 2014, 2015	Pollution complaints summary provided on HVO website with detail is provided in AEMR. Current register and previous year also provided on website.	C																																				
M5.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Complaints and Incidents Register	HVO moved from a spreadsheet to an intranet based system January 2014.	C																																				
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.		Records are held beyond 5 years.	C																																				
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.	-	-	Note	-																																			
M6 Telephone complaints line																																								
M6.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the license.	Complaints number called.	Complaints line tested and demonstrated to be operational and working at the time of the audit site inspection.	C																																				
M6.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	RTCA - HVO Website	Community Information Line, Complaints Hotline and HVO blasting Schedule hotline available on the RTCA - HVO website.	C																																				
M6.3	The preceding two conditions do not apply until 3 months after: a) the date of the issue of this license or; b) if this license is a replacement license within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the license was served on the licensee under clause 10 of that regulation.	-	-	Note	-																																			

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																																				
M7 Requirement to monitor volume or mass																																									
M7.1	<p>For each discharge point or utilisation area specified below, the licensee must monitor:</p> <p>a) the volume of liquids discharged to water or applied to the area;</p> <p>b) the mass of solids applied to the area;</p> <p>c) the mass of pollutants emitted to the air;</p> <p>At the frequency and using the method and units of measure, specified below.</p> <table border="1"> <thead> <tr> <th colspan="3">POINT 3</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Continuous during discharge</td> <td>megalitres per day</td> <td>Flow meter and continuous logger</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">POINT 4</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Continuous during discharge</td> <td>megalitres per day</td> <td>Weir structure and level sensor</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">POINT 5</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Special Frequency 1</td> <td>megalitres per day</td> <td>Special Method 1</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">POINT 8</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Continuous during discharge</td> <td>megalitres per day</td> <td>Flow meter and continuous logger</td> </tr> </tbody> </table>	POINT 3			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	megalitres per day	Flow meter and continuous logger	POINT 4			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	megalitres per day	Weir structure and level sensor	POINT 5			Frequency	Unit of Measure	Sampling Method	Special Frequency 1	megalitres per day	Special Method 1	POINT 8			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	megalitres per day	Flow meter and continuous logger	<p>Annual Return Period 2013-14</p> <p>Annual Return Period 2014-15</p> <p>Annual Return Period 2015-16</p> <p>HRSTS_Discharge Checklist_2016</p>	<p>Refer L2.4 and L3.1</p> <p>Continuous logging during discharge demonstrated.</p> <p>Point 3 and 5 are reported not to have discharged during monitoring period.</p>	C	
POINT 3																																									
Frequency	Unit of Measure	Sampling Method																																							
Continuous during discharge	megalitres per day	Flow meter and continuous logger																																							
POINT 4																																									
Frequency	Unit of Measure	Sampling Method																																							
Continuous during discharge	megalitres per day	Weir structure and level sensor																																							
POINT 5																																									
Frequency	Unit of Measure	Sampling Method																																							
Special Frequency 1	megalitres per day	Special Method 1																																							
POINT 8																																									
Frequency	Unit of Measure	Sampling Method																																							
Continuous during discharge	megalitres per day	Flow meter and continuous logger																																							
M7.2	<p>Special Frequency 1 means at least once every 10 minutes during discharge.</p> <p>Special Method 1 means a method approved in writing by the EPA</p>	-	-	Note	-																																				
M8 Blasting																																									
M8.1	<p>To determine compliance with conditions L4.2, L4.3, L4.4 and L4.5:</p> <p>a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 9, 10, 11 and 12 for the parameters specified in Column 1 of the table below; and</p> <p>b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns.</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Units of Measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Airblast Overpressure</td> <td>Decibels (Linear Peak)</td> <td>All blasts</td> <td>Australian Standard AS 2187.2-2006</td> </tr> <tr> <td>Ground Vibration Peak Particle Velocity</td> <td>millimetres/second</td> <td>All blasts</td> <td>Australian Standard AS 2187.2-2006</td> </tr> </tbody> </table>	Parameter	Units of Measure	Frequency	Sampling Method	Airblast Overpressure	Decibels (Linear Peak)	All blasts	Australian Standard AS 2187.2-2006	Ground Vibration Peak Particle Velocity	millimetres/second	All blasts	Australian Standard AS 2187.2-2006	<p>AEMR 2013, 2014, 2015</p>	<p>Airblast overpressure and ground vibration peak particle velocity recorded at the required locations in line with required sampling method.</p>	C																									
Parameter	Units of Measure	Frequency	Sampling Method																																						
Airblast Overpressure	Decibels (Linear Peak)	All blasts	Australian Standard AS 2187.2-2006																																						
Ground Vibration Peak Particle Velocity	millimetres/second	All blasts	Australian Standard AS 2187.2-2006																																						
M9 Other monitoring and recording conditions																																									
HRSTS Monitoring																																									
M9.1	<p>The licensee must continuously operate and maintain communication equipment which makes the conductivity and flow measurements, taken at Point 3, 4 and 8 available to the "Service provider" within one hour of those measurements being taken and makes them available in the format specified in the "Hunter River Salinity Trading Scheme Discharge Point Site Equipment" as published by the Department of Land and Water Conservation on 7 May 2002</p>	<p>Environmental Work instruction, HRSTS Discharge Point Operation</p>	<p>Procedures in place including pre-discharge check list, pre-discharge sampling, required communication.</p> <p>HVO report annually on HRSTS.</p> <p>Sufficient procedures are in place to manage discharge events accurately and to meet compliance. However, flow rate was not continuously relayed during a discharge event (refer P1.3)</p>	NC	No further action required.																																				
M9.2	<p>The licensee must ensure that all monitoring data is within a margin of error of 5% for conductivity measurements and 10% for discharge flow measurement</p>	<p>Calibration Records</p>	<p>The auditor sighted a sample of calibration records demonstrating <5% error for for conductivity measurements and 10% for discharge flow measurement</p>	C																																					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
M9.3	The licensee must mark monitoring point(s) 3, 4, 6, 7 and 8 with a sign which clearly indicates the name of the licensee, whether the monitoring point is up or down stream of the discharge point(s) and that it is a monitoring point for the Hunter River Salinity Trading Scheme.	Site Observations	Signs were observed that clearly identify the location of the monitoring points at Parnells (Point 3), Lake James (Point 8) and Dam 11N (Point 4).	C	
M9.4	The licensee must ensure that the results of the measurements it takes at the tributary monitoring points are available to the regional water quality monitoring network operated by the service provider within 1 hour of its recording.	AEMR 2013, 2014, 2015	No discharge reported from Dam11N during audit period	NT	
6 REPORTING CONDITIONS					
R1 Annual return documents					
<i>Note: The term "reporting period" is defined in the dictionary at the end of this license. Do not complete the Annual Return until after the end of the reporting period</i>					
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: a) a Statement of Compliance; and b) a Monitoring and Complaints Summary. At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.	Annual Return Submission Dates Reviewed	Licence period ends 31 March; 2013, 14 and 15 with Annual Returns submitted within 60 days of licence period.	C	
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.	-	-	Note	
R1.3	Where this license is transferred from the licensee to a new licensee: a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the license to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the license is granted and ending on the last day of the reporting period. Note: An application to transfer a license must be made in the approved form for this purpose.	Return Submission Dates and Application for Transfer Reviewed	Due to name change an interim return was issued for period 24 th Feb - 31 st March 2013.	C	
R1.4	Where this license is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: a) in relation to the surrender of a license - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the license - the date from which notice revoking the license operates.	-	-	NT	
R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring license not later than 60 days after the date the transfer was granted (the 'due date').	NSW EPA Website Email correspondence	There is a process for sign off of the Annual Return at RTCA head office to issue in registered post. The NSW EPA website states when the returns are received. Chain of custody demonstrated.	C	
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Annual Returns	Annual Returns are retained by HVO back to 2009	C	
R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the license holder; or b) by a person approved in writing by the EPA to sign on behalf of the license holder.		During the reporting period the Annual Returns were signed by Director and Company Secretary	C	
R1.8	A person who has been given written approval to certify a certificate of compliance under a license issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this license.	-	-	Note	
R2 Notification of environmental harm					
<i>Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.</i>					
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Incident Reports	Documentation sighted by auditor.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Incident Reports	Documentation to support incident reporting is not demonstrated in all cases. The typical process followed at HVO is to call EPA Officer directly and follow-up with email outlining incident.	O	Maintain records of process for incident reporting. Keep a record of initial phone call notification and following up email.
R3 Written report					
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this license applies to premises, an event has occurred at the premises; or b) where this license applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this license, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the license applies), the authorised officer may request a written report of the event.	Documentation reviewed in relation to prosecution	October 2014 LUG Bore Incident - information requested and provided in preparation for prosecution.	C	-
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request	Documentation reviewed in relation to prosecution	October 2014 LUG Bore Incident - information requested and provided in preparation for prosecution.	C	
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	Documentation reviewed in relation to prosecution	October 2014 LUG Bore Incident - information requested and provided in preparation for prosecution.	C	
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	Documentation reviewed in relation to prosecution	October 2014 LUG Bore Incident - information requested and provided in preparation for prosecution.	C	
R4 Other reporting conditions					
R4.1	HRSTS Reporting The licensee must compile a written report of the activities under the Scheme for each scheme year. The scheme year shall run from 1 July to 30 June each year. The written report must be submitted to the EPA's regional office within 60 days after the end of each scheme year and be in a form and manner approved by the EPA. The information will be used by the EPA to compile an annual scheme report.	Discharge Record Sheet HVO HRSTS Report 2015/16	Discharge records signed by authorised person, report issued within 60 days of 30 June. HVO HRSTS Report 2015/15 letter issued 20 August 2015 to report discharge and monitoring accompanied by daily record sheets. HVO HRSTS Report 2015/16 issued for nil report.	C	
R4.2	Reporting of noise limit exceedance. The licensee must report any exceedance of the license blasting limits to the regional office of the EPA as soon as practicable after the exceedance becomes known to the licensee or to one of the licensee's employees or agents.	Overpressure exceedance documentation	Documentation related to reporting of overpressure exceedance sighted by auditor.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
7 GENERAL CONDITIONS					
G1 - Copy of licence kept at the premises or plant					
G1.1	A copy of this license must be kept at the premises to which the license applies	Sighted on Site Review of internal server.	Available on internal document library and with the environmental department and administration building.	C	
G1.2	The license must be produced to any authorised officer of the EPA who asks to see it.		Not requested in reporting period but readily available.	C	
G1.3	The license must be available for inspection by any employee or agent of the licensee working at the premises	Sighted on Site Review of internal server.	Available on internal document library and with the environmental department and administration building.	C	
8 POLLUTION STUDIES AND REDUCTION PROGRAMS					
U1 Premises Noise Limits					
U1.1	The licensee must conduct a noise assessment in accordance with the document, 'NSW Industrial Noise Policy', (EPA, 2000) for the operations and activities carried out at the licensed premises and submit a report to the Manager, Hunter Region, by no later than 30 June 2013.	Correspondence with EPA	No report submitted to date. HVO noise studies completed during EIS phase with intent of using these reports to satisfy the Condition. EPA raised that two studies may not be appropriate. HVO offered an approach to use HVO North noise study for Jerry's Plains and HVO South for receptors in Maison Dieu. Uncertain outcome as to what the NSW EPA require, with discussions ongoing but no report issued by HVO. HVO recently approached EPA to provide guidance on this condition.	ANC	Obtain confirmation from the NSW EPA as to next steps required to close out this requirement.
U1.2	The report referred to in condition U1.1 must include, but is not limited to the following: 1. Project Specific Noise Levels for the nearest noise sensitive receiver location(s). The project specific noise levels may be sourced from recent documentation submitted in support of a project approval application, or determined specifically in response to this condition, provided that: a) The source of the project specific noise levels are stated; b) The project specific noise levels have been derived in accordance with the NSW Industrial Noise Policy, (EPA 2000) ("INP"); c) Details are provided of how the project specific noise levels have been derived; and d) The nearest noise sensitive receiver locations chosen are representative of those potentially most affected by noise from the premises. 2. Predicted or measured noise level contributions for the noise sensitive receiver locations identified in U1.2-1 above as a result of all activities and operations carried out at the premises. These may be sourced from recent documentation submitted in support of a project approval or determined specifically in response to this condition, provided that: a) The source of the predicted or measured noise level(s) are stated; b) Noise levels have been predicted or measured in accordance with the INP; and c) Details of how the noise levels have been predicted are provided. 3. Noise Limits proposed for the location(s) identified in U1.2-1 above, derived with regard to the project specific noise levels and predicted noise level contributions from U1.2-1 and U1.2-2 above, that can be placed on the license, for all activities and operations carried out at the premises.		No report submitted to date.	ANC	Refer above. The noise assessment prepared and provided to the NSW EPA should meet the requirements of this condition.

No	Assessment Requirement	Reference/Evidence	Comments	Compliance Status	Recommendations
	4. Details of methods to be used to determine compliance with the limits in U1.2-3 above. Note: (a) A reference to the INP includes a reference to the INP Application Notes; and (b) Noise sensitive receiver locations do not include any locations owned by the licensee or another coal mine or where a negotiated agreement (as outlined in the INP) is in place between the landowner and any license holder				
U2 Particulate Matter Control Best Practice Implementation - Wheel Generated Dust					
<i>Note: The EPA acknowledges that in order to determine uncontrolled PM10 emissions, the section of haul road to be sampled will need to be left untreated for a period of up to 48 hours prior to the sampling taking place.</i>					
U2.1	The Licensee must achieve and maintain a dust control efficiency of 80% or more on all active haul roads by 2 September 2013. Control efficiency is calculated as: $CE = E \text{ (uncontrolled)} - E \text{ (controlled)} \times 100 E \text{ (uncontrolled)}$ Where E = the emission rate of the activity	EPA Website Site Correspondence with EPA	Superseded condition. Condition satisfied and removed. Summarise Pollution Studies on EPA Website.	C	
U2.2	To assess compliance with Condition U2.1, the Licensee must: <ul style="list-style-type: none"> measure uncontrolled and controlled haul road emissions on at least 3 occasions using a mobile dust monitor; measure and record haul road emissions during sampling events using a PM10 sampling unit at a fixed point on an active haul road; continuously measure and record 'additional site data' including <ul style="list-style-type: none"> vehicle kilometres travelled (VKT), meteorological conditions, water use for dust suppression; undertake silt content and soil moisture sampling during sampling events; and determine if a site specific relationship can be derived between the measured control efficiency, additional site data, water use, meteorological data; and silt content and soil moisture levels. The measurement of uncontrolled and controlled haul road PM10 emissions must be undertaken under varying meteorological conditions, including at those times when analysis of meteorological data indicates that elevated levels of dust are most likely at the Premises	EPA Website Site Correspondence with EPA	Superseded condition. Condition satisfied and removed. Summarise Pollution Studies on EPA Website.	C	
U2.3	The Licensee must submit a report to the EPA which documents the results of the assessment undertaken in accordance with Condition U2.1. The report must include an assessment of: <ul style="list-style-type: none"> the dust control effectiveness, the dust levels recorded, and any relationship established between control effectiveness and the additional site data. The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Hunter, at PO Box 488G, NEWCASTLE by 15 August 2014.	EPA Website Site Correspondence with EPA	Superseded condition. Condition satisfied and removed. Submitted 13 August 2014	C	
U2.4	The report required by condition U2.3 must be made publicly available by the Licensee on the Licensee's website by 29 August 2014.	EPA Website Site Correspondence with EPA	Superseded condition. Condition satisfied and removed. Available by 29 August 2014	C	
U3 Particulate Matter Control Best Practice Implementation - Disturbing and Handling Overburden under Adverse Weather Conditions					
U3.1	The licensee must alter or cease the use of equipment on overburden and the loading and dumping of overburden during adverse weather conditions to minimise the generation of particulate matter from 22 March 2013.	Correspondence with EPA	Superseded condition. Condition satisfied and removed. Letter outlining approach implemented in advance of current audit period. Report details monitoring program, alarm triggers., assessment methodology	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
U3.2	To assess compliance with Condition U3.1, the Licensee must: <ul style="list-style-type: none"> undertake daily visual dust level assessments, continuously record real-time PM10 levels and continuously measure and record real-time meteorological conditions; and record changes to mining activities due to adverse weather conditions. 	Correspondence with EPA	Superseded condition. Condition satisfied and removed.	C	
U3.3	The Licensee must submit a report to the EPA which documents the results of the actions taken in accordance with Condition U3.1. The report must include an assessment of the effectiveness of changes made to mining activities due to adverse weather and document meteorological conditions and the resultant dust levels. The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Hunter, at PO Box 488G, NEWCASTLE by 15 August 2014.	EPA Website Site Correspondence with EPA	Superseded condition. Condition satisfied and removed. Submitted 13 August 2014	C	
U3.4	The report required by Condition U3.3 must be made publicly available by the Licensee on the Licensee's website by 29 August 2014.	EPA Website Site Correspondence with EPA	Superseded condition. Condition satisfied and removed. Available by 29 August 2014	C	
U4 Particulate Matter Control Best Practice Implementation – Trial of Best Practice Measures for Disturbing and Handling Overburden					
U4.1	The Licensee must submit a report documenting an investigation and trial of best practice measures for the control of particulate matter from the use of equipment on overburden and the loading and dumping of overburden. Best practice measures may include, but should not be limited to, the following: <ul style="list-style-type: none"> use of foggers; use of water sprays; and reduction of drop heights. The report must document the investigation and trial of each best practice measure. It must quantify the particulate matter control effectiveness and discuss the practicability of each best practice measure. The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Hunter, at PO Box 488G, NEWCASTLE by 14 April 2014.	EPA Website Site Correspondence with EPA	Industry wide initiative. Superseded condition. Condition satisfied and removed. Available by 14 August 2014	C	
9 Special Conditions					
E1 Hunter River Salinity Trading Scheme					
E1.1	This license authorises the discharge of saline water into the Hunter River Catchment from an authorised discharge point (or points), in accordance with the <i>Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002</i> .	N/A	N/A	Note	N/A
E1.2	For the purposes of Clauses 23 and 29 of the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002 the licensee must apply the conversion factor of 0.6.	Daily Checklist HRSTS Discharge	Conversion factor used to calculate discharge requirement.	C	

Table B.1 (South Operations)

Table B.1: Compliance with Ministers Conditions of Approval PA 06-0261 (Modification 4 issued September 2012)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE 2 - ADMINISTRATIVE CONDITIONS					
Obligation to Minimise Harm to the Environment					
2.1	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.	This audit	Review of management plans, implementation of plans and site inspection to confirm - refer tables of this audit.	Note	
Terms of Approval					
2.2	The Proponent shall carry out the project in accordance with the: (a) generally in accordance with the EA; (b) in accordance with the statement of commitments; and (c) EA (Modification 1) (d) EA (Modification 2) (e) EA (Modification 3) (f) EA (Modification 4) (g) in accordance with the conditions of this approval.	This audit	Review against CoA and Statement of Commitments which generally reflect the relevant EA commitments and undertakings for current stage of works. Refer to Statement of Commitments table below for assessment of compliance.	C	
2.3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	Note	Noted	Note	
2.4	The Proponent shall comply with any reasonable requirement/s of the Director Secretary arising from the Department's assessment of: (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these documents.	Note	Noted	Note	
Limits On Approval					
<i>Note: Under this approval, the Proponent is required to rehabilitate the site and carry out any additional undertakings to the satisfaction of both the Director-General and the Executive Director, Mineral Resources in DRE. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and those additional undertakings have been carried out satisfactorily.</i>					
2.5	The Proponent may carry out mining operations for a period of 21 years from the date of this approval	Interview - Environmental Specialist - Systems and Monitoring Project Approvals	Mining is planned to cease in financial year 2030 (24 th March) with rehabilitation activities only to occur after this date.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
2.6	The Proponent shall not extract more than 16 Million tonnes of ROM coal a year from the site.	Interview - Environmental Specialist - Systems and Monitoring AEMR 2013 - 15 Coal production Records	Volume of extraction of coal confirmed through survey of the site - reports issued to Mine Manager. Production reports provided to the auditor for the South operations confirm that ROM coal extraction did not exceed 16MT/annum during the audit period (2013 - 8.52MT, 2014 - 12.18MT, 2015 - 11.92MT and 2016 YTD 8.65MT).	C	
Management Plans/Monitoring Programs					
2.7	With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.			Note	
2.8	The Proponent shall ensure that monitoring programs, management plans and the Environmental Management Strategy , as in existence at the date of this approval in December 2008, continue to be implemented (to the satisfaction of the Director - General) until replaced by monitoring programs and management plans approved in accordance with the conditions of this approval.	Detail within this audit.	Management Plans in place and implemented.	C	
Surrender Of Consent					
2.9	Within 12 months of the of this approval, the Proponent shall surrender the existing development consents and existing use rights associated with HVO South's mining operations and related facilities in project in accordance with section 97 of the <i>EP&A Regulation</i> .	Independent Environmental Compliance Audit - SKM (2014)	Assessed during 2013 audit, letter dated 24/03/10 addresses condition.	C	
2.9A	Within 3 months of any modification to this approval, the Proponent shall review and if necessary revise any strategies/plans/programs/required under the approval which are relevant to the modification to the satisfaction of the Director - General.	Environmental Management Strategy, dated February 2016	Environmental Management Strategy was most recently approved February 2016. Table detailing reviews and modification requiring approval provided.	C	
Structural Adequacy					
Notes:					
<ul style="list-style-type: none"> Under Part 4A of the <i>EP&A Act</i>, the Proponent is required to obtain construction and occupation certificates for the proposed building works. Part 8 of the <i>EP&A Regulation</i> sets out the requirements for the certification of the project. 					
2.10	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.	Interview - Environmental Specialist - Systems and Monitoring	The auditor was advised that no new structures were constructed during the audit period.	NT	
Demolition					
2.11	The Proponent shall ensure that all demolition work on site is carried out in accordance with Australian Standard AS 2601-2001: The Demolition of Structures, or its latest version.	Interview - Environmental Specialist - Systems and Monitoring	The auditor was advised that no demolition has been undertaken during the audit period.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Operation Of Plant And Equipment					
2.12	The Proponent shall ensure that all the plant and equipment used on site, or to transport coal from the site, is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Interview - Maintenance Personnel Heavy Earthmoving Prestart Check lists Logistics company checklists Light Vehicle pre-start inspection checklist	Mine equipment is inspected daily as part of prestart process. A sample of checklist sighted includes checks for leaks and other faults. Any defects are managed through SAP works scheduling program which is appropriate to the scale of maintenance undertaken by HVO. The auditor interviewed a maintainer in the Heavy Vehicle workshop who described the maintenance request scheduling process and provided samples of maintenance request and tracking documentation. Contractors maintain their own equipment. Transport of coal is via rail operated by service provider.	C	
Development Contributions					
2.13	Within 12 months from the date of this approval (unless otherwise agreed by the Director - General) the Proponent shall enter in to an agreement with Singleton Council to Provide development contributions to Council for the project, in accordance with Division 6 of Part 4 of the EP&A Act. If the Proponent and Council cannot agree on the level or composition of the development contributions, than either party may refer the matter to the Director- General for resolution.	2010 Independent Environmental Compliance Audit - AECOM (2010)	Assessed during 2010 IEA, sighted and verified by AECOM in 2013.	NT	
Dispute Resolution					
2.14	In the event that the Proponent and the Council or a Government agency, other than the Department, cannot agree on the specification or requirements of this approval, the matter shall be referred by either party to the Direct-General for resolution, whose determination of the disagreement shall be final and binding on the parties.	Interview - Environment Specialist - Systems and Monitoring	The auditor was advised that no matters requiring dispute resolution occurred during audit period.	NT	
SCHEDULE 3 - SPECIFIC ENVIRONMENTAL CONDITIONS					
Acquisition Upon Request					
3.1	Upon receiving a written request for acquisition from the owner of the land listed in Table 1, the Proponent shall acquire the land in accordance with the procedures in conditions 10-12 of Schedule 4. <i>Table 1: Land subject to acquisition upon request</i>	Interview - Environmental Specialist - Systems and Monitoring	Privately arranged land acquisition has occurred. The auditor was advised that the land Purchase was not triggered by consent process.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Noise Criteria					
3.2	<p>The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p><i>Table 2: Noise impact assessment criteria dB(A)</i></p> <p>However, if the Proponent has a written negotiated noise agreement with the any landowner of the land listed in Table 2, and a copy of this agreement has been forwarded to the Department and EPA, then the Proponent may exceed the noise limits in Table 2 in accordance with the negotiated noise agreement.</p>	<p>AEMR/Annual Reviews 2012/13, 2013/14, 2014/15 HVO Noise Management Plan (2015), Section 8</p>	<p>* 2dB exceedance 18 June 2014 - Kilburne South - does not constitute non-compliance.</p> <p>* 3dB (LAeq IAC, LAC) and 5dB (LA1,1min) exceedances - 26 May 2015 - Shearers Lane - Non -compliance</p> <p>- Report submitted to DP&E</p> <p>- Residents notified</p> <p>- Revised NMP submitted to DP&E</p> <p>- Formal non-conformance issued to contractor.</p> <p>* 6dB exceedance 11 June 2015 - Shearers Lane - does not constitute non-compliance</p> <p>* 1dB exceedances (x3) - Jerrys Plains Village, 344 Redmanvale Road - 9 March 2016 - does not constitute non-compliance.</p> <p>* 3dB (LAeq IAC) and 2dB (LA1,1min) - 19 September 2016 - Knodlers Lane - does not constitute non-compliance.</p>	NC	No further action required in relation to recorded non-conformance.
Land Acquisition Criteria					
3.3	<p>If the noise generated by the project exceeds the criteria in Table 3 at any residence on privately owned land (not listed in Table 1 and not subject to acquisition on request by Wambo Coal Mine), or on more than 25% of ant privately owned land, the proponent shall, upon receiving a written request from acquisition from the landowner, acquire the land in accordance with the procedures in conditions 7-9 of Schedule 4.</p> <p><i>Table 3: Land acquisition criteria dB(A)</i></p>	<p>Site Interview - Environmental Specialist - Systems and Monitoring</p>	<p>The auditor was advised that no requests for acquisition were made during audit period.</p>	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Additional Noise Mitigation Measures					
3.4	<p>Upon receiving a written request from:</p> <p>An owner of land listed in Table 1 (unless the landowner has requested acquisition of where a negotiated noise agreement established under this approval is in place); or</p> <p>Any residence on privately owned land where subsequent noise monitoring show the noise generated by the project is great than or equal to the equivalent criteria in Table 5 (except where a negotiated noise agreement established under this approval is on place).</p> <p>The Proponent shall implement reasonable and feasible noise mitigation measures (such as double glazing, insulation and/or air-conditioning) at any residence on the land in consultation with the landowner.</p> <p>Within 3 months from the date of this approval, the Proponent shall notify all applicable landowners that they are entitled to receive noise mitigation measures, to the satisfaction of the Director-General.</p> <p><i>Table 4: Land subject to additional noise mitigation upon request</i></p> <p><i>Table 5: Additional Noise Mitigation Criteria dB (A)</i></p>	<p>HVO Noise Management Plan (2015), Section 8</p> <p>Interview - Environmental Specialist - Systems and Monitoring</p>	<p>The auditor was advised that no requests for acquisition were made during audit period.</p>	NT	
Continuous Improvement					
3.5	<p>The Proponent shall:</p> <p>(a) continue to implement all reasonable and feasible best practice noise mitigation measures;</p> <p>(b) continue to investigate ways to reduce the noise generated by the project, including maximum noise levels which may result in sleep disturbance;</p> <p>(c) report on these investigations and the implementation and effectiveness of these measures in the Annual Review to the satisfaction of the Director-General.</p>	<p>AEMR/ Annual Reviews 2012/13, 2013/14, 2014/15</p>	<p>Commitment to attenuate 100% of truck fleet down to 117dB(A) by 2018. Stated commitment in Community Consultation Committee minutes. Currently 25% attenuated to 118-125dB(A) with remaining at 127-128 dB(A).</p> <p>Recognise some work to be done. Once project complete at MTW, team will move across to HVO.</p>	C	
Monitoring					
3.6	<p>The Proponent shall prepare and implement a Noise Monitoring Program for the project of the satisfaction of the Director-General. This program must:</p> <p>(a) be submitted to the Director-General for approval within 6 months for the date of this approval, or other time agreed by the Director-General;</p> <p>(b) Include a: combination of real-time and supplementary attended monitoring measures; noise monitoring protocol for evaluating compliance with the noise impact assessment and land acquisition criteria in this approval.</p>	<p>HVO Noise Management Plan (2015)</p> <p>DP&E Letter of Approval dated 25/08/15</p>	<p>HVO Noise Management Plan approved DP&E August 2015 and has since been implemented.</p> <p>The HVO Noise management Plan, Section 7 adequately addresses the requirements of this condition.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Blasting and Vibration					
Airblast Overpressure Impact Assessment Criteria					
3.7	The Proponent shall ensure that the airblast overpressure level from blasting at the projects does not exceed the criteria in table 6 at any residence on a private owned land. <i>Table 6: Airblast overpressure impact assessment criteria</i>	HVO Blast Management Plan, 2014, Section 4.2.1 and 6.2 AEMR/ Annual reviews 2012/13, 2013/14, 2014/15	* 25 July 2014 - Knodlers Lane - 120.2dB(L) - non-compliance - Incident Report submitted to DP&E - Residents notified - 5% compliance criteria - Compliant * 17 July 2015 - Warkworth - 120.55dB(L) - non-compliance - Incident Report submitted to DP&E - Residents notified - 5% compliance criteria - Compliant * 25 February 2016 - Warkworth - 125.78dB(L) - non-compliance - Incident Report submitted to DP&E (approval granted for extension of time) - Residents notified - Penalty Infringement Notice - 5% compliance criteria - compliant YTD, not at risk.	NC	No further action required in relation to recorded non-conformance.
Ground Vibration Impact Assessment Criteria					
3.8	The Proponent shall ensure that the ground vibration level from blasting at the project does not exceed the criteria in Table 7, at any residence on privately-owned land. <i>Table 7: Ground vibration impact assessment criteria</i>	Interview - Environmental Specialist - Systems and Monitoring HVO Blast Management Plan, 2014, Section 4.2.1 AEMR/ Annual reviews 2012/13, 2013/14, 2014/15 EPL Annual Returns for 2013, 2014 and 2015	The peak particle velocity criteria was not exceeded at any privately owned residence during the audit period.	C	
3.9	For St Philip's Church and the outbuildings at Archerfield, the Proponent shall ensure that ground vibration peak particle velocity generated by the project does not exceed 5 mm/s, or as otherwise approved by the Director-General.	HVO Blast Management Plan, 2014, Section 4.2.2 Interview - Environmental Specialist - Systems and Monitoring	Monitoring point, 1.5km across river to south. Mine operations over time moving further from this location, notwithstanding may need to verify calculated assumptions for location.	O	Review location of Archerfield Vibration Monitor.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Blasting Hours					
3.10	The Proponent shall only carry out blasting on site between 7am and 6pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the EPA.	HVO Blast Management Plan, 2014, Section 6.2 HVO Blasting Summary for 2013 - 2016	HVO South blasting summary 2013 (November and December) - 16 blasts, earliest at 7:43am, latest at 1:11pm 2014 190 blasts, earliest at 7:24am, latest at 4:19pm 2015 198 blasts, earliest at 7:39am, latest at 4:11pm 2016 YTD 137 blasts, earliest at 7:52am, latest at 5:17pm	C	
Operating Conditions					
3.11	During mining operations on site, the Proponent shall implement best blasting practice to: (a) protect the safety of people, public infrastructure, and livestock; (c) Minimise the dust and fume emissions from blasting at the project to the satisfaction of the Director General.	HVO Blast Management Plan, 2014 (HVO-10-ENVMP-SITE-E6-004), Section 6.2 and 6.3, Section 4.2.2 and Annex B - Post Blast Fume Generation Mitigation and Management Plan	Proactive communication to neighbours, reporting as per requirements, qualified blast crew with clear responsibilities in place, road closures, blast design and meteorological forecasting.	C	
3.12	The Proponent may carry out a maximum of: (a) 3 blasts a day; and (b) 15 blasts a week on the site	HVO Blast Management Plan, 2014 (HVO-10-ENVMP-SITE-E6-004), Section 6.2 HVO Blasting Summary 2013 - 16	No exceedance of daily / weekly blasting allowance recorded.	C	
3.13	The Proponent shall not undertake blasting within 500 metres of any privately owned land, unless suitable arrangements have been made with the landowner and any tenants to minimise the risk of flyrock-related impact to the property to the satisfaction of the Director-General.	HVO Blast Management Plan (HVO-10-ENVMP-SITE-E6-004), 2014, Section 6.2 and 6.6	Hold Concessions and Mitigation Agreement and Amenity Management Plan with the Hunter Valley Glider Club which lies within 500m of Glider Pit. Amenity Management Plan approved by DPE 22/01/13.	C	
Road Closure					
3.14	The Proponent shall continue to implement its existing Road Closure Management Plan for the project to the satisfaction of RTA, Council and DRE.	Interview - Environmental Specialist - Systems and Monitoring HVO Blast Management Plan (HVO-10-ENVMP-SITE-E6-004), 2014, Section 6.6, Appendix A and D - Road Closure Management Plan	The auditor was advised that the frequency and duration of road closures is managed by implementation road closure management plan. Where opportunity arises to fire a number of blasts during road closure this is undertaken. Road closure briefing arranges the minimum time to complete blast and clear road minutes in advance of blast and once safe after blast. The auditor sighted examples of correspondence advising of road closures.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Public Notice					
3.15	<p>During mining operational on site, the Proponent shall:</p> <p>(a) Notify the landowner/occupier of any residence within 2 kilometres of the mining area who registers an interest in being notified about the blasting schedule at the mine, or any other landowner nominated by the Director-General;</p> <p>(b) Operate a blasting hotline, or alternate system agreed to by the Director General, to enable the public to get up-to-date information on the blasting schedule at the project;</p> <p>(c) Advertise the blasting hotline number in a local newspaper at least 4 times each year; and</p> <p>(d) Publish an up-to-date blasting schedule on its website to the satisfaction of the Director- General.</p>	<p>Interview - Environmental Specialist - Systems and Monitoring</p> <p>HVO Blast Management Plan, 2014 (HVO-10-ENVMP-SITE-E6-004), Section 6.2, 7.2 and 9.1.2</p> <p>Blasting Hotline</p>	<p>There are no private properties owned within 2km of blasting.</p> <p>Blasting hotline and schedule made available on RTCA website.</p> <p>The hotline was tested and found operation while on-site.</p> <p>Auditor provided evidence that blasting hotline advertising undertaken four times per year in local newspaper.</p> <p>Up-to-date blasting schedule found to be current on the HVO web-site.</p>	C	
Property Inspections					
<i>Note: This condition does not operate so as to prevent blasting within the first 3 months of this approval as consents applying to the site contain similar provisions for the inspection or residences potentially affected by blasting operations.</i>					
3.16	<p>At least 3 months prior to blasting within 2 kilometres of any privately-owned land, or any other landowner nominated by the Director-General, the Proponent shall advise applicable landowners that they are entitled to a structural property inspection.</p> <p>If the Proponent receives a written request for a structural property inspection from the landowner, the Proponent shall within 2 months of receiving this request and prior to blasting within 2 kilometers of the property:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to inspect the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and</p> <p>(b) give the landowner a copy of the property inspection report.</p>	<p>Interview - Environmental Specialist - Systems and Monitoring</p> <p>HVO Blast Management Plan (HVO-10-ENVMP-SITE-E6-004), 2014, Section 7.1</p>	<p>No private property owned within 2km of blasting.</p>	NT	
Property Investigations					
3.17	<p>If any landowner of privately-owned land within 2 kilometres of blasting operations, or any other landowner nominated by the Director-General, claims that buildings and/or structures on his/her land have been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this claim:</p> <p>(c) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to investigate the claim; and</p>	<p>Interview - Environmental Specialist - Systems and Monitoring</p> <p>HVO Blast Management Plan, 2014 (HVO-10-ENVMP-SITE-E6-004), Section 7.2</p>	<p>No private property owned within 2km of blasting or nominated by the DG.</p> <p>The auditor was advised that a number of property investigations have been conducted on a discretionary basis. No actions have been required as a result of these investigations.</p>	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(d) give the landowner a copy of the property investigation report.</p> <p>If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damages to the satisfaction of the Director-General.</p> <p>If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.</p> <p>If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 9)</p>				
Blast Monitoring Program					
<i>Note: The requirement for this Blast Monitoring Program may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional blast monitoring program. This program should take into account monitoring requirements of neighbouring mines, and where possible, be integrated with the mines' monitoring networks.</i>					
3.18	<p>The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <p>(a) be submitted to the Director General for approval within 6 months from the date of this approval, or as otherwise agreed by the Director-General; and</p> <p>(b) include a protocol for evaluating blasting impacts on, and demonstrating compliance with, the blasting criteria in this approval for all privately-owned residences and structures.</p>	<p>HVO Blast Management Plan, 2014 (HVO-10-ENVMP-SITE-E6-004)</p> <p>DP&I Approval Letter, provided in Appendix G of the Plan</p>	<p>HVO Blast Management Plan approved by DP&I dated 4/4/2014 on basis of road closure plans subsequently being approved.</p> <p>A DP&I email correspondence dated 4 April 2016 is provided with the HVO Blast Management plan confirming acceptance of ROL 8986 Ext 4 Coal & allied Lemington Road to Comleroi Road.doc as evidence license for road closure satisfying requirement of the HVO Blast Management Plan.</p> <p>The above correspondence also request that the Blast management Plan on the HVO website be kept up-to-date with current approvals for road closure. The HVO Blast Management Plan on the website had not been updated at the time of the audit.</p>	O	Review road closure plan to make sure it is correct and current.
AIR QUALITY					
Impact Assessment Criteria					
3.19	<p>The Proponent shall ensure that dust generated by the project does not cause additional exceedances of the air quality impact assessment criteria listed in Tables 8, 9, and 10 at any residence on privately-owned land, the Hunter Valley Gliding Club (when in use) or on more than 25 percent of any privately-owned land.</p> <p>However, if the Proponent has a written negotiated air quality agreement with any landowner or HVGC to exceed the air quality limits in Table 8, 9 and/or 10, and a copy of this agreement has been forwarded to the</p>	<p>HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014, Section 4.4 and 9</p> <p>AEMR/Annual reviews 2012/13, 2013/14, 2014/15</p>	<p>Assessment of upwind / downwind impact from source to receiver.</p> <p>Refer to AQGGMP Annex B - Air Quality Monitoring Programme & Compliance Protocol (75% contribution from HVO required before non-compliance is determined). None of the below are considered non-compliant on this basis.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	Department and EPA, then the Proponent may exceed the air limits in Table 8, 9 and/or 10 in accordance with the negotiated air quality agreement.		HVO Air Quality summary 2013 (Nov, Dec) Annual Review - Figures 30, 31, 32, 35, Table 30 2014 Annual Review - Figures 25, 26, 27, 28, Table 27 2015 Annual Review - Figures 14, 15, 16, 17, 18, 19, 20, 21, Table 23 2016 5 potential exceedances YTD 11/2/16 - Kilburnie South - invalid result, unit damaged 5/4/16 - Kilburnie South - horse influence - regulator notified 17/5/16 - HVGC - Club not in use - no exceedance 23/5/16 - Knodlers Lane, Long Point - TAS investigation undertaken, regulator notified. No non-compliance.		
Land Acquisition Criteria					
3.20	If the dust emissions generated by the project exceed the criteria in Tables 11, 12, and 13 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 7-9 of schedule 4. <i>Table 11: Long term land acquisition criteria for particular matter</i> <i>Table 12: Short term land acquisition criteria for particulate matter</i> <i>Table 13: Long term land acquisition criteria for deposited dust</i>	Interview - Environmental Specialist - Systems and Monitoring	The auditor was advised that no written requests have been received from those landholders listed.	NT	
Additional air Quality Impact Mitigation Measures					
3.21	Upon receiving a written request from: <ul style="list-style-type: none"> • an owner of land listed in Table 1 (unless the landowner has requested acquisition); or • an owner of land listed in Table 14 the Proponent shall implement reasonable and feasible air quality impact mitigation measures (such as air conditioning, first flush drinking water collection systems etc.) at any residence on the land, in consultation with the landowner.	Interview - Environmental Specialist - Systems and Monitoring HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014, Section 6.6 and 5	The auditor was advised that no written requests were received from those land owners listed.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>However, if the Proponent has an air quality agreement with the owner of any land listed in Table 1 or Table 14 and a copy of this agreement has been forwarded to the Department and EPA, then the Proponent does not have to implement such measures.</p> <p>If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <p>Within 3 months of the date of this approval, the Proponent shall notify all applicable landowners that they are entitled to receive air quality impact mitigation measures, to the satisfaction of the director- General.</p> <p><i>Table 14: Land subject to additional air quality impact mitigation upon request</i></p>				
Operating Conditions					
3.22	<p>The Proponent shall:</p> <p>(a) ensure any visible air pollution generated by the project is assessed regularly, and that mining operations are relocated, modified, and/or stopped as required to minimise air quality impacts on privately-owned land;</p> <p>(b) ensure that the real-time air quality monitoring and meteorological monitoring data is assessed regularly and, where the dust is generated by the project, that mining operations are relocated, modified and/or stopped as required to ensure compliance with the relevant air quality criteria, and in particular to mitigate dust emission impacts for Maison Dieu and Warkworth residences; and</p> <p>(c) implement all practicable measures to minimise the off-site odour and fume emissions generated by any spontaneous combustion or blasting activities on site to the satisfaction of the Director-General.</p>	<p>HVO Shift Coordinator Daily Report</p> <p>Real time alarm notifications sighted.</p>	<p>HVO Shift Coordinator Reports include air quality summary from operations in the pit.</p> <p>Insert</p> <p>Shotfirer in charge ranks fume emissions based on colour and intensity. The HVO Blast Management Plan Appendix 2 - Visual NOx Gases Rating Scale prescribes ranking level.</p>	C	
Monitoring					
<p><i>Note: The requirement for this Air Quality Monitoring Program may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional air quality monitoring program. This program should take into account monitoring requirements of neighbouring mines, and where possible, be integrated with these mines' monitoring networks.</i></p>					
3.23	<p>The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <p>(a) be submitted to the Director-General for approval within 6 months of the date of this approval, or as otherwise agreed by the Director-General; and</p>	<p>HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014</p>	<p>AQGGMP approved by DPE in correspondence dated 12/2/14</p> <p>The AQGGMP satisfies the requirements of this condition.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(b) include: <ul style="list-style-type: none"> high-volume and real-time samplers to monitor the dust emissions of the project; and an air quality monitoring protocol for evaluating compliance with the air quality impact assessment and land acquisition criteria in this approval. 				
METEOROLOGICAL MONITORING					
3.24	During the life of the project, the Proponent shall ensure that there is a suitable meteorological station in the vicinity of the site that complies with the requirements in the <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i> guideline.	The auditor reviewed SCADA sample of continuous monitoring. Site observations.	The location of the meteorological station was confirmed and sighted in the field by the auditor. All parameters observed to be monitored on continuous basis.	C	
SURFACE AND GROUNDWATER					
Discharge Limits					
3.25	The Proponent shall only discharge mine water from the site in accordance with the provisions of an EPL, section 120 of the <i>Protection of the Environment Operations Act 1997</i> or the <i>Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002</i> .	Interview - Environmental Specialist - Systems and Monitoring Water Quality Monitoring Results Environmental incident Report dated 17 November 2014 for Dam 19S to Dam 17S	Dam 19 to Dam 17S. Water Quality Monitoring demonstrated no impact to Wollombi Brook. No regulatory action was taken.	C	
Protection of Watercourses					
<i>Note: The requirement under condition 23(b) does not apply to lands, part of the site, located to the north of the Hunter River. The requirements for the Surface and Ground Water Quality Monitoring Programs and Response Plan may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional environmental monitoring program.</i>					
3.26	The Proponent shall: <p>(a) ensure mining operations do not interfere with the stability of the Hunter River, Wollombi Brook and creek lines located outside the area of mining operations; and</p> <p>(b) retain a buffer zone of 150 metres, or less if agreed by the Director-General following consultation with NOW, from the edge of open cut pits and the high bank of the Hunter River and its connected alluvium, excepting the area of the site adjacent to the Hobden Gully levee.</p>	Interview - Environmental Specialist - Systems and Monitoring Water Quality Monitoring Results	Chesnutt pit closest point highball to Hunter River is approximately 204m. No evidence of impacts to stability of the watercourses.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
WATER MANAGEMENT PLAN					
3.27	<p>The Proponent shall prepare and implement a Water Management Plan to the satisfaction of the Director-General. This Plan must:</p> <p>(a) be prepared in consultation with NOW by a suitably qualified expert whose appointment has been approved by the Director-General;</p> <p>(b) be submitted to the Director-General for approval within 6 months of this approval or otherwise agreed by the Director-General; and</p> <p>(c) include:</p> <ul style="list-style-type: none"> • a site water balance, which includes details of sources and security of water supply, on site water use and management and off site water transfers and investigates and describes measures to minimise water use by the project; • an erosion and sediment control plan for surface works on the site that is consistent with the requirements of the Managing Urban Stormwater: Soils and Construction Manual (Landcom 2004, or its latest version); • a program for review of groundwater modelling that includes assessment of the effect of short and long-term changes to groundwater quality and mobilisation of salts; • a surface water monitoring program that includes: • detailed baseline data of surface water flows and quality in the watercourses that could be affected by the project, including the Hunter River and Wollombi Brook; • surface water impact assessment criteria, including trigger levels for investigating potentially adverse surface water impacts of the project; and • a program to monitor surface water flows and quality in the watercourses that could be affected by the project; • a groundwater monitoring program that includes: • additional baseline data of groundwater levels, yield and quality in the region, and privately-owned groundwater bores, which could be affected by the project; • groundwater impact assessment criteria, including trigger levels for investigating • any potentially adverse groundwater impacts of the project; and • a program to monitor: 	<p>HVO Water Management Plan (WMP), dated 4 May 2016, Table 1.1 and relevant Sections of the Plan</p> <p>NOW, DP&E and EPA correspondence as Appended to HVO WMP</p>	<p>HVO WMP prepared for North and South by suitably competent and Director General approved water management expert (Chris New). Revision 1 of the Plan dated 20 December 2013 was submitted within the agreed timeframe. It has since undergone a number of revisions. The current Revision 1.3 of the plan is dated 4 May 2016.</p> <p>HVO WMP previously approved by DPE April 2014.</p> <p>The current revision of the HVO WMP adequately addresses all requirements of this condition.</p> <p>Some minor administrative anomalies were identified by the auditor with regard to correct referencing of Appendices.</p>	O	<p>Review Appendix headings against references in Table 1 of the HVO WMP, ie. Sch. 3, Cond. 27(c) (on page 12, last row) references Appendix D - Groundwater Monitoring Programme, where it should reference Appendix C - Surface Water Monitoring Programme.</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • groundwater inflows to the open cut mining operations; and • impacts of the project on the region's aquifers, any groundwater bores, and • surrounding watercourses, and in particular, the Hunter River and Wollombi Brook and adjacent alluvium; and • a surface and groundwater response plan which describes the measures and/or procedures that would be implemented to: <ul style="list-style-type: none"> • respond to any exceedances of the surface water and groundwater assessment criteria; • offset the loss of any baseflow to watercourses caused by the project; • compensate landowners of privately-owned land whose water supply is adversely affected by the project; and • mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation, and Hunter River Red Gum populations located within and adjacent to the site. 				
Groundwater Impacts Report					
3.28	<p>The Proponent shall provide an annual report of alluvial and hard rock buffer groundwater levels. This report shall:</p> <p>(a) be provided to NOW and the Department in the Annual Review each year following the reporting period;</p> <p>(b) include interpreted drawdown levels resulting from existing and/or ongoing mining operations of the project; and</p> <p>(c) account for any drawdown loss of alluvial groundwater or river flows to the satisfaction of the Director-General.</p>	<p>HVO Water Management Plan 2016, Section 8 AEMR 2013-15</p> <p>Independent Environmental Compliance Audit - SKM (2014)</p> <p>Monthly reporting and groundwater data</p>	<p>HVO South Groundwater Impacts Report, prepared annually by <i>Australia Groundwater and Environmental Consultants</i>.</p> <p>Monthly reporting and groundwater data available publically on web site as reviewed by the auditor.</p>	C	
3.28A	<p>The Proponent shall design and construct Lake James (as described in the documents listed in condition 2(c) of schedule 2) to the satisfaction of the DSC. The final dam design, as submitted to DSC, must be accompanied by a detailed assessment of the potential operational and environmental risks associated with the dam.</p>	<p>Independent Environmental Compliance Audit - SKM (2014)</p>	<p>As constructed plans were sighted for previous SKM 2013 audit.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
REHABILITATION AND LANDSCAPE					
3.29	The Proponent shall implement the biodiversity offset strategy as described in the Warkworth Extension EA, summarised in Table 15 below and shown conceptually in Appendix 5, to the satisfaction of the Director-General. <i>Table 15: Summary of the Biodiversity Offset Strategy</i>	MOP - HVO South (21 September 2015) Plans AEMRs (2013-2015) Annual reports (Regional Offset Management Plan reporting 2014 and 2015) Regional Offset Management Plan available on RTCA website HVO South Offset Plan (NSW Approval)	Biodiversity Offset Strategy implemented through the Regional Offset Management Plan which was not available for review on the RTCA website. Currently under review, new plan to be completed by end 2016.	NV	
Long Term Security of Offset					
3.29A	By the end of March 2013, unless the Director-General agrees otherwise, the Proponent shall enter or cause to be entered into a conservation agreement or agreements pursuant to section 69B of the National Parks and Wildlife Act 1974 for the offset area identified in condition 29, recording the obligations assumed by the Proponent under the conditions of this approval in relation to the offset area, and register the agreement/s pursuant to section 69F of the National Parks and Wildlife Act 1974. The conservation agreement/s must remain in force in perpetuity. This conservation agreement may be combined with any similar agreement required under the project approval for the Warkworth Extension Project (09_0202).	Email correspondence from DPE	Legal security - offset area is collocated with Warkworth Mine Offset within the Goulburn River BA. DPE approved extension for timeframe to allow the area to be protected under the same conservation covenant for the Warkworth Offsets. A BioBanking Application was lodged with OEH to protect the Goulburn River BA in July 2015, however the application has not been finalised. RTCA are now seeking permission to secure the offset area under the National Parks and Wildlife Act Section 69F.	C	
Offsets for Warkworth Extension Project					
<i>Note: The Southern Biodiversity Area and Northern Biodiversity Area form part of the biodiversity offset strategy for the Warkworth Extension Project (MP 09_0202).</i>					
3.29B	The Proponent shall not undertake any mining operations or development within the Southern Biodiversity Area or Northern Biodiversity Area as indicated on the plan in Appendix 10, other than any conservation-related activity under an approved Rehabilitation and Biodiversity Management Plan under either this approval or MP 09_0202.	Local Offset Management Plan (LOMP) available on RTCA website (approved by DPE for Warkworth Mine) Annual report (LOMP 2015)	Local Offset Management Plan has been implemented across the Northern and Southern Biodiversity Areas.	C	
River Red Gum Restoration Strategy					
3.30	Within 12 months of the date of this approval, or otherwise agreed by the Director-General, the Proponent shall review, revise and provide a timetable for the implementation the HVO River Red Gum Strategy for the Hunter River and Wollombi Brook river red gum populations (as shown in Appendix 8), in consultation with NOW and EPA, and to the satisfaction of the Director-General. This strategy must be prepared by suitably qualified expert/s, and must include:	HVO River Red Gum Rehabilitation and Restoration Strategy (EMGA, March, 2010) AEMR (2013) Interview	s7.1.2 describes baseline and subsequent surveys (2007 and 2008). s7.1.3 contains a timetable for future monitoring including year 3 (2010), year 5 (2012) and year 10 (2017) monitoring. Evidence of consultation with NOW and EPA predates scope of this audit.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(a) the conservation and restoration objectives for the river red gum populations;</p> <p>(b) a description of the short, medium and long term measures that would be implemented to conserve and restore the river red gum populations (including measures to address matters which affect the long term health and sustainability of the river red gums such as surface and ground water supply, and controlling weeds, livestock and feral animals); and</p> <p>(c) detailed assessment and completion criteria for the conservation and restoration of the river red gum populations.</p>		<p>Other timing for actions are stated in s5.3, Table 5.1.</p> <p>a) s6.1</p> <p>b) s5.0 and Appendix 2</p> <p>c) s6.2 & 6.3 and Appendix 3</p> <p>AEMR (2013) s5.1.1.2 contains reported results of the year 5 monitoring event undertaken in 2013 although the HVO River Red Gum Rehabilitation and Restoration Strategy designates that monitoring should have been undertaken in 2012. This explained by RTCA by:</p> <p><i>Monitoring delayed due to access to Camyr Allyn control site not being available. Decision was made to proceed with monitoring of Carrington Billabong in Oct 2013 despite access to Camyr Allyn still not being available. Dispute with Camyr Allyn land owner was resolved and monitoring of this site was undertaken in May 2014.</i></p>		
Hunter Lowland Red Gum Forest					
3.31	<p>The Proponent shall protect all stands of the Hunter Lowland Red Gum Forest (also identified as Hunter Floodplain Red Gum Woodland Complex in the EA) endangered ecological community within the site, and adjacent lands under the control of the Proponent, as shown in Appendix 8, to the satisfaction of the Director-General</p>	<p>Site visit and interview HVO River Red Gum Rehabilitation and Restoration Strategy (EMGA, March, 2010)</p>	<p>Relevant mapped occurrences of Hunter Floodplain Red Gum Woodland Complex in Appendix 8 are those at Carrington Billabong and others further south in the MTW complex. The HVO River Red Gum Rehabilitation and Restoration Strategy contains controls for ecological protection such as fencing, weed and pest control.</p> <p>AEMRs (2011-2015) report that pest and weed control was undertaken during the reporting periods in the Carrington Billabong.</p> <p>AEMRs (2014-2015) report that fencing and weed control was undertaken at the Hunter River and Wollombi Brook priority sites.</p> <p>Fencing was observed at Carrington Billabong during the site visit.</p> <p>No protection from future development is afforded by any formal land covenant. No evidence exists that protection is to the satisfaction of the Director-General; that includes either of the physical infrastructure (e.g. fencing) and pest control (e.g. weed and feral animal control) or whether the Director-General requires formal protection via land covenant.</p>	NC	<p>Clarification should be sought to ensure protections are to the satisfaction of the Director General.</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Habitat Management Areas					
3.32	Deleted				
Strategic Study Contribution					
3.33	If, during the project, the Department or the EPA commissions a strategic study into the regional vegetation corridor stretching from the Wollemi National Park to the Barrington Tops National Park, then the Proponent shall contribute a reasonable amount, up to \$10,000, towards the completion of this study.	Interview	RTCA have not been approached to provide funding.	NT	
Rehabilitation					
3.34	The Proponent shall progressively rehabilitate the site in a manner that is generally consistent with the final landform set out in the EA (shown conceptually in Appendix 6) to the satisfaction of the Executive Director, Mineral Resources in DRE and the Director-General.	MOP - HVO South (21 September 2015) Plans AEMR (2015) Site visit Interview - Environmental Specialist - Rehabilitation DRE letters following post-AEMR submission site visits: 2013 AEMR review response (OUT14/19573 - 10 July 2014) 2014 AEMR review response (OUT15/17357 - 10 July 2015) 2015 AEMR review response (OUT16/40219)	<i>Riverview rehabilitation site visit:</i> Rehabilitation in MOP Plan for 2016 (Plan 3B) shown in the phase of 'Ecosystem Development' verified in field. Site contact confirmed site had been seeded with native species in 2013. Observed native species development with juvenile tree and shrub species present (generally <i>Eucalyptus</i> spp. and <i>Acacia</i> spp.). Visual observation of location was consistent with reported rehabilitation status of this area in AEMR (2015). The auditor visited the adjacent rehabilitation area in 2015 MOP Plan (Plan 3A) 'Ecosystem Establishment' and 2016 MOP Plan (Plan 3B) in the subsequent phase 'Ecosystem Development'. Area stated by site contact to have been sown with a cover crop, verified by site observation, with impending action to remove the cover crop and sow with native species in order to move from phase 'Ecosystem Establishment' to 'Ecosystem Development'. Visual observation of location was consistent with reported rehabilitation status of this area in AEMR (2015). Both areas were sown (or proposed to be sown) with woodland species although the MOP Plans (3A and 3B) show the domains as being 5C 'pasture'. This is not inconsistent with the concept in Appendix 6 which only shows the areas as 'proposed native vegetation MOP'. <i>Cheshunt rehabilitation site visit:</i> Cheshunt rehabilitation was observed from a safe operating distance from a vantage point in Carrington area. The areas are currently being progressed through the MOP phases 'Landform Establishment', 'Ecosystem	O	Observation was made that areas shown in the MOP as pasture were sown with a native woodland mix. Opportunity exists to clarify and make consistent the proposed rehabilitated vegetation type across all plans.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			<p>Establishment' and 'Ecosystem Development' as shown in MOP Plans 3A and 3B. Observation confirmed this progressive rehabilitation. Observation could not be made to confirm the rehabilitated vegetation type, although the concept in Appendix 6 which only shows the areas as 'proposed native vegetation MOP'. Visual observation of location was consistent with reported rehabilitation status of this area in AEMR (2015).</p> <p>DRE letters following AEMR submissions to RTCA confirmed DRE satisfaction of rehabilitation.</p> <p>DRE letters stated 2013, 2014 and 2015 AEMRs generally satisfied the lease conditions including good quality rehabilitation (although various additional information or recommendations were provided in each including developing a monitoring program for rehabilitated vegetation (2014 review) and subsequent monitoring performance criteria (2015)).</p> <p>Two areas visited in the Riverview rehabilitation area were sown (or proposed to be sown) with woodland species although the MOP Plans (3A and 3B) show the domains as being 5C 'pasture'. This is not inconsistent with the concept in Appendix 6 which only shows the areas as 'proposed native vegetation MOP'.</p>		
LANDSCAPE MANAGEMENT PLAN					
<i>Note: The Department accepts that the initial Landscape Management Plan may not include the detailed Final Void Management Plan and Mine Closure Plan. However, if this occurs, the Proponent will be required to seek approval from the Director-General for an alternative timetable for the completion and approval of the Final Void Management Plan and Mine Closure Plan.</i>					
3.35	<p>The Proponent shall prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of the Director-General and the Executive Director, Mineral Resources in DRE. This plan must:</p> <p>(a) be prepared by suitably qualified expert/s;</p> <p>(b) be prepared in consultation with NOW, DRE and Council where appropriate jurisdictions exist;</p> <p>(c) be submitted for approval within 12 months from the date of this approval or as otherwise approved by the Director-General; and</p> <p>(d) include:</p> <ul style="list-style-type: none"> • a Rehabilitation and Biodiversity Management Plan; 	<p>Landscape Management Plan (CNA-10-ENVMP-SITE-E9-027) (24/03/2010)</p> <p>Independent Environmental Noise Review, AECOM 17 September 2013</p>	<p>Assessed during 2013 IEA. Landscape Management Plan satisfies these points.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • Final Voids Management Plans; and • a Mine Closure Plan. 				
REHABILITATION AND BIODIVERSITY MANAGEMENT PLAN					
<i>Notes: Reference to "rehabilitation" in this approval includes all works associated with the rehabilitation and restoration of the site as described in the EA.</i>					
3.36	<p>The Rehabilitation and Biodiversity Management Plan must include:</p> <p>(a) the objectives for rehabilitation of the site and offset area;</p> <p>(b) a description of how the rehabilitation of the site would be integrated with the rehabilitation and offset strategies of the Warkworth/Mt Thorley, Wambo, United, HVO North, Ravensworth, West, Ravensworth South, Narama and Ashton mines to ensure there is a comprehensive strategic framework for the restoration and enhancement of the landscape over time;</p> <p>(c) a description of the short, medium, and long term measures that would be implemented to: implement the Biodiversity Offset Strategy; rehabilitate the site; manage the remnant vegetation and habitat on the site; maximise effective habitat linkages to surrounding vegetated lands; conserve and reuse topsoil; control weeds, feral pests and access; and manage any potential conflicts between the rehabilitation works and Aboriginal cultural heritage;</p> <p>(d) detailed performance and completion criteria for the rehabilitation of the site and implementation of the biodiversity offset strategy;</p> <p>(e) a detailed description of how the performance of the rehabilitation of the mine and implementation of the biodiversity offset strategy would be monitored over time to achieve the stated objectives;</p> <p>(f) a detailed description of what measures and procedures would be implemented over the next 3 years to rehabilitate the site and implementation of the biodiversity offset strategy;</p> <p>(g) a description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and</p> <p>(h) details of who (by person and/or position) is responsible for monitoring, reviewing and implementing the plan.</p>	MOP - HVO South (21 September 2015) and Regional Offset Management Plan	<p>Rehabilitation and Biodiversity Management Plan approved by DPE.</p> <p>Biodiversity Offset Strategy implemented through the Regional Offset Management Plan which was not available for review on the RTCA website.</p> <p>Currently under review, new plan to be completed by end 2016.</p>	NV	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
FINAL VOID MANAGEMENT					
3.37	A Final Void Management Plan must: (a) be prepared for each proposed final void at least 5 years prior to the completion of mining in the vicinity of the proposed void; (b) incorporate design criteria and specifications for the final void based on verified groundwater modelling predictions and a re-assessment of post-mining groundwater equilibration; (c) assess potential uses of the void, such as off stream water storage; (d) assess the potential interactions between the Hunter River and its connected alluvium and the final void; and (e) describe what actions and measures would be implemented to: minimise any potential adverse impacts associated with the final void; and manage and monitor the potential impacts of the final void.	Landscape Management Plan (CNA-10-ENVMP-SITE-E9-027) (24/03/2010) Interview - Environmental Specialist - Systems and Monitoring	The auditor was informed that Final Void Management Plan information is incorporated in the RLMP however mining to continue beyond 5 years.	NT	
MINE CLOSURE PLAN					
3.38	The Mine Closure Plan must: (a) be prepared in consultation with NOW, DRE and Council; (b) define the objectives and criteria for mine closure; (b) investigate options for the future use of the site, including the final void; (c) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local employment levels; (d) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and (e) describe how the performance of these measures would be monitored over time.	Landscape Management Plan (CNA-10-ENVMP-SITE-E9-027) (24/03/2010) Interview - Environmental Specialist - Systems and Monitoring	The auditor was informed that Mine Closure Plan information is incorporated in the RLMP however mining to continue beyond 5 years.	NT	
Conservation and Biodiversity Offset Implementation Bong					
3.39	By the end of March 2013, the Proponent shall lodge a conservation bond with the Department to ensure that the Biodiversity Offset Strategy is implemented in accordance with the performance and completion criteria of the Rehabilitation and Biodiversity Management Plan. The sum of the bond shall be determined by: (a) calculating the full cost of implementing the offset strategy (other than land acquisition costs); and (b) employing a suitably qualified quantity surveyor to verify the calculated costs. • If the offset strategy is completed generally in accordance with the completion criteria in the	Conservation Bond (802.GTE.7750 - HV Operations)	Conservation and Biodiversity Offset Implementation Bond lodged - extension granted by DPE until 5 October 2016 lodged on 5 October 2016.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>Rehabilitation and Biodiversity Management Plan to the satisfaction of the Director-General, the Director-General will release the bond.</p> <ul style="list-style-type: none"> If the offset strategy is not completed generally in accordance with the completion criteria in the Rehabilitation and Biodiversity Management Plan, the Director-General will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works. With the agreement of the Director-General, this bond may be combined with rehabilitation security deposit administered by the DRE, and may be combined with bonds in respect of offsets required for the Warkworth Extension Project. 				
ABORIGINAL HERITAGE					
Aboriginal Heritage Management Plan					
3.40	<p>The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General. The Plan must:</p> <p>(a) be prepared in consultation with EPA and the Aboriginal community;</p> <p>(b) be submitted to the Director-General for approval within 12 months of this approval or as otherwise agreed by the Director-General; and</p> <p>(c) include:</p> <ul style="list-style-type: none"> measures to be taken to avoid impacts to Aboriginal cultural heritage values at all stages of the project. If impacts are unavoidable, mitigation measures are to be negotiated with the Aboriginal community; a program for the recording, salvage and surface collection of Aboriginal objects/sites within the site; a program for the conservation of the other Aboriginal objects/sites within the site, including measures to secure, analyse and record the objects/sites; definition of restricted access zones to protect Sites 26-44, 47-58, 84-100, 102-104 and 107-109 from disturbance; measures to ensure potential impacts to Sites 26-44, 47-58 and 107-109 by the proposed rail spur and loop are avoided; measures to provide for the controlled collection of Sites 1-24, 59-79, 80-83, 101 and 105-106, where avoidance of impacts by planned mining and infrastructure activities is not possible; 	<p>HVO South Coal Project Aboriginal Heritage Management Plan, May 2009</p> <p>Interview - Cultural Heritage Advisor Care and Control Plan</p>	<p>The Aboriginal Heritage Management Plan was approved by DP&I and Hunter Valley Aboriginal Cultural Working Group as verified in the 2010 IEA.</p> <p>The 2013 IEA confirmed the Plan meets the requirements of this condition.</p> <p>The Cultural Heritage Advisor informed that auditor that::</p> <ul style="list-style-type: none"> All known sites are recorded on the AIHMS database The sites GIS is linked to Management Plans and requirements The site maintains a Cultural heritage zone plan Recovered artefacts are located at Hunter Valley Services storage shed in compliance with OEH storage standards. The above facility approved by OEH as per the Care and Control Plan. Repatriation of artefacts to be on rehabilitation final land form. Awareness for employees and contractors continues to be raised through general site induction and on specific toolbox induction on projects as required. Mandatory cultural awareness training is provided for all FTEs and contractors. 	O	<p>Consider whether the current inspection regime is sufficiently meeting the intent of the ACHMP and this condition and seek clarification from DPE as to the adequacy of same.</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> provision for a long term 'keeping place' and care and control plan for any Aboriginal objects recovered from the site; provisions for Aboriginal cultural heritage awareness training for all HVO South employees, and as a component of mine site inductions for contractors working at HVO South; a description of the measures that would be implemented if any Aboriginal skeletal remains are discovered during the project; a protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of the Aboriginal heritage of the objects/sites; and a protocol for the regular review of the Plan's effectiveness. <p>Notes: The requirements for the Aboriginal Heritage Management Plan may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional Aboriginal heritage management plan.</p> <p>The Aboriginal cultural heritage sites and site numbers referenced in this condition are provided in Section 12 and Annex M of the EA.</p>		<p>The Aboriginal Cultural Heritage Working Group (CHWG) met on 4 occasions in 2015; 5 occasions in 2014; and 3 occasions in 2013.</p> <p>No Aboriginal cultural heritage assessment or salvage projects were undertaken in 2013. No ACHMP compliance inspection was undertaken in 2013 within the audit period.</p> <p>An ACHMP compliance inspection was undertaken in June 2014. An Aboriginal cultural heritage Salvage Collection Programme was also undertaken in October 2014.</p> <p>An ACHMP compliance inspection was undertaken in June 2015. A scarred tree verification and condition inspection programme was also undertaken in July 2015.</p> <p>The ACHMP allows for bi-annual ACHMP compliance inspections. This has not strictly been undertaken with only annual inspections being reported in the AERs. It is noted however that other programs have been undertaken during the audit period.</p>		
TRANSPORT AND UTILITIES					
Monitoring of Coal Transport					
3.41	The Proponent shall keep records of the amount of coal transported from the site each year, and include these records in the Annual Review.	AEMR 2013 - 15	Coal Transport Records detailed in AEMR tables as follows: 2013 Table 16 2014 Table 15 2015 Table 12	C	
Coal Haulage Limits					
3.42	The Proponent shall not transport coal from the project by public roads, unless otherwise approved by the Director-General.	Site Observations	All coal transported off Site by rail	NT	
Relocation of Comleroi Road					
3.43	The Proponent shall: (a) prior to construction, consult with all road users and Council about the proposed road works and their timing; (b) develop and implement procedures for road closures and diversions to be undertaken during the construction of the relocated road; and (c) construct the relocated section of the road to the satisfaction of Council.	Interview with Site Management	These works have not been undertaken and relate to South Lemington Pit 2. No plans to extract from this Pit.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Jerrys Plains Road Heavy Equipment Crossing					
3.44	Prior to the relocation of any heavy equipment, to or from the project, that would require Jerrys Plains Road to be closed to public traffic, the Proponent shall obtain approval for each planned road closure from RTA and then undertake each transfer of equipment across Jerrys Plains Road in accordance with any approval obtained from RTA for this purpose	Interview with Project Approvals Principal Advisor	Condition not triggered for HVO at this point, although for road closures required for transfer of equipment from Warkworth to HVO Workshops, these road closures are currently managed under Warkworth Road Occupancy Licence. HVO currently seeking approval of Road Occupancy Licence from RMS.	NT	
Coal Conveyor to HVO North					
3.45	The Proponent shall design and construct the conveyor to HVO North to the satisfaction of DRE and NOW. A copy of all final documentation shall be provided to the Director-General within 6 months of the completion of its construction.	Interview with Project Approvals Principal Advisor	Conveyor not constructed at the time of this audit.	NT	
LCPP 'Short Loop' Rail Line					
3.46	Prior to the commencement of construction activities for the Lemington Coal Preparation Plant 'short loop' rail line and coal loading facilities, the Proponent shall provide an alternative area of Habitat Management Area, to replace that disturbed by mining operations or construction of mine infrastructure, to the satisfaction of the Director-General.	Interview with Project Approvals Principal Advisor	LCPP Short Loop not constructed at the time of this audit.	NT	
Hunter Valley Gliding Club Co-operative Limited					
3.47	While HVGC continues to use its facilities within the site, the Proponent shall maintain an agreement with HVGC to address the potential impact of the mine on the use and operation of HVGC's facilities, including the potential impacts to the flight paths from dragline operations. This agreement shall take into consideration the impacts of the dragline position on: <ul style="list-style-type: none"> • useable length of the runway; • interference with flight paths; and • guidelines of the Department of Aviation. Note: This condition shall cease to operate if both parties agree to terminate the agreement and the need for an agreement.	Concessions and Mitigation Agreement (CMA) and Amenity Management Plan	Hold Concessions and Mitigation Agreement (CMA) and Amenity Management Plan with the Hunter Valley Glider Club which lies within 500m of Glider Pit. CMA signed and implemented 5/2/13 - refer to comments in Condition 3.13	C	
3.48	The Proponent shall not conduct any activity associated with the project above the obstacle limitation surface (OLS) as shown in Figure 2.3 of the HVO South Coal Project Response to Submissions Report (July 2008) unless agreed with HVGC.	Interview - Environmental Specialist - Systems and Monitoring	The auditor was advised that there is no intention to use a drag line in Glider Pit.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
3.49	<p>The Proponent shall develop an Amenity Management Plan for HVGC's facilities within the site. This Plan shall;</p> <p>(a) be prepared in consultation with the Hunter Valley Gliding Club;</p> <p>(b) be submitted to the Director-General for approval 6 months prior to the commencement of mining in the Riverview South East Extension Area, or otherwise agreed by the Director-General;</p> <p>(c) include a risk assessment to identify those circumstances most likely to generate impacts from mining operations on gliding activities and use of the club's residential facilities;</p> <p>(d) include details of any proposed modifications to the HVO South mine plan to exclude land owned by the Hunter Valley Gliding Club;</p> <p>(e) provide for additional air quality and noise modelling of the potential impacts of modified mining activities; and</p> <p>(f) identify and implement management measures for mining activities to ensure that air quality and noise emissions meet respective impact assessment criteria, or obtain written agreement from the Hunter Valley Gliding Club to exceed these criteria to the satisfaction of the Director-General.</p> <p>If the Proponent and HVGC cannot agree on the level or composition of the Amenity Management plan, then either party may refer the matter to the Director-General for resolution.</p> <p>Should the Hunter Valley Gliding Club cease to operate its facilities at the site, the Proponent's obligations under this condition shall cease.</p>	Amenity Management Plan	<p>Amenity Management Plan (AMP) approved by DPE 22/01/13- refer to comments in Condition 13</p> <p>The AMP adequately satisfies the requirements of this condition.</p> <p>Monthly meetings with HVGC include standing line items for updates relating the AMP.</p>	C	
VISUAL AMENITY					
Lighting Emissions					
3.50	<p>The Proponent shall:</p> <p>(a) ensure no external lights shine above the horizontal;</p> <p>(b) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting, or its latest version, and</p> <p>(c) take all practicable measures to mitigate off-site lighting impacts from the project to the satisfaction of the Director-General.</p>	<p>Interview with Environmental Specialist - Systems and Monitoring</p> <p>Site observations After Dark</p>	<p>2013 - Two complaints (Jerry's Plains and Maison Dieu)</p> <p>2014 - No complaints</p> <p>2015 - Two complaints (HVGC and Maison Dieu)</p> <p>2016 - One complaint (Gowrie)</p> <p>All lighting plant with potential to impact off-site properties, provided with lock-out system which requires super-intendant approval prior to relocating from approved position.</p>	NC	<p>As there have been complaints during the reporting period, combined with the auditor's observation in the field, it would be advisable to review the Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting to ensure all practicable measures to mitigate off-site lighting impacts are implemented.</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			The auditors toured the surrounding region on the evening of 26 October 2016 and clearly observed two bright lighting stands visible to residents on high ground at Maison Dieu. The site was advised and took action the following day to inform the mine operations in order to re-locate the lighting stands.		
Visual Impact Mitigation					
<i>Note: The additional visual impact mitigation measures must be aimed at reducing the visibility of the mine from significantly affected residences and do not necessarily require measures to reduce visibility of the mine from other locations on the affected properties. The additional visual impact mitigation measures do not necessarily have to include measures on the affected property itself (i.e. the additional measures may consist of measures outside the affected property boundary that provide an effective reduction in visual impacts).</i>					
3.51	Within 12 months of this approval, or otherwise agreed by the Director-General, the Proponent shall prepare a visual impact mitigation report for the project to the satisfaction of the Director-General. This report shall: (a) be prepared in consultation with Council; (b) identify the privately-owned residences and public roads that are likely to experience significant additional visual impacts from the project during its operation; and (c) describe (in general terms) the mitigation measures that could be implemented to reduce the visibility of the mine from these residences and roads.	Interview with Environmental Specialist - Systems and Monitoring Visual Impact Report (2010) Independent Environmental Compliance Audit - SKM (2014)	As per 2013 IEA. VIR prepared, demonstrates consultation with Singleton Shire Council.	C	
3.52	Within 3 months of the Director-General approving this report, the Proponent shall advise all owners of residences identified in the report that they are entitled to mitigation measures to reduce the visibility of the mine from their properties and reach agreement with Council about mitigation measures (if any) to be implemented for public roads. If the Proponent and Council cannot agree about these measures, the matter shall be referred by either party to the Director-General for resolution.	Independent Environmental Compliance Audit - SKM (2014)	No formal feedback received from DP&I. The auditor was advised that the majority of properties in VIR are now under mine ownership or relate to conditions not yet triggered by current mine development.	O	Follow-up is recommended to confirm formal feedback from DP&I once the MOD is updated.
GREENHOUSE & ENERGY EFFICENCY					
3.53	The Proponent shall implement all reasonable and feasible measures to minimise greenhouse gas emissions from the project to the satisfaction of the Director-General.	AQMP AEMR 2013-15 NGERS Report	Air Quality & Greenhouse Gas Management Plan approved by DG April 2014 Comply with reporting requirement of NGERS. RTCA invest in projects to reduce GHG emissions particularly where fuel and cost savings can be made.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
3.54	<p>Within 12 months of this approval or otherwise agreed by the Director-General, the Proponent shall prepare and implement a Greenhouse and Energy Efficiency Plan for the project. This plan must:</p> <p>(a) be prepared generally in accordance with the Guidelines for Energy Savings Action Plans (DEUS 2005, or its latest version);</p> <p>(b) be submitted to the Director-General for approval;</p> <p>(c) include a program to estimate/monitor greenhouse gas emissions and energy use generated by the project;</p> <p>(d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the project;</p> <p>(e) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures at the project, including a feasibility study to identify and assess potential options for the capture and reuse of coal seam methane;</p> <p>(f) describe how the performance of these measures would be monitored over time; and</p> <p>(g) report on the project's greenhouse gas emissions and minimisation measures in the Annual Review to the satisfaction of the Director-General.</p>	<p>Independent Environmental Compliance Audit - SKM (2014)</p> <p>AEMR 2013-15</p>	<p>Requirements met during previous audit period, reported through AEMR.</p>	C	
WASTE					
3.55	<p>The Proponent shall:</p> <p>(a) monitor the amount of waste generated by the project;</p> <p>(b) investigate ways to reuse, recycle or minimise this waste;</p> <p>(c) implement reasonable and feasible measures to minimise this waste;</p> <p>(d) ensure irrigation of treated wastewater is undertaken in accordance with EPA's <i>Environmental Guideline for the Utilisation of Treated Effluent</i>; and</p> <p>(e) report on waste management and minimisation in the Annual Review to the satisfaction of the Director-General.</p>	<p>AEMRs 2013-15</p> <p>Sample of waste contractor records.</p> <p>Interview - Supervisor Mechanical Services, Maintenance</p>	<p>Waste contractor provides detailed monthly reports of waste generated and recycled. A sample breakdown for the waste streams was sighted by the auditor.</p> <p>AEMRs provide a summary of waste tracking and percentage of recycled waste.</p> <p>The auditor was advised that there is no irrigation of effluent at HVO.</p>	C	
3.56	<p>Within 12 months of this approval or otherwise agreed by the Director-General, the Proponent shall install and operate a wastewater treatment system with adequate capacity to treat wastewater loads from the Lemington workshop and facilities, to the satisfaction of EPA.</p>	<p>Independent Environmental Compliance Audit - SKM (2014)</p>	<p>Wastewater treatment system installed in 2011 with relevant documentation identified, reviewed and verified in previous IEA audit period.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
3.57	<p>Except as expressly permitted in a licence under the Protection of the Environment Operations Act 1997 or by the Protection of the Environment Operations Amendment (Scheduled Activities and Waste) Regulation 2008, waste must not be:</p> <p>(a) received at the project site for storage, treatment, processing or disposal; or</p> <p>(b) disposed of at the project site.</p>	Correspondence with EPA	<p>The auditor was advised by HVO that used heavy earthmoving tyres are stockpiled then disposed of in mine voids. The location, depth and volume of tyres are tracked. Waste tyres are not considered in the current EPL 640.</p> <p>Section 7 of the Resource Recovery Exemption states that waste tyres can only be applied to land for use in civil engineering structures and road making activities (using industry recognised standards such as the Building Code of Australia). There is not currently an exemption for the disposal of tyres in mine voids.</p> <p>The HVO South Environmental Assessment states that heavy earthmoving tyres are to be reused on site as “markers or for delineation purposes” in the Section titled Recyclable Waste. It also states in this Section that the “location and depth of disposed tyres are recorded”. There is however no reference to the activity of disposing tyres in mine voids.</p> <p>Tyres are classified as special waste T140 under NSW waste classification guidelines, which means they need to be disposed of to a Licenced waste facility.</p> <p>It is further noted that the Minerals Council of Australia identified in Table 5 of its report titled <i>Issues and Option for the Management of Waste Tyres in the Australian Minerals Industry</i> that the current requirement for NSW is “No disposal of tyres in mine sites”.</p>	NC	<p>Confirm with DP&I the current status of approval with regard to disposal of heavy earthmoving tyres.</p> <p>Confirm EPA expectations and/or approach to disposal of used tyres in mine voids.</p> <p>Consider need for inclusion of waste tyres in the EPL.</p>
HAZARDS					
Dangerous Goods					
3.58	<p>The Proponent shall ensure that the storage, handling, and transport of:</p> <p>(a) dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code; and</p> <p>(b) explosives are managed in accordance with the requirements of DRE.</p>	<p>Hazardous Substance and Dangerous Goods Procedure DG Notification Site Observations SAP: Action - Record/Maintain/ Search (HSE-15867)</p>	<p>Dangerous Goods observed to generally be adequately segregated with vented cabinets for Class 2 flammable gas and Class 3 combustibles cabinets. Stores of bulk dangerous goods were observed to be provided with adequate bunding and good housekeeping was demonstrated.</p> <p>In isolated cases the auditor observed small volumes of Class 3 and Class 2 flammables co-located in Class 3 cabinets in the workshops.</p> <p>IEA 2013 referenced a number of non-compliance findings from third party inspections. All actions identified have since been closed out.</p>	O	<p>Communicate appropriate storage and segregation rules for dangerous goods to maintenance teams, particularly with respect to segregation of incompatible Dangerous Goods, ie. Class 2 and Class 3.</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Fire Control					
3.59	During the project, the Proponent shall: (a) ensure that it maintains suitable equipment to respond to any fires on site; and (b) assist the rural Fire service and emergency services as much as possible if there is a fire on site.	Correspondence related to Site fire.	An Emergency Response Team established on site. Recent fire on site responded to by Singleton Combined Rescue Services and HVO's Emergency Response Team. The auditor observed fire extinguishers were in place and appropriately test tagged in date, where samples, and located were in buildings, workshops and refuelling areas. Fire hydrants were also clearly identifiable in key areas and were generally observed to be free from obstruction.	C	
3.60	The Proponent shall ensure that it maintains a Fire Management Plan for the site, in consultation with Council and the Rural Fire Service	Bushfire Management Plan (v1.0, Final, 27/06/2007)	Since the previous IEA in 2013 the Bushfire Fire Management Plan was updated in June 2015 in consultation with Rural Fire Service.	ANC	The Bushfire Management Plan on the HVO website is dated June 2007. It is recommended the current plan is added to the website.
SCHEDULE 4					
ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT					
4.1	Within 1 month of this approval, the Proponent shall notify the landowners of the land listed in Table 1 in writing that they have the right to require the Proponent to acquire their land at any stage of the project (subject to the note to that Table).	Independent Environmental Compliance Audit - SKM (2014)	Verified by IEA 2010	C	
4.2	If the results of monitoring required in Schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria in Schedule 3, except where this is predicted in the documents listed in condition 2 of Schedule 2 or where a negotiated agreement has been entered into in relation to that impact, then the Proponent shall, within 2 weeks of obtaining the monitoring results, notify the Director-General, the affected landowners and tenants (including tenants of mine owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in Schedule 3.	Notifications to DP&I	Correspondence with resident, private land owner, dated 27 May 2015 in relation to noise monitoring exceedance. Correspondence with Warkworth resident in mine owned property, dated 28 July 2015 regarding overpressure exceedance. DG notified of incident response and correspondence.	C	
4.3	If the results of monitoring required in Schedule 3 identify that impacts generated by the project are greater than the relevant air quality impact assessment criteria in Schedule 3, then the Proponent shall send the relevant landowners and tenants (including tenants of mine owned properties) a copy of the NSW Health fact sheet entitled "Mine Dust and You" (and associated updates) in conjunction with the notification required in condition 2.		Dust monitoring has not identified any non-compliant results during the audit period.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
INDEPENDENT REVIEW					
4.4	<p>If a landowner considers the project to be exceeding the impact assessment criteria in Schedule 3, except where this is predicted in the EA, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision:</p> <p>(a) consult with the landowner to determine his/her concerns;</p> <p>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:</p> <ul style="list-style-type: none"> • determine whether the project 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 project's contribution to this impact; and <p>(c) give the Director-General and landowner a copy of the independent review.</p>	Independent Environmental Noise Review, AECOM 17 September 2013	<p>An exceedance was recorded on 20 May 2013, landowner consulted, suitably qualified independent person commissioned for review within 2 months however the report was issued within 3 months.</p> <p>Therefore administrative non-compliance as Director-General and landowner were not provided a copy of the independent review within the stipulated time frame.</p> <p>All parties were satisfied with process.</p> <p>Independent Review (Noise) at Elbourne residence conducted by AECOM</p> <p>Letter to DG in response to request 10 July 2013.</p> <p>Considered ANC as no non-compliant findings in AECOM Report and DPE provided email with no material comments in the report.</p>	ANC	Consideration should be given to addressing wording in consent when updating the DA to reflect an appropriate timeframe for reporting.
4.5	<p>If the independent review determines that the project is complying with the relevant impact assessment criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.</p> <p>If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria, and conduct further monitoring to determine whether these measures ensure compliance; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.</p> <p>However, if the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria, then the Proponent may discontinue the independent review with the approval of the Director-General.</p>	Independent Environmental Noise Review, AECOM 17 September 2013	The AECOM Independent Review determines that the project complies with the noise assessment criteria however no approval has been provided by the DG to discontinue review.	ANC	Obtain notification from the DG that the Independent Review demonstrates compliance with noise criteria and that the review may be discontinued.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	If the independent review determines that the project is not complying with the relevant land acquisition criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall offer to acquire all or part of the landowner's land in accordance with the procedures in conditions 7-9 below, to the satisfaction of the Director-General.				
4.6	<p>If the independent review determines that the relevant impact assessment criteria in Schedule 3 are being exceeded, but that more than one mine is responsible for this non-compliance, then the Proponent shall, together with the relevant mine/s:</p> <p>(a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant impact assessment criteria are complied with, and conduct further monitoring to determine whether these measures ensure compliance; or of the relevant impact assessment criteria in Schedule 3, to the satisfaction of the Director-General.</p> <p>If the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.</p> <p>If the independent review determines that the relevant land acquisition criteria in Schedule 3 are being exceeded, but that more than one mine is responsible for this non-compliance, then the Proponent shall acquire all or part of the landowner's land on as equitable basis as possible with the relevant mine/s, in accordance with the procedures in conditions 7-9 below, to the satisfaction of the Director-General.</p>	Interview - Environmental Specialist - Systems and Monitoring	Refer Condition 4.4 - not triggered	NT	
LAND ACQUISITION					
4.7	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project the subject of the project application, having regard to the:</p> <ul style="list-style-type: none"> • existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and 	Interview - Environmental Specialist - Systems and Monitoring	Refer Condition 4.4 - not triggered	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of 'additional noise mitigation measures' in condition 4 of schedule 3, 'additional air quality impact mitigation measures' in condition 21 of schedule 3, or 'additional visual impact mitigation measures' in condition 52 of schedule 3; <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> • relocating within the Singleton or Muswellbrook local government areas, or to any other local government area determined by the Director-General; • obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.</p> <p>However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination.</p> <p>Following consultation with the independent valuer and both parties, the Director-General shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above and the independent valuer's report. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.</p> <p>If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.</p>				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
4.8	The Proponent shall pay for all reasonable costs associated with the land acquisition process described on Condition 7 above.	Interview - Environmental Specialist - Systems and Monitoring	Refer Condition 4.4 - not triggered	NT	
4.9	If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall also pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.	Interview - Environmental Specialist - Systems and Monitoring	Refer Condition 4.4 - not triggered	NT	
SCHEDULE 5					
ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING					
Environmental Management					
<i>Note: The requirements for the Environmental Management Strategy may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional environmental management strategy.</i>					
5.1	<p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must:</p> <p>(a) be submitted to the Director-General for approval within 6 months of this project approval or otherwise agreed by the Director-General;</p> <p>(b) provide for the strategic context for the environmental management of the project; (c) identify the statutory requirements that apply to the project;</p> <p>(c) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the project; • respond to any non-compliance; • manage cumulative impacts; and • respond to emergencies; <p>(d) include an environmental monitoring program for the project that includes all the monitoring requirements of this approval;</p> <p>(e) describe how the various incident and approval reporting requirements of the project would be integrated into a single reporting system; and</p> <p>(f) describe the role, responsibility, authority and accountability of all the key personnel involved in the environmental management of the project.</p>	HVO/MTW/ Mount Pleasant EMS (4/2/16) EMS Approval	<p>Environmental Management Strategy (EMS) prepared for three RTCA sites including HVO. Approval of the EMS gained from DP&I dated 3/2/16.</p> <p>In response to previous IEA findings, the document has since been uploaded to the website library.</p> <p>Strategic content is provided in Section 2 of the EMS</p> <p>Relevant procedures are referenced in Section 4, Table 3 Plans and Procedures</p> <p>Maps for monitoring programs are provided in Section 6, Figures 6-16.</p> <p>Tracking of incidents and non-conformance is detailed in Section 4, Table 3 Plans and Procedures</p> <p>Roles and accountabilities detailed in Section 5.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
REPORTING					
Incident Reporting					
5.2	As soon as practicable after the Proponent becomes aware of any incident associated with the project, the Proponent shall notify the Director-General and any other relevant agencies of the incident. Within 7 days of becoming aware of the incident, the Proponent shall provide the Director- General and any relevant agencies with a detailed report on the incident.	Sample of incident reports	The auditor sighted numerous incident reports that demonstrate compliance.	C	
Regular Reporting					
5.3	The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval	Monitoring data HVO Website	Monthly summary of monitoring results are provided on HVO website.	C	
Annual Review					
5.4	By the end of March each year, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must: (a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the next year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against: <ul style="list-style-type: none"> • the relevant statutory requirements, limits or performance measures/criteria; • the monitoring results of previous years; and • the relevant predictions in the EA; (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the next year to improve the environmental performance of the project.	AEMR 2013 – 2015 Correspondence with DP&I	AEMRs produced for the audit period on an annual basis, submitted in accordance with requirements. The auditor reviewed a letter of approval provided by DP&I for AEMRs during the reporting period to demonstrate the report meets the intent of the review.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Revision of Strategies, Plans and Programs					
<i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.</i>					
5.4A	<p>Within 3 months of the submission of an:</p> <p>(a) incident report under condition 2 above;</p> <p>(b) annual review under condition 4 above;</p> <p>(c) audit under condition 5 below; or</p> <p>(d) any modification to the conditions of this approval, the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p>	Management Plan Review Register	<p>Site maintains a Management Plan Review Register (MPRR). This is reviewed on a quarterly basis and was implemented in March 2016. MPRR is not triggered by incidents.</p> <p>Prior to March 2016 reviews and updates were conducted on an as needs basis, however this was not tracked in a structured manner.</p> <p>Incident route cause investigation considers conformance with plans. Where process conforms to plans but results in an incident and therefore is deemed not appropriate the plan is updated.</p>	O	Review performance of system introduced in March 2016. If the review indicates this condition is not being met, revise as appropriate.
INDEPENDENT ENVIRONMENTAL AUDIT					
<i>Note: This audit team should be led by a suitably qualified auditor, and include experts in the field of noise and air quality, surface water and groundwater and mine rehabilitation</i>					
5.5	<p>By 31 March 2010, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:</p> <p>(a) be conducted by a suitably qualified, experienced, and independent team of experts whose appointment has been endorsed by the Director-General;</p> <p>(b) include consultation with the relevant agencies;</p> <p>(c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant mining lease and EPL (including any strategy, plan or program required under these approvals); and</p> <p>(d) review the adequacy of strategies, plans and/or programs required under these approvals; and,</p> <p>(e) if appropriate, recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.</p>	This audit	The audit team undertook its review against CoA and Statement of Commitments which generally reflect the EA commitments and undertakings for current stage of works.	C	
5.6	<p>Within 6 weeks of completing this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General with a response to any recommendations contained in the audit report.</p>	Letter to DP&I (9 July 2013)	<p>Review against CoA and Statement of Commitments which generally reflect the EA commitments and undertakings for current stage of works.</p> <p>IEA audit completed 31 October 2013 and report submitted 24 December 2013. DP&I required submission by 31 December 2013.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
5.7	Within 3 months of submitting the audit report to the Director-General, the Proponent shall review and if necessary revise the strategies/plans/programs required under this approval, to the satisfaction of the Director-General.	Independent Environmental Noise Review, AECOM 07 September 2013	Some reports were not approved at time of previous audit and some were revised within three months of the audit. There is now a system in place to track and review strategies / plans / programs.	ANC	
COMMUNITY CONSULTATIVE COMMITTEE					
5.8	The Proponent shall operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General in general accordance with the <i>Guideline for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version)</i> .	Sample of CCC Minutes Sample of CCC Presentations	CCC generally meets guidance and is in place with an independent chairperson, with three meetings are held per year, and minutes demonstrate the required number of community representatives (three).	O	Add to CCC minutes a statement that committee meets EPA Guidelines.
ACCESS TO INFORMATION					
Notes: The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval. In accordance with the Guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the general community in the area of the development. With the approval of the Director-General, this CCC may be combined with the CCC for HVO North.					
5.9	The Proponent shall: (a) make the following information publicly available on its website: <ul style="list-style-type: none"> the EA; current statutory approvals for the project; approved strategies, plans or programs required under the conditions of this approval; a comprehensive summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval; a complaints register, which is to be updated on a monthly basis; minutes of CCC meetings; the last five annual reviews; any independent environmental audit, and the Proponent's response to the recommendations in any audit; any other matter required by the Director-General; and (b) keep this information up to date, to the satisfaction of the Director-General	Website Review Interview - Environmental Specialist - Systems and Monitoring	During site visit auditor tested website for stated information. The auditor was advised that HVO is implementing interactive complaints website.	C	

Table B.2 Statement of Commitments (South Operations)

Table B.2 CNA Statement of Commitments (South Operations) PA 06-0261

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Compliance with the EA				
General				
<p>CNA will:</p> <ul style="list-style-type: none"> • carry out the proposal generally in accordance with the systems, plans and mitigation measures identified throughout this Environmental Assessment Report; • bring any matters that arise and require further assessment by the Director General to the Director General's attention and will comply with all requirements received; and • obtain and maintain all permits, licenses and approvals required throughout the life of the project that are not incorporated into the Part 3A Project Approval. This Statement of Commitments does not replace any obligations CNA has under these statutory requirements. • All works will be undertaken in accordance with the relevant Australian Standards where these standards do not conflict with specific legislative or safety requirements. Standards may include but not be restricted to the latest versions of: <ul style="list-style-type: none"> ○ AS 2601-2001: <i>The Demolition of Structures; and</i> ○ AS1940 - <i>The Storage and Handling of Flammable and Combustible Liquids.</i> 	This audit		Note	

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<p>Management of activities occurring at HVO is undertaken with reference to the corresponding management plan that details the key objectives and control measures. The management plans outline key environmental issues, performance criteria, recommended control measures, monitoring, inspection and incident management requirements, performance reporting and key related policies and procedures.</p> <p>The relevant EMS procedures describe the implementation of these recommended controls. Monitoring is undertaken in accordance with the approved monitoring programme to determine the effectiveness of the control measures and promotes a continuous improvement cycle. The CNA EMS will continue to be implemented across HVO and the relevant plans, procedures and monitoring programmes will be reviewed and modified to reflect the changes to HVO South resulting from the proposal.</p>			Note	
<p>The recommended management measures from each of the technical reports include a number of control measures to minimise the potential impacts resulting from the proposal. These measures have been considered in the context of the existing HVO activities and the CNA EMS. Many of these measures are already in place as part of existing controls for the HVO South activities, and will continue to be implemented across HVO South to minimise the potential impacts resulting from the proposal.</p> <p>This Statement of Commitments details those controls that are considered specific to the proposal.</p>			Note	

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Environmental Management Systems				
<p>The CNA EMS has been developed and implemented in accordance with ISO14001. This EMS will continue to be applied to the activities undertaken as part of the HVO South Coal Project.</p>	<p>HVO/MTW Environmental Management Strategy, dated 29 September 2016. RTCA EMS Certificate. (ISO14001; 2004)</p>	<p>The site operates against its Environmental Management Strategy that reflects the RTCA certified Environmental Management System. The certification certificate provided in the Environmental Management Strategy indicates that the EMS certification is valid until 15 September 2018.</p>	C	
MANAGEMENT MEASURES				
COMMUNITY CONSUTLATION				
<p>The existing consultation programmes will continue to be undertaken to ensure any specific outcomes from the environmental assessment are included into the relevant programmes as required. The community consultation specific to the proposal will continue throughout the project, from submission through to government decision and implementation of commitments. Ongoing communication techniques utilised by CNA (<i>Table 6.1</i>) will be implemented as appropriate.</p>		<p>PA 06-0261 Schedule 5, Condition 8, Annex A</p>	C	

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Noise				
<p>In addition to the mitigation measures undertaken at HVO for noise, the following controls specific to the proposal will be implemented:</p> <ul style="list-style-type: none"> equipment operation within South Lemington Pit 1 and associated truck movements will cease during night time operations if monitoring identifies unacceptable noise impacts will result from south westerly winds (occurring at or above 2.1 m/s). At lower wind speeds, real-time noise and/or weather monitoring will be used to guide modifications to operations as required. Noise limits that will apply to the proposal are detailed in <i>Table 22.1</i>. 	<p>HVO Noise Management Plan (2015)</p> <p>Independent Environmental Audit, SKM (2014)</p>	<p>The NMP outlines management measures to manage site activities with regard to prevailing meteorological conditions. Real time monitoring and alarm systems are in place to guide operations and any necessary modifications.</p> <p>No noise impacts have been specifically attributable to south westerly wind conditions.</p> <p>As identified in the previous IEA the locations provided in Table 22.1 have been superseded.</p>	C	
Blast and Vibration				
<p>In addition to the mitigation measures undertaken at HVO for blast and vibration management, blasts will be designed to minimise impacts on neighbouring mine ventilation structures and minimise the potential for fracture development along pit walls to assist with pit wall stability:</p> <ul style="list-style-type: none"> blast vibration will be managed through design and modelling bench heights will be managed to not significantly exceed 15 m no throw blasts will take place adjacent to final walls; high density explosives will be toe loaded; blast monitoring and post blast analysis will be undertaken where required; 	<p>HVO Blast Management Plan 2014</p> <p>In Independent Environmental Audit, SKM (2014)</p>	<p>The previous IEA verified that the requirements of this commitment were adequately addressed by Environmental Procedure EP9.2 Blasting.</p> <p>The current BMP references this commitment, however does not provide information to address the specific requirements of this condition or reference EP9.2 as a source of this information.</p>	O	<p>Consider updating the BMP to address the specific requirements of this commitment.</p>

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<ul style="list-style-type: none"> presplit blasting will be implemented on final walls where this indicates improved wall conditions; and visual monitoring by way of regular highwall and pit inspections will be undertaken. 				
Air Quality				
<p>In addition to the mitigation measures undertaken at HVO for air quality management, efficient mine planning and operations will ensure:</p> <ul style="list-style-type: none"> the mine plan is regularly reviewed with a view to controlling dust emissions and keeping emissions to the lowest levels practicable; exposed areas are kept to the minimum practicable; and haul roads are kept to the shortest routes practicable and material handling is kept to the minimum levels practicable. 	<p>MOP - HVO South (21 September 2015) Site observations</p>	<p>The MOP addresses ongoing rehabilitation and strategies to reduce haul routes. Site observations demonstrate ongoing rehabilitation efforts and minimisation of disturbance where possible.</p>	C	
Groundwater				
<p>In addition to the mitigation measures undertaken at HVO for groundwater management, the following controls specific to the proposal will be implemented:</p> <p><i>Groundwater Flow To and From Rivers:</i></p> <p>Development of protocols for monitoring and reporting of NOW stream gauge results to clearly record any reductions in flows that are attributed to mining. This will include monitoring Hunter River flows immediately up gradient and down gradient of the site. In addition, consideration will be given to tying in specific CNA water level</p>	<p>HVO Water Management Plan (2016) HVO River Red Gum Rehabilitation and Restoration Strategy (EMGA, March, 2010) AEMR (2013) Interview - Environmental</p>	<p>As outlined in the WMP the site maintains stream gauges in the Hunter River, which along with other external data provide data pertaining to the flow characteristics in the vicinity of the mine. Surface Water Management Plan (page 15) states: "The HVO River Red Gum Rehabilitation and Restoration Strategy and CNA EMS procedure for Flora and Fauna have been updated</p>	C	

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<p>recordings with current NOW gauging locations; monitoring of groundwater elevations within alluvium between the Hunter River and the Cheshunt Pit; and</p> <p>measured groundwater elevations and river flow will be assessed against predictions to determine whether application of additional management measures is required; and</p> <p>Offset seepage to pits in accordance with regulatory requirements.</p> <p><i>Regional Groundwater Drawdown:</i></p> <p>The HVO River Red Gum Rehabilitation and Restoration Strategy and CNA EMS procedure for Flora and Fauna will be updated to reflect changes resulting from the proposal. This will include monitoring the health of the River Red Gums located on the Hunter River and Wollombi Brook alluvium as identified in <i>Chapter 11 (Figure 11.2)</i>. The monitoring programme will include details on frequency of monitoring, reporting and corrective actions; and</p> <p>Up to three monitoring wells will be installed in the proximity of the cluster of registered NOW bores located to the east of the LCPP (<i>Figure 25 Annex J</i>). Data will be used to compare actual versus predicted impacts. Deviations away from predicted impacts will be assessed, and if predictions are exceeded, management measures will be implemented.</p> <p><i>Alluvial Buffer Zone:</i></p> <ul style="list-style-type: none"> • a buffer zone of 100 m will be retained from the Cheshunt Pit highwall to the edge of alluvium 	<p>Specialist – Systems and Monitoring</p>	<p>and 3 bores installed and therefore these commitments are not included in this WMP.</p> <p>HVO River Red Gum Rehabilitation and Restoration Strategy includes discussion of the Hunter River and Wollombi Brook populations. s3.3 contains a summary of the health of the Hunter River and Wollombi Brook stands. s7.3 states that no specific monitoring is proposed for the Hunter River and Wollombi Brook populations. s7.1.3 contains a timetable for future monitoring including year 3 (2010), year 5 (2012) and year 10 (2017) monitoring.</p> <p>AEMR (2013) s5.1.1.2 contains reported results of the year 5 monitoring event undertaken across Carrington Billabong, Wollombi Brook, Hunter River and Camyr Allyn in 2013 and 2014 although the HVO River Red Gum Rehabilitation and Restoration Strategy designates that monitoring should have been undertaken in 2012. This explained by RTCA by:</p> <p><i>Monitoring delayed due to access to Camyr Allyn control site not being</i></p>		

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<p>of the Hunter River;</p> <ul style="list-style-type: none"> • a buffer zone of 150 m will be retained from the South Lemington Pit 2 highwall to the edge of alluvium of the Wollombi Brook; • bores will be installed to further delineate the saturated zone between the Hunter River and the Cheshunt Pit before mining commences within this area; and • the groundwater component of the HVO Water Management Manual will include procedures for monitoring potential impacts, including accurately measuring seepage to pits throughout mining and assessment of proximity to alluvials as mining approaches. <p><i>Deep Cheshunt Pit Final Void:</i></p> <ul style="list-style-type: none"> • The Deep Cheshunt Pit final void will be designed to intercept leachate from overburden emplacements and minimise discharge of saline groundwater. Deep Cheshunt Pit final void design will be reviewed at least three years prior to anticipated mine closure; • The Deep Cheshunt Pit Final Void Management Plan will include future use options including investigation of feasibility to use the Deep Cheshunt Pit final void as a water storage that could be used as a buffer in times of flood flows in the Hunter River and as a supplementary water supply at times of scarce water supply. This would include additional investigations to refine predictions of final void water chemistry; 		<p><i>available. Decision was made to proceed with monitoring of Carrington Billabong in Oct 2013 despite access to Camyr Allyn still not being available. Dispute with Camyr Allyn land owner was resolved and monitoring of this site was undertaken in May 2014.</i></p> <p>The WMP reports that the Alluvial Buffer Zone requirements have been met.</p> <p>The WMP states that it is to be updated once the depth of the Deep Chestnut Pit final void is known.</p>		

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<ul style="list-style-type: none"> • A post closure monitoring programme will be developed as part of the Deep Cheshunt Pit Final • Void Management Plan for water quality monitoring of the final void; and • The mine plan will be further reviewed with a view to minimise the area of the Deep Cheshunt Pit final void as much as practicable. 				
Surface Water				
<p>In addition to the mitigation measures undertaken at HVO for surface water management, the following controls specific to the proposal will be implemented.</p> <p><i>Water Supply:</i></p> <ul style="list-style-type: none"> • modify Water Access Licenses, review conditions and report on water use in the AEMR; • monitor and record abstraction quantities; and • increase pump capacity from Dam 20S (or alternative storage) to the LCPP and undertake minor improvements to the existing HVO South water system in conjunction with the design of the LCPP to minimise need to pump from Hunter <p><i>River Water Discharge:</i></p> <ul style="list-style-type: none"> • Review current discharge conditions in respect of the proposal and incorporate where applicable into the Water Management Manual. 	HVO Water Management Plan (2016)	<p>As outlined in the WMP the LCPP has been decommissioned, hence specific requirements no longer relevant.</p> <p>The WMP review current discharge conditions.</p>	NT	

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<p><i>Flood Mitigation:</i></p> <ul style="list-style-type: none"> construct South Lemington Pit 2 Levee SLL2 as a permanent levee and ensure the outer face of the levee will withstand 100-year ARI flood flow velocities; and assess Hobden Gully levee (CL1) prior to mine closure to determine if protection of the Deep Cheshunt Pit final void is required. <p><i>Erosion and Sediment Control:</i></p> <ul style="list-style-type: none"> Erosion and sediment control structures will remain in place to divert water away from the Deep Cheshunt Pit final void unless required for use as flood flow storage. <p><i>Monitoring and Inspections:</i></p> <ul style="list-style-type: none"> prior to LCPP and infrastructure construction works review the Surface Water Monitoring Programme, establish additional representative monitoring sites where required and undertake monitoring; and annual monitoring of water level and water quality in the Deep Cheshunt Pit final void after mining operations have ceased as part of the post closure monitoring programme. Monitoring will continue in accordance with regulatory requirements. 		<p>Flood mitigation adequately addressed in WMP.</p> <p>Erosion and sediment control adequately addressed in WMP.</p> <p>Not applicable as LCPP has been decommissioned.</p>		

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Ecology				
<p>In addition to the mitigation measures undertaken at HVO for management of flora and fauna, the following controls specific to the proposal will be implemented:</p> <p>the River Red Gum Rehabilitation and Restoration Strategy prepared by CNA will be updated to include the stands along the Hunter River and Wollombi Brook, will include collection and storage of seed from existing stands, and will ensure the health of these River Red Gums is periodically monitored;</p> <p>Studies will be undertaken to investigate the preferred water source of River Red Gums and develop appropriate management measures;</p> <p>Rehabilitation planning will identify opportunities to create similar ecological characteristics (such as habitat types) of proposed extension areas;</p> <p>The Warkworth and Wambo Green Offset areas and the Hunter Valley Synoptic Plan will be considered with rehabilitation planning to enhance linkage where practical.</p>	<p>HVO River Red Gum Rehabilitation and Restoration Strategy (EMGA, March, 2010)</p> <p>AEMR (2013)</p> <p>Interview - Environmental Specialist - Systems and Monitoring</p> <p>MOP - HVO South (21 September 2015) Plans</p>	<p>No evidence exists of <i>Environmental Procedure 10.2</i> which is stated in the HVO River Red Gum Rehabilitation and Restoration Strategy as being the guiding document for seed collection and planting of River Red Gums in the Carrington Billabong area.</p> <p>No evidence exists of whether collection and storage of River Red Gum seed from existing stands is occurring.</p>	NC	<p>Collect River Red Gum seed from existing stands.</p>
Aboriginal Heritage				
<p>In addition to the mitigation measures undertaken at HVO for management of Aboriginal heritage, the following controls specific to the proposal will be implemented as agreed with the Aboriginal Working Group.</p> <p>Management Measures for ACHMP HVO South Stage 1 include:</p>	<p>HVO South Coal Project Aboriginal Heritage Management Plan, May 2009</p> <p>Annual Environmental Review 2015</p>	<p>PA 06-0261 Schedule 3, condition 40,</p> <p>The Aboriginal Cultural Heritage Working Group (CHWG) met on 4 occasions in 2015; 5 occasions in 2014; and 3 occasions in 2013.</p> <p>No Aboriginal cultural heritage</p>	O	<p>Consider whether the current inspection regime is sufficiently meeting the intent of the ACHMP and seek clarification from DE&E as to the adequacy of same.</p>

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<p>All management measures will be undertaken in accordance with the Aboriginal Heritage Assessment as outlined in the ACHMP;</p> <p>If at a later date it is found necessary to undertake an action that would impact sites described within the Aboriginal cultural heritage assessment, additional and specific management recommendations may be implemented in consultation with the Working Group;</p> <p>Provision is to be made for the management of collected cultural heritage material;</p> <p>provision will be made in the ACHMP for the Working Group to undertake an independent compliance audit of the management programme on a six monthly basis. In the event that any non-compliant activities are identified at any time, an additional compliance audit may be undertaken as part of the investigation process;</p> <p>where any mitigation is required it will be undertaken by representatives of the Working Group and suitably qualified technical advisers;</p> <p>Implement a management programme providing for the controlled collection of the following sites where site avoidance is not possible. Until management measures (which may involve the collection of cultural material) have been implemented, mine-related impacts to the sites will be prevented:</p> <ul style="list-style-type: none"> - Riverview South West Mining Extension Area Sites 1-24 - South Lemington Pit 1 Mining Extension Area Sites 59-79 	<p>Annual Environmental Review 2014</p> <p>Annual Environmental Review 2013</p>	<p>assessment or salvage projects were undertaken in 2013. No ACHMP compliance inspection was undertaken in 2013 within the audit period.</p> <p>An ACHMP compliance inspection was undertaken in June 2014. An Aboriginal cultural heritage Salvage Collection Programme was also undertaken in October 2014.</p> <p>An ACHMP compliance inspection was undertaken in June 2015. A scarred tree verification and condition inspection programme was also undertaken in July 2015.</p> <p>The ACHMP allows for bi-annual ACHMP compliance inspections. This has not strictly been undertaken with only annual inspections being reported in the AERs. It is noted however that other programs have been undertaken during the audit period.</p>		

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<p>- Proposed rail spur and loop easement Sites 80-83</p> <p>- LCPP Sites 101 and 105-106</p> <p>the alignment of the proposed rail spur and loop have been amended to avoid impacts to Sites 26-44, 47-58 and 107-109;</p> <p>restricted access zones will be defined for Sites 26-44, 47-58, 84-100, 102-104 and 107-109. The boundaries (<i>Figure 12.3</i>) are indicative only; and</p> <p>land management activities on the Archerfield property will avoid any impacts to Site 25. Management measures to be implemented in accordance with the agreed ACHMP for HVO South Stage 2.</p>				
Historic Heritage				
<p>In addition to the mitigation measures undertaken at HVO for management of historic heritage, the following action specific to the proposal will be implemented:</p> <ul style="list-style-type: none"> • A targeted field assessment will be undertaken by an historic heritage professional where required to supplement existing information to report on the relative significance of the additional sites identified on CNA land including a derelict bridge structure over an unnamed ephemeral creek and the cockatoo fence and recommend additional management measures. 	<p>Independent Environmental Audit (SKM, 2014)</p>	<p>Verified in previous IEA.</p>	<p>C</p>	

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Visual				
<p>In addition to the mitigation measures undertaken at HVO for management of visual amenity, the following action specific to the proposal will be implemented:</p> <ul style="list-style-type: none"> • A review of the extension areas that adjoin Jerrys Plains Road and the proposed rail spur and • Loop easement will be undertaken prior to construction of the rail spur and loop, to determine if additional screening is required. 	<p>Interview - Environmental Specialist - Systems and Monitoring</p>	<p>The proposed rail loop has not been constructed.</p>	<p>NT</p>	
Traffic and Transport				
<p>In addition to the mitigation measures undertaken at HVO for management of traffic and transport, the following action specific to the proposal will be implemented:</p> <ul style="list-style-type: none"> • ensure the relocation of Comleroi Road and construction of the rail loop are undertaken in accordance with the relevant regulatory requirements; and • Obtain the appropriate approvals, including those required for heavy equipment transfer; and • Ensure relevant stakeholders are consulted as required. 	<p>Interview - Environmental Specialist - Systems and Monitoring</p>	<p>These proposed Comleroi Road and rail loop works have not been progressed.</p>	<p>NT</p>	

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Waste Management				
There are no suggested controls for waste management specific to the proposal. It is anticipated the mitigation measures currently implemented at HVO will be sufficient to manage the increase in waste resulting from the proposal.	Noted		Noted	
Energy Management Activities				
In addition to the mitigation measures currently implemented the mine plan will be regularly reviewed with a view to keeping emissions to the lowest levels practicable. Haul roads will be kept to the shortest routes practicable and material rehandling will be kept to the minimum levels practicable. Most of these measures are routinely applied as part of the efficient design of the mine.		PA 06-0261 Schedule 3, Conditions 53 &54	C	
Land Management				
There are no suggested controls for land management that are specific to the proposal. The current mitigation measures implemented at HVO are anticipated to be sufficient to manage any potential impacts from the proposal on land use.	Noted		Noted	
Mine Landscape Planning				
In addition to the mitigation measures undertaken at HVO for management of landscape planning, the following actions specific to the proposal will be implemented: Remnant vegetation located within the Project Application area and outside proposed disturbance areas will be protected and enhanced to improve the ecological value and biodiversity. In	HVO River Red Gum Rehabilitation and Restoration Strategy (EMGA, March, 2010) MOP - HVO South (21	The commitment is largely met however River Red Gum monitoring partially addresses the requirement for monitoring of remnant vegetation within the Project Application Area but outside the proposed disturbance areas, although no	NC	Identify opportunities to monitor vegetation within the Project Application area but outside the proposed disturbance area. Incorporate more log reuse in rehabilitation areas for habitat creation and

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<p>particular, the specific management practices will include:</p> <ul style="list-style-type: none"> - monitoring of remnant vegetation areas in accordance with existing procedures to provide evidence of success of management practices; - undertaking bushfire management, weed and pest control in accordance with recommended practices; -utilising local native species for seed stock where practical; - utilising existing farm dams and retention or establishment of native vegetation around dams to provide habitat; and - habitat creation and enhancement for common and threatened species. <p>A Final Void Management Plan will be prepared for the Deep Cheshunt Pit final void at least five years prior to completion of mining and will include:</p> <ul style="list-style-type: none"> - identification of possible beneficial uses for the void; - consideration of technologies which will assist to enhance the range of possible uses; <p>review of modelling and predictions of long term hydrological behaviour and water quality responses, including final void water quality and level;</p> <ul style="list-style-type: none"> - long term integrity of void slopes; - waste characterisation and containment as pertains to runoff into final voids; - coal seam capping; and 	<p>September 2015) AEMRs (2011-2015) Native seed supply contractor proposal document (12 September 2016) Site visit HVO Water Management Plan (2016) HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014</p>	<p>other vegetation monitoring exists. Habitat ponds are incorporated into rehabilitation areas. Salvage and use of logs in rehabilitation areas largely absent.</p>		<p>enhancement for common and threatened species.</p>

Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<p>- long term management, monitoring and mitigation measures.</p> <p>Mining in South Lemington Pits will be incorporated into a revised MOP for HVO South, which will supersede all previous MOPs for this area. The management commitments for South Lemington Pit 1 will include highwall stability monitoring, water storage management, minimisation of visual impacts and management of dust emissions and erosion.</p> <p>The process for designing the landforms across HVO and undertaking progressive rehabilitation with the aim of achieving a final landscape vision will be undertaken in accordance with the <i>HVO Conceptual Landscape and Rehabilitation Management Strategy</i>.</p>				

Table C.1 (North Operations)

Table C.1: Compliance with Ministers Conditions of Approval DA 450-10-2003 (Modification 4 issued January 2014)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE 3 - ADMINISTRATIVE CONDITIONS					
Obligation to Minimise Harm to the Environment					
3.1	The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.	This audit	Review of management plans, implementation of plans and site inspection to confirm - refer tables of this audit.	Note	
Terms of Approval					
3.2	The Applicant shall carry out the development generally in accordance with the: (a) DA 450-10-2003; (b) EIS titled <i>Hunter Valley Operations - West Pit Extension and Minor Modifications</i> , volumes 1 - 4, dated October 2003, and prepared by Environmental Resources Management Australia; (c) the section 96(1A) modification application for the Hunter Valley Loading Point, dated 30 June 2005, and prepared by Matrix Consulting; (d) <i>Carrington Pit Extended Statement of Environmental Effects</i> volumes 1 & 2, dated October 2005, and prepared by Environmental Resources Management Australia; (e) <i>Carrington Pit Extension Response to Submissions Report</i> , dated May 2006, and prepared by Environmental Resources Management Australia; (f) Summary of Commitments for Carrington Pit as Extended, dated 28 May 2006 and prepared by the Applicant; (g) <i>Carrington West Wing Environmental Assessment</i> dated 1 October 2010, <i>Carrington West Wing Response to Submissions</i> dated 21 December 2010, <i>Carrington West Wing Agricultural Impact Assessment</i> dated 10 June 2011, <i>Carrington West Wing Statement of Commitments</i> dated 4 March 2013; (h) <i>HVO North - Fine Reject Emplacement Modification Environmental Assessment</i> dated June 2013 and <i>HVO North - Fine Reject Emplacement Modification Response to Submissions</i> dated August 2013; and (i) conditions of this consent.	Interview with Site management	b) At year 14 or 15 of the development, currently on track with regard to size and location of development. c) completed prior to IEA 2013 d), e) and f) Operations suspended for 12 months g) and h) has not commenced i) this audit.	C	
3.3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail over all other documents to the extent of any inconsistency.	Independent Environmental Compliance Audit - SKM (2014)	Previous IEA determined no inconsistency with above documents.	Note	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
3.4	The Applicant shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of: (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this consent; and (b) the implementation of any actions or measures contained in these documents.	Note	Noted	Note	
Surrender of Consents					
3.5	Within 3 months of the submission of the revised West Pit extension MOP to the DRE, the Applicant shall surrender all existing development consents and existing use rights associated with Hunter Valley Operations' (HVO's) mining operations and related facilities north of the Hunter River in accordance with clause 97 of the <i>EP&A Regulation</i> .	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	
Limits On Approval					
<i>Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of both the Director-General and the Executive Director Mineral Resources. Consequently, this consent will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and those additional undertakings have been carried out satisfactorily.</i>					
3.6	The Applicant may carry out mining operations on the site until 12 June 2025.	Project Approvals	Mining is planned to cease in financial year 2025 (12 th June) with rehabilitation activities only to occur after this date.	C	
3.7	The Applicant shall not extract more than 12 million tonnes per annum (Mtpa) of ROM coal from the West Pit and 10 Mtpa of ROM coal from the Carrington Pit.	Interview - Environment (Compliance) AEMR 2013 - 15 ROM Coal Extraction Records 2013-2016	Volume of extraction of coal confirmed through survey of the site - reports issued to Mine Manager. The ROM tonnes for the West Pit and the Carrington Pit confirms that extraction of coal is below 10Mtpa for West Pit (2013 - 4.7Mtpa, 2014 - 4.7Mtpa, 2015 - 5.2Mtpa, 2016 5.03Mtpa) and for Carrington Pit (2013 - 5Mtpa, 2014 - 1.1Mtpa, 2015 - 0Mtpa, 2016 - 0Mtpa).	C	
3.8	The Applicant shall ensure that the Hunter Valley Coal Preparation Plant does not receive more than 16 Mtpa of coal from mining operations south of the Hunter River, and process more than 20 Mtpa of coal	AEMR 2013-15 HVO Coal Movement Records 2016	Coal received from south of Hunter River 2013: 9.4 Mtpa 2014: 10.74 Mtpa 2015: 12.3 Mtpa 2016: 10.2 Mtpa (year to date from north and south) Coal processed: 2013: 13.9 Mtpa 2014: 13.0 Mtpa 2015: 13.9 Mtpa 2016: 10.2 Mtpa (year to date from north and south)	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
3.9	The Applicant shall ensure that the West Pit Coal Preparation Plant does not process more than 6 Mtpa of coal	AEMR 2013-15 HVO Coal Movement Records 2016	Coal processed: 2013: 1.76 Mtpa 2014: 2.25 Mtpa 2015: 2.12 Mtpa 2016: 2.5 Mtpa (ytd 23/10/16)	C	
Structural Adequacy					
Notes: 1) Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works. 2) Part 8 of the EP&A Regulation sets out the requirements for the certification of development. 3) The development is located in the Patrick Plains Mine Subsidence District. Under section 15 of the Mine Subsidence Compensation Act 1961, the Applicant is required to obtain the Mine Subsidence Board's approval before constructing or relocating any improvements on the site.					
3.10	The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.	Interview Environmental Specialist	- The auditor was advised that no new structures were constructed during the audit period.	NT	
Demolition					
3.11	The Applicant shall ensure that any demolition work is carried out in accordance with AS 2601-2001: <i>The Demolition of Structures</i> , or its latest version.	Interview Environmental Specialist	- The auditor advised no demolition work was undertaken during the audit period.	NT	
Operation of Plant and Equipment					
3.12	The Applicant shall ensure that all plant and equipment used at the site, or to transport coal off-site, are: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner	Interview Maintenance Manager, Workshop Maintainer Heavy Earthmoving Prestart Check lists	- Mine equipment is inspected daily as part of a prestart process. A sample of checklist sighted includes checks for leaks and other faults. Any defects are managed through SAP works scheduling program which is appropriate to the scale of maintenance undertaken by HVO. The auditor interviewed a maintainer in the Heavy Vehicle workshop who described the maintenance request scheduling process and provided samples of maintenance request and tracking documentation. Contractors maintain their own equipment. Transport of coal is via rail operated by service provider.	C	
Community Enhancement Contribution					
3.13	Before carrying out any development, or as agreed otherwise by Council, the Applicant shall pay Council \$15,000 for the provision of stream improvement works in the Hunter River or its tributaries. If Council has not carried out these enhancement works within 12 months of payment, the Applicant may retrieve the funds from Council.	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Staged Submission of any Strategy, Plan and Program					
<p>Notes:</p> <p>While any strategy, plan or program may be submitted on a progressive basis, the Applicant will need to ensure that the existing operations of the site are covered by suitable strategies, plans or programs at all times; and</p> <p>If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.</p>					
3.14	With the approval of the Director-General, the Applicant may submit any strategy, plan or program required by this consent on a progressive basis.		No staged submissions.	Note	
SCHEDULE 4					
SPECIFIC ENVIRONMENTAL CONDITIONS					
ACQUISITION UPON REQUEST					
4.1	Upon receiving a written request for acquisition from any landowner of the land listed in Table 1, the Applicant shall acquire the land in accordance with the procedures in conditions 6-7 of schedule 5 and condition 5 of schedule 5 for property 8. <i>Table 1: Land subject to acquisition upon request</i>	Interview Environmental Specialist	- Privately arranged land acquisition has occurred. The auditor was advised that the land purchase was not triggered by consent process.	NT	
4.2	While the land listed in condition 1 is privately-owned, the Applicant shall implement all practicable measures to ensure that the impacts of the development comply with the predictions in the EIS, to the satisfaction of the Director-General	Interview Environmental Specialist	- All properties are mine owned.	NT	
Air Quality & Greenhouse Gases					
Odour					
4.3	The Applicant shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.	Complaints Register	No odour complaints were recorded in audit period. No reported spontaneous combustion in audit period.	C	
Greenhouse Gas Emissions					
4.4	The Applicant shall implement all reasonable and feasible measures to minimize the release of greenhouse gas emissions from the site to the satisfaction of the Director General.	HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014 AEMR 2013-15 NGERS Report	Air Quality & Greenhouse Gas Management Plan approved by DG April 2014 Comply with reporting requirement of NGERS. RTCA invest in projects to reduce GHG emissions particularly where fuel and cost savings can be made.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Air Quality Acquisition Criteria					
4.4A	<p>Except for the air quality affected land in Table 1, the Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not exceed the criteria listed in Tables 2, 3 or 4 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p>In this condition 'reasonable and feasible avoidance and mitigation measures' includes, but is not limited to, the operational requirements in Condition 5 of Schedule 4 and the requirements in Conditions 5 and 6 of Schedule 4 to develop and implement a real-time air quality management system that ensures effective operational responses to the risks of exceedance of the criteria.</p> <p><i>Table 2: Long term criteria for particulate matter</i> <i>Table 3: Short term criterion for particulate matter</i> <i>Table 4: Long term criteria for deposited dust</i></p>	<p>HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014</p> <p>Annual Environmental Reviews 2013-2015</p> <p>2016 Monitoring Data</p>	<p>Assessment of upwind / downwind impact from source to receiver.</p> <p>Refer to AQGGMP Annex B - Air Quality Monitoring Programme & Compliance Protocol (75% contribution from HVO required before non-compliance is determined). None of the below are considered non-compliant on this basis.</p> <p>HVO Air Quality summary 2013 (Nov, Dec)</p> <p>Annual Review - Figures 30, 31, 32, 35, Table 30 - HVO complied with all air quality criteria.</p> <p>2014</p> <p>Annual Review - Figures 25, 26, 27, 28, Table 27 - HVO complied with all air quality criteria.</p> <p>2015</p> <p>Annual Review - Figures 14, 15, 16, 17, 18, 19, 20, 21, Table 23 - HVO complied with all air quality criteria.</p> <p>2016: Five potential exceedances YTD</p> <p>11/2/16 - Kilburnie South - invalid result, unit damaged</p> <p>5/4/16 - Kilburnie South - horse influence - regulator notified</p> <p>17/5/16 - HVGC - Club not in use - no exceedance</p> <p>23/5/16 - Knodlers Lane, Long Point - TAS investigation undertaken, regulator notified. No non-compliance.</p> <p>- HVO complied with all air quality criteria YTD at time of audit.</p>	C	.
4.4B	<p>If particulate matter emissions generated by the development exceed the criteria in Tables 5, 6 or 7 on a systemic basis at any residence on privately-owned land or on more than 25 percent of any privately-owned land, then upon receiving a written request for acquisition from the landowner, the Applicant shall acquire the land in accordance with the procedures in Conditions 7 and 8 of Schedule 5.</p> <p><i>Table 5: Long term acquisition criteria for particulate matter</i> <i>Table 6: Short term acquisition criteria for particulate matter</i> <i>Table 7: Long term acquisition criteria for deposited dust</i></p>	<p>Interview - Environmental Specialist</p>	<p>The auditor was advised that no written requests have been received from those landholders listed.</p>	NT	.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Mine Owned Land					
4.4C	<p>The Applicant shall ensure that particulate matter emissions generated by the development do not exceed the criteria listed in Table 2, Table 3 and Table 4 at any occupied residence on any mine- owned land (including land owned by adjacent mines) unless:</p> <p>(a) the tenant and landowner has been notified of health risks in accordance with the notification requirements under Schedule 5 of this consent;</p> <p>(b) the tenant on land owned by the Applicant can terminate their tenancy agreement without penalty, subject to giving reasonable notice, and the Applicant uses its best endeavours to provide assistance with relocation and sourcing of alternative accommodation;</p> <p>(c) air mitigation measures (such as air filters, a first flush roof water drainage system and/or air conditioning) are installed at the residence, if requested by the tenant and landowner (where owned by another mine other than the Applicant);</p> <p>(d) particulate matter air quality monitoring is undertaken to inform the tenant and landowner of potential health risks; and</p> <p>(e) monitoring data is presented to the tenant in an appropriate format, for a medical practitioner to assist the tenant in making an informed decision on the health risks associated with occupying the property, to the satisfaction of the Director-General</p>	<p>HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014, Section 4.4 and 9 Annual Review 2013-2015</p> <p>2016 Monitoring Data</p>	Refer condition 4A above.	C	
Air Quality Operating Conditions					
4.5	<p>The Applicant shall:</p> <p>(a) implement best management practice to minimise the off-site odour, fume and dust emissions of the development, including best practice coal loading and profiling and other measures to minimise dust emissions from coal transportation by rail;</p> <p>(b) operate a comprehensive air quality management system on site that uses a combination of predictive meteorological forecasting, predictive and real time air dispersion modelling and real-time air quality monitoring data to guide the day to day planning of mining operations and implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this approval;</p> <p>(c) manage PM_{2.5} levels in accordance with any requirements of any EPL;</p> <p>(d) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see noted above under Table 5-7);</p>	<p>HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014, Section 4.4 and 9</p> <p>HVO Shift Coordinator Daily Report</p> <p>Real time alarm notifications sighted.</p>	<p>a) The AQGGMP describes the practices employed at HVO to manage air quality in a manner consistent with definition of best practice described in Section 5.2.</p> <p>b) HVO manages a comprehensive air quality management system as described in Section 6 of the AQGGMP that satisfies the requirements of this condition.</p> <p>c) The HVO EPL does not require monitoring nor provide criteria for PM_{2.5}. The AQGGMP does however prescribe monitoring for PM_{2.5} in Section 6.3.2 and Section 8 of the AQGGMP. (refer Condition 6 below)</p> <p>d) The HVO Shift Coordinator Reports include air quality summary from operations in the pit.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(e) minimise any visible off-site air pollution;</p> <p>(f) minimise the surface disturbance of the site generated by the development; and</p> <p>(g) co-ordinate air quality management on site with the air quality management at nearby mines (Mount Thorley Warkworth, Wambo, Ravensworth and HVO South mines) to minimise the cumulative air quality impacts of these mines and the development, to the satisfaction of the Director-General.</p>		<p>e) Active measures were observed during the site inspection aimed at minimising dust generation (ie. water carts, stabilisation of stockpiles).</p> <p>f) Disturbance at the site is generally limited to those areas being actively utilised for the mining and related services.</p> <p>g) Section 3.2 of the AQGGMP describes cooperation with nearby mines, which does not include formal communication protocol with Wambo and Ravensworth.</p>		
Air Quality & Greenhouse Gas Management Plan					
4.6	<p>The Applicant shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with the EPA, and submitted to the Director-General for approval by the end of June 2013;</p> <p>(b) describe the measures that would be implemented to ensure: best management practice is being employed; the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events; and compliance with the relevant conditions of this consent.</p> <p>(c) describe the proposed air quality management system;</p> <p>(d) include a risk/response matrix to codify mine operational responses to varying levels of risk resulting from weather conditions and specific mining activities;</p> <p>(e) include commitments to provide summary reports and specific briefings at CCC meetings on issues arising from air quality monitoring;</p> <p>(f) include an air quality monitoring program that:</p> <ul style="list-style-type: none"> • uses a combination of real-time monitors and supplementary monitors to evaluate the performance of the development; • adequately supports the proactive and reactive air quality management system; • includes PM2.5 monitoring; • includes monitoring of occupied development-related residences and residences on air quality-affected land listed in Table 1, subject to the agreement of the tenant; • evaluates and reports on the effectiveness of the air 	<p>HVO Air Quality and Greenhouse Gas Management Plan (AQMP), 11 February 2014</p> <p>f) Section 3 Environmental Monitoring Program</p>	<p>AQMP approved by DPE in correspondence dated 12/2/14.</p> <p>The AQMP generally satisfies the requirements of this condition as identified with the exception of the following aspect:</p> <p>f) While PM_{2.5} monitoring is outlined in Section 6.3.2 and Section 8 of the AQMP, the prescribed monitoring has not been implemented.</p>	NC	<p>Confirm relevance of the commitments made in the Monitoring Program and implement monitoring of PM2.5 if deemed necessary.</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>quality management system; and</p> <ul style="list-style-type: none"> includes a protocol for determining any exceedances of the relevant conditions in this approval; and <p>(g) include a protocol that has been prepared in consultation with the owners of nearby mines (Mt Thorley Warkworth, Wambo, Ravensworth and HVO South mines) to minimise the cumulative air quality impacts of these mines and the development.</p>				
Noise					
Noise Impact Assessment Criteria					
4.7	<p>The Applicant shall ensure that the noise generated by the development does not exceed the noise impact assessment criteria presented in Table 9 at any privately-owned land.</p> <p><i>Table 9: Noise impact assessment criteria dB(A)</i></p>	AEMRs (2013-2015)	No non-compliance for the Northern Approval during the audit period.	C	
Land Acquisition Criteria					
4.8	<p>If the noise generated by the development exceeds the criteria in Table 10, the Applicant shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in Conditions 6 and 7 of Schedule 5.</p> <p><i>Table 10: Land acquisition criteria dB(A)</i></p>	Interview with Site Management	Privately arranged land acquisition has occurred. The auditor was advised that purchases were not triggered by consent process and that no requests for acquisition were made during audit period.	NT	
Noise Operating Conditions					
4.9	<p>The Applicant shall:</p> <p>(a) implement best management practice to minimise the operational, low frequency, road and rail traffic noise of the development;</p> <p>(b) operate a comprehensive noise management system on site that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;</p> <p>(c) maintain the effectiveness of any installed noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired;</p> <p>(d) ensure that any noise attenuated plant on site is deployed preferentially in locations relevant to sensitive receivers;</p> <p>(e) minimise the noise impacts of the development during meteorological conditions when the noise limits in this approval do not apply;</p>	HVO Noise Management Plan (2015)	<p>The HVO Noise Management Plan adequately addresses each of the requirements of this condition.</p> <p>The auditor observed the active noise monitoring location, including directional noise monitoring.</p> <p>Noise attenuation of haul trucks - 25% attenuated <155dB(A), 75 are not attenuated >118dB(A). Management of noisy areas by campaign use of attenuated haul trucks where possible.</p> <p>The NMP indicates that HVO/MTW are investigating opportunities to coordinate noise management with Wambo mine, which once finalised details will be provided in an updated NMP.</p>	O	<p>Continue to manage noise attenuation via campaign use of haul truck and/or upgrade fleet to meet improved operation noise attenuation.</p> <p>Finalise options for coordination of noise management with adjoining Wambo mine and update NMP accordingly.</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(f) ensure that the site is only accessed by locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142);</p> <p>(g) use its best endeavours to ensure that the rolling stock supplied by service providers is designed, constructed and maintained to minimise noise;</p> <p>(h) co-ordinate the noise management on site with the noise management at nearby mines (Mt Thorley Warkworth, Wambo, Ravensworth and HVO South mines) to minimise the cumulative noise impacts of these mines and the development, to the satisfaction of the Director-General.</p>				
Noise Management Plan					
4.10	<p>The Applicant shall prepare and implement a Noise Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with the EPA, and submitted to the Director-General for approval by the end of June 2013;</p> <p>(b) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> • best management practice is being employed; • the noise impacts of the development are minimised during meteorological conditions when the noise criteria in this consent do not apply; and • compliance with the relevant conditions of this consent. <p>(c) describe the proposed noise management system in detail, including:</p> <ul style="list-style-type: none"> • nomination of the real-time noise monitoring locations and the noise levels that would trigger additional noise management actions; • a matrix of predetermined actions to be employed when trigger levels are exceeded; and • procedures for varying the rates and locations of attended monitoring should the real-time monitoring data suggest that the relevant noise limits are being exceeded; <p>(d) include a risk/response matrix to codify mine operational responses to varying levels of risk resulting from weather conditions and specific mining activities;</p> <p>(e) include a noise monitoring program that:</p> <ul style="list-style-type: none"> • uses attended monitoring to evaluate the performance of the development, including a minimum of four days attended monitoring per quarter at locations agreed to by the Director- 	<p>HVO Noise Management Plan (2015) DPE Letter of Approval dated 25/08/15</p>	<p>The NMP generally addresses all requirements of this condition. The NMP discusses an agreement between HVO and Ravensworth Complex for investigating noise alarms and co-operation to minimise cumulative noise.</p>	O	Finalise options for coordination of noise management with adjoining Wambo mine and update NMP accordingly.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>General, or more regularly where required;</p> <ul style="list-style-type: none"> uses real-time monitoring to support the proactive and reactive noise management system on site; evaluates and reports on the effectiveness of the noise management system on site; provides for the annual validation of the noise model for the development; and <p>(f) include a protocol that has been prepared in consultation with the owners of nearby mines (Mt Thorley Warkworth, Wambo, Ravensworth and HVO South mines) to minimise the cumulative noise impacts of these mines and the development.</p>				
METEOROLOGICAL MONITORING					
4.11	<p>The Applicant shall maintain a permanent meteorological station at a location approved by the EPA, and to the satisfaction of the Director-General, to monitor the parameters specified in Table 13, using the specified units of measure, averaging period, frequency, and sampling method in the table.</p> <p><i>Table 11: Meteorological monitoring</i></p>	<p>The auditor reviewed SCADA sample of continuous monitoring. Site observations.</p>	<p>Two meteorological stations, one at the Hunter Valley Services administration office and one at Cheshunt pit, the location of which confirmed and sighted by the auditor.</p> <p>All parameters were observed to be monitored on continuous basis.</p>	C	
Blasting & Vibration					
Airblast Overpressure Limits					
4.12	<p>The Applicant shall ensure that the airblast overpressure level from blasting at the development does not exceed the criteria in Table 14 at any residence on privately-owned land.</p> <p><i>Table 12: Airblast overpressure impact assessment criteria</i></p>	<p>Interview - Site Management</p> <p>Blast monitoring results 2013 - 16</p> <p>AEMR/ Annual reviews 2013 - 15</p>	<p>A review of blast monitoring data indicates no exceedance recorded during the audit period.</p>	C	
Ground Vibration Impact Assessment Criteria					
4.13	<p>The Applicant shall ensure that the ground vibration level from blasting at the development does not exceed the criteria in Table 15 at any residence on privately-owned land.</p> <p><i>Table 13: Ground vibration impact assessment criteria</i></p>	<p>Interview - Site Management</p> <p>Blast monitoring results 2013 - 16</p> <p>AEMR/ Annual reviews 2013 - 15</p>	<p>A review of blast monitoring data indicates no exceedance recorded during the audit period.</p>	C	
Blasting Hours					
4.14	<p>The Applicant shall only carry out blasting at the development between 7 am and 6 pm Monday to Saturday inclusive. No blasting is allowed on Sundays, Public Holidays or any other time without the written approval of the EPA.</p>	<p>Blast Monitoring Spreadsheets 2013 - 2016</p> <p>HVO Blasting Summary</p>	<p>HVO North blasting summary:</p> <p>2013 (Nov & Dec) - 30 blasts, earliest at 8:59am, latest at 1:05pm</p> <p>2014 100 blasts, earliest at 7:08am, latest at 4:04pm</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			<p><u>2015</u> 107 blasts, earliest at 8:10am, latest at 4:43pm</p> <p><u>2016 YTD</u> 121 blasts, earliest at 8:34am, latest at 4:17pm</p> <p>Nil blast exceeded of the maximum 3 blasts per day or 12 blasts per week. The auditor reviewed blast timings, with no blast outside of permitted times.</p>		
Blasting Frequency					
<i>Note: For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the mine</i>					
4.15	<p>The Applicant may carry out a maximum of:</p> <p>(a) 3 blasts a day, unless an additional blast is required following a blast misfire; and</p> <p>(b) 12 blasts a week, for all open cut mining operations at the HVO North mine.</p> <p>This condition does not apply to blasts that generate ground vibration of 0.5 mm/s or less at any residence on privately-owned land, or to blasts required to ensure the safety of the mine or its workers.</p>	HVO Blasting Summary 2013 - 2016	No exceedance of daily / weekly blasting allowance.	C	
Interactions With Adjoining Mines					
4.15	<p>Prior to carrying out any mining or associated development within 500 metres of active mining areas at Ravensworth Operations, the Applicant shall enter into an agreement with Ravensworth Operations Pty Ltd (or its assigns or successors in title) to address the potential interactions between the two mines. If during the course of entering into this agreement, or subsequently implementing this agreement, there is a dispute between the parties about any aspect of the agreement, then either party may refer the matter to the Director-General for resolution.</p>	<p>Blasting Co-operation Deed (signed by HV Operation Pty Ltd, awaiting approval from Ravensworth Operations Pty Ltd, Cumnock No. 1 Colliery Pty Ltd, ICRA Cumnock Pty Ltd)</p> <p>Protocol - Blast Exclusion Zone - incorporates Ravensworth Open Cut Boundary/Lease (rev 7 June 2016)</p>	<p>Section 20 of the Deed acknowledge DA 450-10-2003 Mod 4</p> <p>The auditor was advised that blasting that has occurred to-date within 500m has been in agreement with relevant parties. An example email communication was sighted informing Ravensworth mine of pending blast on 24 September 2016 with acknowledgment and agreement to take protective measure to remove personnel from the area prior to blast.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
4.16	Prior to carrying out any mining or associated development within 500 metres of active mining areas at Cumnock No. 1 Colliery, the Applicant shall enter into an agreement with Cumnock No. 1 Colliery Pty Ltd (or its assigns or successors in title) to address the potential interactions between the two mines. If during the course of entering into this agreement, or subsequently implementing this agreement, there is a dispute between the parties about any aspect of the agreement, then either party may refer the matter to the Director-General for resolution.	Blasting Co-operation Deed (signed by HV Operation Pty Ltd, awaiting approval from Ravensworth Operations Pty Ltd, Cumnock No. 1 Colliery Pty Ltd, ICRA Cumnock Pty Ltd) Protocol - Blast Exclusion Zone - incorporates Ravensworth Open Cut Boundary/Lease (rev 7 June 2016)	As above	C	
Property Inspections					
4.16A	<p>If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of the approved open cut mining pit/s on site for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, or to have a previous property inspection updated, then within 2 months of receiving this request the Applicant shall:</p> <p>(a) provide the Director-General with a report that:</p> <ul style="list-style-type: none"> • establishes the baseline condition of any buildings and other structures on the land, or updates the previous property inspection report; and • identifies measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and/or structures; and <p>(b) provide the landowner with a copy of the new or updated property inspection report.</p> <p>The report is to be prepared by a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties. If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the inspection report, either party may refer the matter to the Director-General for resolution.</p> <p>If the Applicant considers that an extension of time is required to complete the report, the Applicant may apply in writing to the Director-General for an extension. The Applicant shall provide a copy of the request and of the Director-General's decision to the landowner.</p>	Interview - Environmental Specialist	No private property owned within 2km of blasting or nominated by the DG. A number of property investigations have been conducted on a discretionary basis. No actions required as a result of the investigations.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Property Investigations					
4.16B	<p>If the owner of any privately-owned land claims that buildings and/or structures on his/her land have been damaged as a result of blasting on the site, then within 2 months of receiving this claim the Applicant shall:</p> <p>(a) provide the Director-General with a report that:</p> <ul style="list-style-type: none"> • investigates the claim; and • identifies measures or works that should be implemented to rectify any blasting impacts of the development on these buildings and/or structures; and <p>(b) provide the landowner with a copy of the claim inspection report and recommendations.</p> <p>If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant shall repair the damage to the satisfaction of the Director-General.</p> <p>The report is to be prepared by a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties. If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the claim inspection report, either party may refer the matter to the Director-General for resolution.</p> <p>If the Applicant considers that an extension of time is required to complete the report, the Applicant may apply in writing to the Director-General for an extension. The Applicant shall provide a copy of the request and of the Director-General's decision to the landowner</p>	Blasting investigations	<p>Two claims made during the audit period for damage to properties in Jerrys Plains area approximately 3km from the site. In response to claims property inspection reports prepared by independent suitably qualified third party. Conclusion of reports did not indicate that the mine was at fault for damage to property.</p> <p>At time of response to claims, the site did not consider the condition to be triggered. As such, records were not tracked to confirm if residents were provided with report within 2 months, and the DG was not notified.</p> <p>The auditor considers this to be an administrative non-compliance as an investigation has been undertaken, but not tracked in line with condition.</p>	ANC	It is recommended that the intent of the condition is confirmed with Director-General with consideration given to modification of the wording of the condition.
Blasting Operating Conditions					
4.17	<p>During mining operations on site, the Applicant shall:</p> <p>(a) implement best management practice to:</p> <ul style="list-style-type: none"> • protect the safety of people and livestock in the surrounding area; • protect public or private infrastructure/property in the surrounding area from any damage; and • minimise the dust and fume emissions of any blasting; <p>(b) minimise the frequency and duration of any road closures, and avoid road closures during peak traffic periods;</p>	<p>HVO-10-ENVMP-SITE-E6_004 Blast Management Plan (BMP), dated 4 April 2014</p> <p>Blasting Co-operation Deed (signed by HV Operation Pty Ltd, awaiting approval from Ravensworth Operations Pty Ltd, Cumnock No.</p>	<p>Proactive communication to neighbours, reporting as per requirements, qualified blast crew in place, road closures and meteorological forecasting.</p> <p>Frequency and duration of road closures is managed by implementation road closure management plan. Where opportunity arises to fire a number of blasts during road closure this is undertaken. Road closure briefing arranges the minimum time to complete blast and clear road minutes in advance of blast and once safe after blast.</p>	NV	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(c) co-ordinate the timing of blasting on site with the timing of blasting at nearby mines (including the Mt Thorley Warkworth, Wambo, Ravensworth and HVO South mines) to minimise the cumulative blasting impacts of these mines and HVO North mine; and</p> <p>(d) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site, to the satisfaction of the Director-General.</p>	1 Colliery	<p>HVO co-ordinate timing of blasting with nearby mines by notifying mines of blast schedule in areas where it may impact similar areas.</p> <p>Ravensworth and Cumnock Cooperation Agreement provides minimum requirements with respect of communication protocol in place with nearby mines.</p> <p>HVO look to coordinate road closures where possible.</p>		
4.18	<p>The Applicant shall not undertake blasting on site within 500 metres of:</p> <p>(a) any public road without the approval of the appropriate road authority; or</p> <p>(b) any land outside the site that is not owned by the Applicant; unless</p> <ul style="list-style-type: none"> • the Applicant has a written agreement with the relevant landowner to allow blasting to be carried out closer to the land, and the Applicant has advised the Department in writing of the terms of this agreement, or • the Applicant has: <ul style="list-style-type: none"> - demonstrated to the satisfaction of the Director-General that the blasting can be carried out closer to the land without compromising the safety of the people or livestock on the land, or damaging the buildings and/or structures on the land; and - updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the land. 	<p>Blasting Co-operation Deed (signed by HV Operation Pty Ltd, awaiting approval from Ravensworth Operations Pty Ltd, Cumnock No. 1 Colliery</p>	<p>Hold Ravensworth and Cumnock Cooperation Agreement with Glencore which lies within 500m of West Pit.</p> <p>Auditor not provided correspondence with Department to verify this condition is compliant.</p>	NV	
Blast Management Plan					
4.19	<p>The Applicant shall prepare and implement a Blast Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) be submitted to the Director-General for approval by the end of September 2013 unless otherwise agreed;</p> <p>(b) propose and justify any alternative ground vibration limits for any public infrastructure in the vicinity of the site;</p> <p>(c) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> • best management practice is being employed; • compliance with the relevant conditions of this consent; • that blasting will not cause damage to the Carrington West Wing Groundwater Barrier (LPB) as described in 	<p>HVO-10-ENVMP-SITE-E6_004 Blast Management Plan (BMP), dated 4 April 2014.</p> <p>DP&E Letter of Approval dated 4/04/14</p> <p>Interview - Environmental Specialist</p>	<p>The BMP was submitted for approval on 27 September 2013. The BMP adequately addresses the requirements of this condition.</p> <p>The auditor was advised that Carrington West Wing is not planned for development until 2017 at the earliest and as such LPB requirement is not triggered.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>Condition 23 of Schedule 4.</p> <p>(d) include a road closure management plan for blasting within 500 metres of a public road, that has been prepared in consultation with the RMS and Council;</p> <p>(e) include a specific blast fume management protocol to demonstrate how emissions will be minimised including risk management strategies if blast fumes are generated;</p> <p>(f) include a monitoring program for evaluating the performance of the development, including:</p> <ul style="list-style-type: none"> • compliance with the applicable criteria; • minimising the fume emissions from the site; and <p>(g) include a protocol that has been prepared in consultation with the owners of nearby mines (including the Mt Thorley Warkworth, Wambo, Ravensworth and HVO South mines) to minimise the cumulative blasting impacts of these mines and the HVO North mine.</p>				
SURFACE AND GROUNDWATER					
<i>Note: Under the Water Act 1912 and/or Water Management Act 2000, the Applicant is required to obtain the necessary water licenses and approvals for the development.</i>					
Pollution of Waters					
4.20	Except as may be expressly provided by an EPA license, the Applicant shall comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i> during the carrying out of the development.	Interview - Environment Specialist Water Quality Monitoring Results	Two water related incidents were reported to NSW Department of Water and NSW EPA during audit period however neither resulted in a breach of Section 120 reported.	C	
Water Supply					
4.20A	The Applicant shall ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of mining operations to match its available water supply, to the satisfaction of the Director-General.	Liddell Water Supply Agreement (2003)	Water inventory prepared in house on monthly basis. Sufficient water available. In the event additional water required water access agreement exists with Liddell Mine dated August 2003.	C	
Compensatory Water Supply					
4.20B	<p>The Applicant shall provide compensatory water supply to any landowner of privately-owned land whose water supply is adversely and directly impacted (other than an impact that is negligible) as a result of the development, in consultation with NOW, and to the satisfaction of the Director-General.</p> <p>The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the development. Equivalent water supply should be provided (at least on an interim basis) within 24 hours of the loss being identified, unless otherwise agreed with the landowner.</p> <p>If the Applicant and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer</p>	Interview - Environmental Specialist	No impact on water supply to private landowner during the audit period.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	the matter to the Director-General for resolution. If the Applicant is unable to provide an alternative long-term supply of water, then the Applicant shall provide alternative compensation to the satisfaction of the Director-General.				
Discharge Limits					
4.21	Except as may be expressly provided by an EPA license or the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002 (or any subsequent version of the Regulation), the Applicant shall: (a) not discharge more than 237 ML/day from the licensed discharge points at HVO north of the Hunter River; (b) ensure that the discharges from licensed discharge points comply with the limits in Table 17: <i>Table 15: Discharge Limits</i>	HRSTS Discharge Report Spreadsheet 2013 - 15	No discharge in 2013, 2014 (conformed in AEMR) or year to date 2016. In 2015 discharged a total 198.8ML across the period of four days. Water quality during discharge within limits in Table 17.	C	
Water Licensing					
4.22	Prior to the renewal of a license obtained under the <i>Water Act</i> , or 5 years after the issue date (whichever is first), the Applicant must undertake a comparison of predicted impacts, on water resources, in the EIS against actual impacts, to the satisfaction of the NOW	AEMR 2013 - 2015	Performance against EIS demonstrated in AEMR.	C	
Groundwater Barrier					
4.22A	Within 2 years of commencing mining in the Carrington Pit Southern Extension, or as otherwise agreed with the Director-General, the Applicant shall construct a groundwater barrier wall across the eastern arm of the palaeochannel of the Hunter River, to the satisfaction of the Director-General and at a location no further south than shown in the figure " <i>Carrington River Red Gums, Billabong and Associated Infrastructure</i> " included in the <i>Carrington Pit Extension Response to Submissions Report</i> , dated May 2006.	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	
4.22B	By 31 December 2006, or as otherwise agreed with the Director-General, the Applicant shall submit a report to the Department and the NOW that: (a) examines all reasonable and feasible options for the design and construction of the groundwater barrier wall (including matters such as materials, timing and method of construction, costs, projected initial and long-term effectiveness) to the satisfaction of the Director-General; and (b) recommends a preferred option for the approval of the Director-General.	Independent Environmental Compliance Audit - SKM (2014)	Verified in 2007 HLA audit and reaffirmed in SKM IEA 2014.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Carrington West Wing Groundwater Barrier (LPB)					
<i>Note: The conceptual low permeability barrier is shown in Appendix 4.</i>					
4.23	The Applicant shall design the Carrington West Wing LPB to the satisfaction of NOW and the Director-General. The detailed design must: (a) ensure that negligible movement of water can occur through the barrier in either direction over the long term; (b) be prepared by a suitably qualified and experienced expert/s; (c) be endorsed by NOW and approved by the Director-General, prior to construction of the LPB; (d) achieve the relevant performance measures including: • applicable permeability of 10-8 metres/second or less; • applicable Australian Standards (including AS 3798-2007); and hydraulic, geomorphologic and seismic stability which will withstand any blasting- related vibrations, mining operations, fluvial and weather events, decay corrosive and biological attack.	Interview Environmental Specialist	- The auditor was advised that the Carrington West Wing not planned for development until 2017 at earliest as such LPB condition not triggered.	NT	
4.24	Prior to undertaking any mining operations within 100 metres of the western arm of the Hunter River paleochannel, the Applicant shall: (a) install the LPB in the western arm of the paleochannel; (b) submit an as-executed report to the Director-General and NOW by a suitably qualified and experienced practising engineer, certifying that the LPB has been constructed to achieve the relevant performance measures set out in Condition 23(d) of Schedule 4; and (c) obtain endorsement on the installed LPB from NOW. If there is evidence after its installation that the LPB is not achieving the performance objective and performance measures in Condition 23 of Schedule 4, mining operations within 100 metres of the western arm of the Hunter River paleochannel must cease until approval to recommence is granted by the Director-General.	Interview Environmental Specialist	- The auditor was advised that the Carrington West Wing not planned for development until 2017 at earliest as such LPB condition not triggered.	NT	
LPB Monitoring and Management Plan					
4.25	The Applicant must prepare and implement a Low Permeability Barrier Monitoring and Management Plan to the satisfaction of NOW and the Director-General. The plan must: (a) address the monitoring and management of both the Carrington West Wing LPB and the Carrington Pit Southern Extension LPB; (b) be prepared by a suitably qualified and experienced expert;	Interview Environmental Specialist	- The auditor was advised that the Carrington West Wing is not planned for development until 2017 at earliest and as such LPB condition not triggered.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(c) be endorsed by NOW and approved by the Director-General, prior to construction of the Carrington West Wing LPB;</p> <p>(d) describe the monitoring and maintenance procedures to be implemented and the scheduling of these procedures;</p> <p>(e) demonstrate that the monitoring system is capable of timely detection of any failure or deficiency in either LPB; and</p> <p>(f) describe the contingency measures that will be implemented in the event of a failure or deficiency in either LPB.</p>				
Flood Design Works					
4.26	The Applicant shall design and construct the flood levees and associated flood design works in the Carrington West Wing area at least 1.0 metres higher than the 1 in 100 year ARI flood event, to the satisfaction of NOW.	Interview - Environmental Specialist	As above.	NT	
Water Management Plan					
4.27	<p>The Applicant shall prepare and implement a Water Management Plan for the HVO North mine to the satisfaction of the Director-General. This plan must be prepared in consultation with NOW and the EPA by suitably qualified and experienced persons whose appointment has been approved by the Director-General, and submitted to the Director-General by the end of September 2013 unless otherwise agreed. This plan must include:</p> <p>(a) a Site Water Balance that includes details of:</p> <ul style="list-style-type: none"> • sources and security of water supply, including contingency planning for future reporting periods; • water use on site; • water management on site, including details of water sharing between neighbouring mining operations; • any off-site water transfers and discharges; • reporting procedures, including comparisons of the site water balance for each calendar year; and • describes the measures that would be implemented to minimise clean water use on site; <p>(b) a Surface Water Management Plan, that includes:</p> <ul style="list-style-type: none"> • detailed baseline data on surface water flows and quality in the waterbodies that could be affected by the development; • a detailed description of the water management system on site, including the: <ul style="list-style-type: none"> • clean water diversion systems and their final positioning; • erosion and sediment controls; and 	<p>HVO Water Management Plan, dated 4 May 2016</p> <p>Correspondence to NoW and EPA, dated April 2014</p> <p>Letter from DP&I approving Chris New as suitably qualified and experienced person to prepare the WMP, dated 24 June 2013.</p>	<p>HVO WMP prepared for North and South by suitably competent and Director General approved water management expert (Chris New). Revision 1 of the Plan dated 20 December 2013 was submitted within the agreed timeframe. It has since undergone a number of revisions. The current Revision 1.3 of the plan is dated 4 May 2016.</p> <p>HVO WMP was previously approved by DPE April 2014.</p> <p>The current revision of the HVO WMP adequately addresses all requirements of this condition.</p> <p>Some minor administrative anomalies were identified by the auditor with regard to correct referencing of Appendices.</p>	O	Review Appendix headings against references in Table 1 of the HVO WMP, ie. Sch. 3, Cond. 27(c) (on page 12, last row) references Appendix D - Groundwater Monitoring Programme, where it should reference Appendix C - Surface Water Monitoring Programme.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • water storages; • detailed plans, including design objectives and performance criteria, for: <ul style="list-style-type: none"> - design and management of the final voids; - design and management of the evaporative sink; - design and management of any tailings dams; - ensuring the stability of high walls adjacent to low permeability barriers; - establishment of drainage lines on the rehabilitated areas of the site; and - control of any potential water pollution from the rehabilitated areas of the site; - performance criteria for the following, including trigger levels for investigating any potentially adverse impacts associated with the development: <ul style="list-style-type: none"> - the water management system; • the stability of high walls adjacent to low permeability barriers; • surface water quality of the Hunter River; and • stream and riparian vegetation health of the Hunter River; • a program to monitor: • the effectiveness of the water management system; and • surface water flows and quality, stream and riparian vegetation health in the Hunter • River (in so far as it could potentially be affected by the development); and • a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the development. <p>(c) a Groundwater Management Plan, which includes:</p> <ul style="list-style-type: none"> • detailed baseline data on groundwater levels, yield and quality in the region, and privately- owned groundwater bores, that could be affected by the development; • groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts; • a program to monitor: • groundwater inflows to the open cut mining operations; <p>the impacts of the development on:</p> <ul style="list-style-type: none"> - the alluvial aquifers, including additional groundwater monitoring bores as required by NOW; 				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> - the effectiveness of the low permeability barrier; - base flows to the Hunter River; - any groundwater bores on privately-owned land that could be affected by the development; and - groundwater dependent ecosystems, including the River Red Gum Floodplain - Woodland EEC located in the Hunter River alluvium; - the seepage/leachate from water storages, backfilled voids and the final void; • a program to validate and recalibrate (if necessary) the groundwater model for the development, including an independent review of the model every 3 years, and comparison of monitoring results with modelled predictions; and • a plan to respond to any exceedances of the groundwater assessment criteria. 				
Final Void Management Plan					
4.28	<p>At least 5 years before the cessation of open cut coal extraction that will result in the creation of a final void, or as otherwise agreed with the Director-General, the Applicant shall prepare and implement a Final Void Management Plan for each void, in consultation with DRE and NOW, and to the satisfaction of the Director-General. Each plan must:</p> <ul style="list-style-type: none"> (a) assess locational, design and future use options; (b) be integrated with the Water Management Plan and the Rehabilitation Management Plan; (c) assess short term and long term groundwater and other impacts associated with each option; and (d) describe the measures to be would be implemented to avoid, minimise, manage and monitor potential adverse impacts of the final void over time. 	Interview Environmental Specialist	- Currently planned activities through to end of consent period, June 2025. Final Void Management Plan not triggered until decision made on Carrington Pit.	NT	
Fine Reject Management Strategy					
4.28A	<p>The Applicant shall prepare and implement a life of mine fine reject management strategy to the satisfaction of the Director-General. The strategy must:</p> <ul style="list-style-type: none"> (a) be prepared in consultation with DRE and NOW, and submitted to the Director-General for approval by 30 June 2015; (b) describe potential locations and design options for the emplacement of fine reject on site; (c) assess any material short term and long term impacts on surface and groundwater resources associated with each option; (d) describe the measures that would be implemented to avoid, minimise, manage and monitor any adverse 		LOM Fine Reject Management Strategy developed and dated December 2015. The final revision was prepared following consultation with DRE and DP&E and meets the intent of the condition	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>impacts of the fine reject emplacements over time;</p> <p>(e) describe how the fine reject emplacements would be rehabilitated and describe potential options for future land uses; and</p> <p>(f) be integrated with the Rehabilitation Management Plan and Agricultural Land Reinstatement Management Plan for the mine.</p>				
Temporary Crossing of the Hunter River					
Notes:					
(a) Should Crown land, as defined under the Crown Lands Act 1989, be included in the temporary crossing, there is a requirement to seek approval from the Department of Lands under the Crown Lands Act; and					
(b) Any works on Crown public roads require the Department of Lands' approval and must satisfy the statutory requirements of the Roads Act 1993.					
4.29	<p>Prior to the commencement of any work within 40 metres of the Hunter River, a permit under Part 3A of the <i>Rivers and Foreshores Improvement Act 1948</i> shall be obtained from the NOW. All works shall be:</p> <p>(a) undertaken in accordance with the permit application, except as otherwise provided by conditions of the permit;</p> <p>(c) designed and constructed such that the works do not cause sedimentation, erosion or permanent diversion of the Hunter River;</p> <p>(d) constructed in accordance with section 10.8 (Temporary Crossing of the Hunter River), volume 1 of the EIS, dated October 2003; and titled "Hunter Valley Operations - West Pit Extension and Minor Modifications"; and</p> <p>(e) constructed in accordance with the Statement of Environmental Effects, prepared by Coal & Allied, dated August 2001, titled "Proposed relocation of a dragline and electric rope shovel - Ravensworth and Hunter Valley Operations."</p>	Controlled Activity Permit (20 ERM2013/0757)	<p>Controlled Activity Permit (20 ERM2013/0757) dated 18 September 2013. Expired September 2016.</p> <p>No temporary river crossings put in place during audit period; however sediment traps were constructed under the above permit. No notifiable incidents during construction. Auditors observed sediment controls post construction.</p>	C	
FAUNA & FLORA					
Rehabilitation/Regeneration Strategy					
Note. The billabong, standing water line and river red gum population referred to are the billabong, standing water line and endangered population of river red gums located on land owned by the Applicant between the Hunter River and Levee 5, as shown in the figure "Carrington River Red Gums, Billabong and Associated Infrastructure" included in the Carrington Pit Extension Response to Submissions Report, dated May 2006.					
4.30	The Applicant shall not destroy or disturb more than 1 mature river red gum in the river red gum population associated with the Carrington billabong, and ensure that the mining highwall is located at least 150 metres from the standing water line of the billabong.	Interview - Environmental Specialist Aerial imagery	Aerial imagery supplied by RTCA demonstrated a minimum separation distance of 155m between the Carrington Highwall and Carrington Billabong.	C	
4.31	By 30 June 2007, the Applicant shall prepare and implement a comprehensive Rehabilitation and Restoration Strategy for the Carrington billabong and river red gum population, in consultation with NOW, and to the satisfaction of the Director-General. This strategy must be prepared by suitably qualified expert/s, and must include:	HVO River Red Gum Rehabilitation and Restoration Strategy (EMGA, March 2010)	s1.4.3 states that the original Carrington Billabong River Red Gum Rehabilitation and Restoration Strategy was prepared in consultation with NSW Government agencies however was never finalised and was superseded HVO River Red Gum Rehabilitation and Restoration Strategy.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(a) the rehabilitation and restoration objectives for the billabong and associated river red gum population; (b) a description of the short, medium and long term measures that would be implemented to rehabilitate and restore the billabong and associated river red gum population (including measures to address matters which affect the long term health and sustainability of the billabong and river red gums such as surface and ground water supply, and controlling weeds, livestock and feral animals); and (c) detailed assessment and completion criteria for the rehabilitation and restoration of the billabong and associated river red gum population.				
4.32	By 30 June 2007, the Applicant shall prepare and implement a conceptual Landscape and Rehabilitation Management Strategy, in consultation with affected agencies, to the satisfaction of the Director-General. The strategy must: (a) include objectives for landscape management and rehabilitation of the site and a justification for the proposed strategy; (b) present a conceptual plan for landscape management and rehabilitation of the site; (c) be integrated with the relevant requirements of the Mining Operations Plan; (d) describe the measures that would be implemented to achieve the objectives (including an indicative timetable for mine closure); (e) include proposals to offset the flora and fauna impacts of the development (including proposals resulting from condition 31 above), and an outline of how the strategy would integrate with existing and planned corridors of native vegetation in areas surrounding the development; and (f) outline how the proposed strategy would be integrated with the landscape management and rehabilitation of the other operations within Hunter Valley Operations (both north and south of the Hunter River) and other coal mines in the vicinity.	MOP - HVO North (18 January 2016)	Condition predates the scope of this audit. MOP states that this requirement is satisfied by the HVO Conceptual Landuse and Rehabilitation Management Strategy (June 2007).	C	
Strategic Study Contribution					
4.33	If, during the development, the Department or the OEH commissions a strategic study into the regional vegetation corridor stretching from the Wollemi National Park to the Barrington Tops National Park, then the Applicant shall contribute a reasonable amount, up to \$10,000, towards the completion of this study.	Interview Environmental Specialist	- RTCA have not been approached to provide funding.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Operating Conditions					
4.34	The Applicant shall salvage and reuse as much material as possible from the land that will be mined, such as soil, seeds, tree hollows, rocks and logs. Cleared vegetation must be reused or recycled to the greatest extent practicable. No burning of cleared vegetation shall be permitted. Reuse options including removing millable logs, recovering fence posts, mulching and chipping unusable vegetation waste for on-site use are to be implemented.	Ground Disturbance Permit procedure Ground Disturbance Permit sample GDP-HVO-00504 CNA Flora and Fauna Procedure (CNA-10-EWI-SITE-E9-021) AEMRs (2011-2015) Site visit Interview - Environmental Specialist (Rehabilitation)	Example Ground Disturbance Permit sighted which stated ecological pre-clearance procedure. CNA Flora and Fauna Procedure contains habitat pre-clearance and procedure for habitat tree marking and checking. AEMRs (2011-2015) report that clearing of vegetation occurs according to the Ground Disturbance Permit procedure which includes pre-clearance by ecologists to identify threatened species or fauna presence, along with seed and timber features that could be salvaged for reuse in rehabilitation. Site visit observed: - Storage of timber resources (including hollow logs) ready for reuse in rehabilitation. - Reuse of timber resources in rehabilitated areas observed limited to piled timber along track edges. - Minimal timber resource generally spread throughout rehabilitated areas. Practice of spreading timber stated by Environmental Specialist (Rehabilitation) as being mostly about timing and striking a balance between spreading timber but also being able to treat weed growth in rehabilitated areas using mechanical or broad scale means during 'Ecosystem Establishment' phase. That is, if timber is spread throughout areas, this will then prevent weed control via tractor boom-spraying or drive-through 'weed-wiping'. Timber spreading is proposed to be undertaken following this weed control action, of which no areas were observed during the site visit. No plans evident for rock spreading throughout rehabilitated areas. Current activity is not inconsistent with the approval condition in terms of what is practicable.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Flora and Fauna Management					
4.35	<p>The Applicant shall prepare and implement procedures for the management of flora and fauna for the development. These procedures shall:</p> <p>(a) provide details on:</p> <ul style="list-style-type: none"> delineating areas of disturbance; protecting areas outside of the disturbance areas; identifying when pre-clearance surveys are required for fauna; determining the best time to clear vegetation to avoid nesting/breeding activities of threatened fauna; capturing and releasing fauna; relocating bat roosts; salvaging habitat resources and collecting seed; controlling weeds in regeneration/rehabilitation areas; and controlling access to the regeneration/rehabilitation areas; <p>(b) describe how the land in regeneration areas would be revegetated;</p> <p>(c) describe how the mined areas would be rehabilitated for grazing and biodiversity values; (d) identify actions to minimise the potential impacts of the development on threatened fauna;</p> <p>(e) describe how the performance of the revegetation/rehabilitation strategies would be monitored over time including, as a minimum, the parameters in Table 18; and</p> <p>(f) identify who is responsible for monitoring, reviewing, and implementing the procedures.</p> <p>The Applicant shall submit a copy of these procedures to the Director-General for approval within 6 months of the date of this consent.</p> <p>Table 16: <i>Parameters and Units of Measure for Fauna and Flora Monitoring</i></p>	<p>Ground Disturbance Permit procedure</p> <p>Ground Disturbance Permit sample GDP-HVO-00504</p> <p>CNA Flora and Fauna Procedure (CNA-10-EWI-SITE-E9-021)</p> <p>MOP - HVO North (18 January 2016)</p>	<p>The condition requirements are met in these locations:</p> <p>a) The sample Ground Disturbance Permit viewed states that the clearing limit should be pegged.</p> <p>The CNA EMS procedure for flora and fauna contains procedures describing:- pre-clearance marking and inspection of hollow trees;</p> <ul style="list-style-type: none"> - states that clearing should occur outside of breeding seasons; - states that captured fauna should be released in a suitable neighbouring area; - marking trees suitable for seed collection; and - weed control (in clearing area). <p>No details are contained regarding relocation of bat roosts or salvaging habitat resources.</p> <p>The MOP contains procedures describing:</p> <ul style="list-style-type: none"> - weed management in MOP disturbance areas (s4.2.5.1) - weed monitoring in rehabilitated areas (s8.0) <p>b) & c) MOP sections 6.0 and 7.0 contain detailed explanation of rehabilitation procedures.</p> <p>d) Pre-clearance procedures described in the CNA Flora and Fauna procedures address this point.</p> <p>e) MOP s5.3 states rehabilitation objectives. s6.3 contains performance criteria, measures and indicators.</p> <p>f) MOP section 8.2 states the responsible person.</p>	NC	Provide details regarding relocation of bat roosts or salvaging habitat resources.
Annual Review					
4.36	<p>The Applicant shall</p> <p>(a) review the performance of the flora & fauna management procedures annually, and, if necessary,</p> <p>(b) revise these documents to take into account any recommendations from the annual review</p>	<p>AEMRs (2013-2015)</p>	<p>Review of procedures is within the scope of AEMRs.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations		
ABORIGINAL CULTURAL HERITAGE							
<i>Note: The Applicant is required to obtain consent from the OEH under the National Parks and Wildlife Act 1974 to destroy Aboriginal sites and objects on the site. The OEH has issued General Terms of Approval for the sites listed in condition</i>							
West Pit Extension – Consents to Destroy							
4.37	<p>The Applicant shall obtain consent from OEH to destroy the following sites:</p> <ul style="list-style-type: none"> • WPE 1 • WPE 2 • WPE 3 • WPE 4 • WPE 5 • WPE 6 • WPE 7 	<ul style="list-style-type: none"> • WPE 8 • WPE 9 • WPE 10 • WPE 11 • 37-2-1964 • 37-2-1965 • 37-2-1966 	<ul style="list-style-type: none"> • 37-2-1967 • 37-2-0038 • 37-2-0144 • 37-2-0894 • 37-2-0896 • 37-2-0805 	<p>Section 90 Application Consultation Documents</p>	<p>As stated in previous IEA, HVO has a documented process for obtaining the required licences, consents and permits. The application is on an operational needs base. Therefore some consents have not been applied for, as mining operations are not currently impacting the sites. Auditor provided with consent to destroy for:</p> <p>2005, HVO West Pit s90 #2086 2007, HVO Carrington s90 #2547 2007, HVO West Pit s90 #2804</p>	C	
West Pit Extension – Salvage							
4.38	Before making application for section 90 consents under NP&W Act, the Applicant shall prepare a salvage program for the sites listed in condition 37 in consultation with the OEH and Aboriginal communities, and to the satisfaction of the OEH	Independent Environmental Compliance Audit - SKM (2014)	Satisfied in previous IEA. No section 90 permits were sought during audit period.	NT			
4.39	<p>The Applicant shall obtain consent under the <i>National Parks and Wildlife Act 1974</i> to destroy the following sites:</p> <ul style="list-style-type: none"> • 37-2-0145 • 37-2-0147 • 37-2-0148 • 37-2-0523 • 37-2-0524 • 37-2-0525 • 37-2-0526 • 37-2-0527 • 37-2-0528 • 37-2-0562 • 37-2-0777 • 37-2-0778 • 37-2-0779 • 37-2-0780 • 37-2-0781 • 37-2-0782 • 37-2-0783 • 37-2-0784 • 37-2-0785 • 37-2-0786 • 37-2-2078 (C1) • 37-2-2079 (C2) • 37-2-2080 (C3) • 37-5-0494 (C4) • 37-2-2083 (C8) • 37-2-2084 (C9) 	<ul style="list-style-type: none"> • 37-2-0787 • 37-2-0788 • 37-2-0789 • 37-2-0790 • 37-2-0791 • 37-2-0792 • 37-2-0793 • 37-2-0794 • 37-2-0795 • 37-2-0796 • 37-2-0895 • 37-2-1865 • 37-2-1866 • 37-2-1867 • 37-2-1868 • 37-2-1869 • 37-2-1870 • 37-2-1871 • 37-2-1872 • IF1 • 37-2-2085 (C10) • 37-2-1962 (CM45) • 37-2-1963 (CM46) • 37-2-1504 (CM1) • 37-2-1505 (CM2) • 37-2-1522 (CM19) 	<ul style="list-style-type: none"> • TD • TG • 37-2-1504 • 37-2-1522 • 37-2-1535 • 37-2-1864 • 37-2-1874 • 37-2-1875 • 37-2-1876 • 37-2-1962 • 37-2-1963 • 37-5-0061 • 37-2-1861 • 37-2-1862 • 37-2-1873 • 37-2-1860 • 37-5-0131 • 37-3-0286 • 37-5-0061 • 37-1-0399 • 37-2-1535 (CM32) • 37-2-2754 • 37-2-2755 • 37-2-2756 • 37-2-2757 	Independent Environmental Compliance Audit - SKM (2014)	As stated in previous IEA, HVO have a procedure in place to apply for permits. Many of the consents have not been applied for, as mining operations are not currently impacting the sites.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Aboriginal Heritage Site 37-2-1877 (CM-CD1)					
4.40	Mining operations and associated activities in the Carrington West Wing area are not permitted to be carried out within 20 metres of Aboriginal heritage site 37-2-1877 (CM-CD1) and the Older Stratum as shown on the plan in Appendix 5. Note: for clarification purposes, Condition 40 of Schedule 4 does not prohibit heritage surveys and studies to be undertaken within CM-CD1 or within 20 metres of CM-CD1 and the Older Stratum.	HVO North Heritage Management Plan, December 2013 Interview - Environmental Specialist - Systems and Monitoring	Disturbance has not commenced in the extension area.	NT	
4.40A	The Applicant must ensure that mining operations (including blasting) and associated activities do not cause any impact to Aboriginal heritage site 37-2-1877 (CM-CD1) and the Older Stratum.	HVO North Heritage Management Plan, December 2013 Interview - Environmental Specialist - Systems and Monitoring	Schedule 15 of the plan provides measure to avoid disturbance of CM-CD1. There have been no reported impacts to do not cause any impact to Aboriginal heritage site 37-2-1877 (CM-CD1) and the Older Stratum. As a result of mining activities.	C	
Heritage Management Plan					
<i>Note: In conditions 37 – 41A, all seven-figure numbers refer to Aboriginal site listings in OEH’s Aboriginal Heritage Information Management System (AHIMS). All other numbers are site numbers used by the Applicant in on-site Aboriginal heritage studies. Site numbers beginning with C or CM are associated with the Carrington Pit, as shown in Fig 5.1 of Annex G of the Carrington Pit Extended Statement of Environmental Effects.</i>					
4.41	The Applicant shall prepare and implement a Heritage Management Plan for the development to the satisfaction of the Director-General. This plan must: (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General; (b) be prepared in consultation with OEH and the Aboriginal stakeholders (in relation to the management of Aboriginal heritage values); (c) be submitted to the Director-General for approval by the end of June 2013, unless the Director-General agrees otherwise; (d) include the following for the management of Aboriginal Heritage: • a detailed plan of management for Aboriginal heritage site 37-2-1877 (CM-CD1) including a description of the measures that would be implemented to protect, monitor and manage the site from mining operations and associated activities; • a description of the measures that would be implemented for: - managing heritage items on the site, including any proposed archaeological investigations and/or salvage measures;	HVO North Heritage Management Plan (Version 2, Final, January 2014))	HVO North HMP prepared by suitably competent heritage expert (David Cameron) and approved by Director General 12 February 2014. The current revision of the HVO WMP adequately addresses all requirements of this condition.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> - managing the discovery of any human remains or previously unidentified Aboriginal objects on site; - maintaining and managing reasonable access for Aboriginal stakeholders to heritage items on site; - ongoing consultation with the Aboriginal stakeholders on the conservation and management of Aboriginal cultural heritage both on-site and within any Aboriginal heritage conservation areas; and - ensuring any workers on site receive suitable heritage inductions prior to carrying out any development on site, and that suitable records are kept of these inductions; and • a strategy for the storage of any heritage items salvaged on site, both during the development and in the long term. 				
4.41A	Prior to disturbance by mining, the Applicant shall ensure that the scarred tree 37-2-2080 (C3) is removed and relocated to a site where it will be protected from future development, in consultation with the Wonnarua Tribal Council, and to the satisfaction of the Director-General.	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	
Trust Fund Contribution					
4.42	Before carrying out the development, or as agreed otherwise by the Director-General, the Applicant shall contribute \$20,000 to the Hunter Aboriginal Cultural Heritage Trust Fund for further investigations into Aboriginal cultural heritage, as defined by the Trust Deed.	Independent Environmental Compliance Audit - SKM (2014)	Verified in 2007 HLA audit and reaffirmed in SKM IEA 2014.	C	
TRAFFIC & TRANSPORT					
New Access Intersection to Hunter Valley Loading Point					
<i>Note: The Applicant requires Council approval under the Roads Act 1993 for the new road entry from Liddell Station Road to the Hunter Valley Loading Point.</i>					
4.43	The Applicant shall design, construct and maintain for the duration of this consent, the proposed new access intersection from Liddell Station Road to the Hunter Valley Loading Point to the satisfaction of the Council.	Independent Environmental Compliance Audit - (2014)	2013 IEA states that AECOM's original IEA in 2010 verifies this road was closed. Road formally closed and no longer gazetted.	NT	
Road Closure					
<i>Note: The Applicant requires MSC approval under the Roads Act 1993 prior to closing a section of Pikes Gully Road</i>					
4.44	Within 12 months of the date of this consent, unless otherwise agreed by the Director-General, the Applicant is to complete the relevant requirements to enable the section of Pikes Gully Road situated in the Muswellbrook local government area to be closed as a public road	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
4.45	The Applicant shall not blast within 500 metres of a public road while the road is open to the public. Any road closures with respect of blasting shall be subject to a plan of management approved by Council.	HVO-10-ENVMP-SITE-E6_004 Blast Management Plan (BMP), dated 4 April 2014	Advancing face of West Pit may be within 500m of Lemington road. Road closure provision with RMS and Singleton Council for potentially impacted area Ref Section 6.6 BMP)	C	
Lemington Road					
4.46	The Applicant shall reimburse Council for any road upgrading works undertaken on Lemington Road, to a maximum amount of \$30,000.	Independent Environmental Compliance Audit - SKM (2014)	Verified in 2013 IEA.	C	
4.47	The Applicant shall alter or cease mining operations if driver visibility or traffic safety on Lemington Road is adversely affected by dust, in accordance with the requirements of Council.	HVO Air Quality and Greenhouse Gas Management Plan (AQGGMP), 11 February 2014 AEMRs 2013 - 15	In response to real time dust monitors, conditions assessed by environment team. Inspection process detailed in AQGGMP. If conditions dictate operations cease, dust stoppage reported in AEMRs and monthly/annual environment reports.	C	
4.48	The Applicant shall be responsible for the full cost of the maintenance of the Lemington Road deviation undertaken for the Carrington Pit until March 2011, in accordance with the standards and requirements of Council.	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	
Intersection of Lemington Road and the Golden Highway					
4.49	Within 2 years of the date of this consent, the Applicant shall upgrade the intersection of the Golden Highway (SH 27) and Lemington Road to a type "BAR" intersection with a sealed shoulder to the satisfaction of the RMS.	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	
Road Safety Audit					
4.49A	(a) By 31 December 2006, the Applicant shall prepare and submit a road safety audit to the RMS and Council for all public roads used by mine employees and service vehicles in the vicinity of the development, including an audit of the existing intersections of all mine access roads with public roads; (b) any improvement to meet accepted road safety standards required by the relevant road manager (i.e. the RMS or Council) for public roads as a result of impacts related to the development as identified by the audit shall be undertaken at the Applicant's cost and to the satisfaction of the road manager; (c) any dispute between the Applicant and the relevant road manager in relation to the audit findings and the requirements of the road manager for improvements of public roads is to be determined by the Director-General; and	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(d) any maintenance of line marking and sign posting required by the relevant road manager at existing intersections of mine access roads with public roads shall be undertaken at the Applicant's cost and to the satisfaction of the road manager				
Coal Haulage					
4.50	The Applicant shall ensure that spillage of coal from coal haulage vehicles is minimised and that sediment-laden runoff from roads is effectively managed, to the satisfaction of the Director-General. Measures that shall be implemented include: (a) covering all loads where loaded coal trucks leave the site and enter public roads; (b) ensuring the gunwhales of all loaded trucks are clean of coal; (c) providing effective wheel wash facilities at all coal load and unload facilities prior to vehicles entering public roads; and (d) sweeping, at regular intervals and at the completion of campaign hauls, public roads used for the transportation of coal.	AEMR 2013 - 15 Site Observations	Trucks leave Site at Howick prior using Pikes Gully Road to Newdell Coal Loader. Trucks are: covered with automatic canopies, use wheel wash, and roads are swept and sprayed where required.	C	
4.51	The Applicant shall enter into agreement with Council for the maintenance of the sections of Pikes Gully Road and Liddell Station Road whilst used by the Applicant for the haulage of coal, and during the period the roads are owned by the Council.	Independent Environmental Compliance Audit - SKM (2014)	Verified in previous IEA.	C	
Monitoring					
4.52	The Applicant shall maintain and include in each AEMR records of: (a) amount of coal transported from the site each year; (b) amount of coal received from Hunter Valley Operations south of the Hunter River; (c) amount of coal hauled by road to the Hunter Valley Loading Point; (d) amount of coal hauled by road to the Newdell Loading Point; (e) amount of coal hauled by road from the Newdell Loading Point to the Ravensworth coal Terminal; (f) amount of coal hauled by road from the Hunter Valley Loading Point to the Ravensworth Coal Terminal; and (g) number of coal haulage truck movements generated by the development.	Annual Environmental Reviews 2013-2015	Details recorded in the following sections of AEMR: 2015 Section 4.1.1 2014 Section 2.1.3 2013 Section 2.1.4	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
VISUAL IMPACT					
Visual Amenity					
4.53	The Applicant shall implement measures to mitigate visual impacts including: (a) design and construction of development infrastructure in a manner that minimises visual contrasts; and (b) progressive rehabilitation of mine waste rock emplacements (particularly outer batters), including partial rehabilitation of temporarily inactive areas.	Interview with site management.	Infrastructure and plant used is green to reduce visual exposure. Limited visual exposure for public within north approval area. Progressive and temporary rehabilitation in line with conditions as previously discussed. Properties purchased within mine vicinity. The auditor travelled to Jerrys Plain on the evening of 26 October 2016 at 9pm and did not observe any intrusive light pollution emanating from the North operations.	C	
4.54	The Applicant shall plant trees to provide an effective visual screen from Lemington Road in the vicinity of the Belt Line Road and adjacent to the Mitchell pit area. The plan for this tree planting is to: (a) provide for tree planting within 2 years of the date of this consent; (b) achieve an 80% survival rate by the 5th year; (c) be submitted to DRE and Director-General for review and approval; and (d) provide an assessment of whether visual bunds are required to supplement the vegetative visual screen.	Site observations Interview – Environmental Specialist	Tree screens observed to have been established on Lemington Road prior to 2010. Assessment in 2011 indicated a 45% survival rate. No further planting, assessment or submission to DRE and DG. Mine acquired remaining private property on Lemington Road therefore visual impact screen not considered a priority.	NC	Review the relevance for requirement for any further tree planting and bund, and report findings to DRE and DG.
Lighting Emissions					
4.55	The Applicant shall take all practicable measures to mitigate off-site lighting impacts from the development.	Site observations	Toolbox talks and induction training identify risks and OCE monitor conditions. During audit period a combined noise and light complaint relating to operations in the north development area. Auditor observed night conditions from Jerrys Plains and no direct light impact identified.	C	
4.56	All external lighting associated with the development shall comply with <i>Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting</i>		No evidence to confirm AS482 (INT) adopted.	NV	Review the Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting to ensure all practicable measures to mitigate off-site lighting impacts are implemented.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
WASTE MINIMISATION					
4.57	The Applicant shall minimise the amount of waste generated by the development to the satisfaction of the Director-General.	AEMR 2013 - 15	Waste contractor provides detailed monthly report of waste generated and recycled. Breakdown of waste streams provided. AEMRs provide a summary of waste tracking and percentage of recycled waste.	C	
HAZARDS MANAGEMENT					
Spontaneous Combustion					
4.58	The Applicant shall: (a) take the necessary measures to prevent, as far as is practical, spontaneous combustion on the site; and (b) manage any spontaneous combustion on-site to the satisfaction of DRE	Observations Interview site management and operations	Spontaneous Combustion identified by site within Newdell chitter emplacement area, inside rail loop. This area is managed by installing trenches to contain heated material. Reject material mixed with overburden prior to ultimately being buried in pit.	C	
Dangerous Goods					
4.59	The Applicant shall ensure that the storage, handling, and transport of: (a) dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code; and (b) explosives are managed in accordance with the requirements of DRE	Hazardous Substance and Dangerous Goods Procedure DG Notification Site Observations SAP: Action - Record/Maintain/ Search (HSE- 15867)	Dangerous Goods observed to be generally adequately segregated with vented cabinets for class 2 flammables. Stores provided with appropriate bunding and good housekeeping demonstrated. In isolated cases observed class 3 and class 2 flammables co-located. IEA 2013 referenced a number of non-compliance findings from third party inspections. All actions identified have since been closed out. Same C59 in North	Obsv	Communicate appropriate storage and segregation for Dangerous Goods to maintenance team particularly with respect to segregation of incompatible Dangerous Goods, ie. Class 2 and Class 3.
BUSHFIRE MANAGEMENT					
4.60	The Applicant shall: (a) ensure that the development is suitably equipped to respond to any fires on-site; and (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire on-site during the development.	Correspondence related to Site fire.	Emergency response team on site. Recent fire on site responded to by Singleton Combined Rescue Services and HVO's Emergency Response Team.	C	
4.61	The Applicant shall ensure that the Bushfire Management Plan for the site is to the satisfaction of Council and the Rural Fire Service.	Bushfire Fire Management Plan (version 1.0, Final, 27/06/2007)	Since previous IEA Bushfire Fire Management Plan updated June 2015 in consultation with Rural Fire Service.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
REHABILITATION					
Rehabilitation Objectives					
4.62	<p>The Applicant shall rehabilitate the site to the satisfaction of the Executive Director Mineral Resources. The rehabilitation must be generally in accordance with the proposed rehabilitation strategy described by the documents listed in Condition 2 of Schedule 3 (and depicted conceptually in the final landform plans in Appendices 6 and 7) and the objectives in Table 17.</p> <p>Table 17: Rehabilitation Objectives</p>	<p>MOP - HVO North (18 January 2016) Plans AEMR (2015)</p>	<p><i>West Pit rehabilitation site visit:</i></p> <p>The auditor visited rehabilitation area identified in 2015 MOP Plan (Plan 3A) 'Ecosystem and Land Use Establishment' and 2016 MOP Plan (Plan 3B) in the subsequent phase 'Ecosystem and Land Use Development'. Area stated by Environmental Specialist (Rehabilitation) to have been sown with a cover crop, verified by site observation, with impending action to remove the cover crop and sow with native species in order to move from phase 'Ecosystem and Land Use Establishment' to 'Ecosystem and Land Use Development'. Visual observation of location was consistent with reported rehabilitation status of this area in AEMR (2015).</p> <p>Other areas adjacent sown very recently with woodland seed mixes were observed to have native species germination, although the MOP Plans (3A and 3B) show the domains as being 5C 'pasture'. This is not inconsistent with the concept in Appendix 6 which only shows the areas as 'rehabilitation'.</p> <p>Visited rehabilitation in MOP Plan for 2016 (Plan 3B) shown in the phase of 'Ecosystem and Land Use Development' verified in field. Environmental Specialist (Rehabilitation) confirmed site had been seeded with native species in 2011. Observed native species development with good development of native tree, shrub and grass species in this young woodland (currently around 3-4m tall). Visual observation of location was consistent with reported rehabilitation status of this area in AEMR (2015).</p> <p>Site visit did not access Carrington rehabilitation.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Progressive Rehabilitation					
<i>Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage in the development.</i>					
4.62B	The Applicant shall carry out rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim rehabilitation strategies shall be employed when areas prone to dust generation cannot yet be permanently rehabilitated.	MOP - HVO North (18 January 2016) Plans AEMR (2015) Monthly Environmental Reports Site visit Interview - Environmental Specialist (Rehabilitation)	MOP Plans (3A and 3B) show the proposed progression of rehabilitation areas through the phases. Site visit observed this progression (refer condition 62 above). The AEMR (2015) reports on areas rehabilitated and the progression through the phases (s8.1; Appendix 4). Monthly environmental reports (2015 and 2016) report on areas (in ha) that are being progressed through phases of rehabilitation during that month providing a cumulative expression of areas for year to date compared against annual targets. Site visit identified soil stabilisation management measures were undertaken for: - topsoil stockpiles which are not to be imminently used are sown with a native cover; and - other non-rehabilitation areas of bare soils (such as embankments, batters, road cuttings, track edges and ramps) are sown with a stabilising, non-native cover crop covered using aerial seeding methods.	C	
Rehabilitation Management Plan					
4.62C	The Applicant shall prepare and implement a Rehabilitation Management Plan for the HVO North mine to the satisfaction of the Executive Director Mineral Resources. This plan must: (a) be prepared in consultation with the Department, NOW, OEH, Council and the CCC; (b) be submitted to the Executive Director Mineral Resources by the end of September 2013; (c) be prepared in accordance with any relevant DRE guideline; (d) include an Agricultural Land Reinstatement Management Plan; (e) include detailed performance and completion criteria for evaluating the achievement of the rehabilitation objectives in Table 17 and the overall rehabilitation of the site, and triggering remedial action (if necessary); (f) include proposals to offset the flora and fauna impacts of the development (including proposals resulting from condition 31 above), and an outline of how the plan	MOP - HVO North (18 January 2016) Annual reports (Regional Offset Management Plan reporting 2014 and 2015) Regional Offset Management Plan available on RTCA website	The Rehabilitation Management Plan for HVO North is the MOP. The MOP addresses the conditions as follows: a) s1.4.4 b) condition predates the scope of this audit. Current MOP was dated 15 January 2016 and approved on 19 February 2016 c) s3.4 refers to DRE Guideline ESG3: <i>Mining Operations Plan (MOP) Guidelines</i> d) Appendix A e) MOP main body s6.4-6.9 contains performance criteria for each of the rehabilitation phases and reference to a Trigger and Action Response Plan (TARP). Table 30 contains a description of the ultimate phase of rehabilitation	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>would integrate with existing and planned corridors of native vegetation in areas surrounding the development;</p> <p>(g) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform and final land use;</p> <p>(h) outline how the proposed plan would be integrated with the landscape management and rehabilitation of the other operations within Hunter Valley Operations (both north and south of the Hunter River) and other coal mines in the vicinity;</p> <p>(i) include interim rehabilitation where necessary to minimise the area exposed for dust generation;</p> <p>(j) include a program to monitor, independently audit and report on the effectiveness of the measures, and progress against the detailed performance and completion criteria; and</p> <p>(k) build to the maximum extent practicable on the other management plans required under this consent.</p>		<p>areas at completion: Ecosystem and Landuse Sustainability. This table contains no specific completion criteria although that is not inconsistent with the Rehabilitation Objectives shown in Table 17 of the PA.</p> <p>f) Biodiversity Offset Strategy implemented through via the Regional Offset Management Plan. Currently under review new plan to be completed by end 2016.</p> <p>g) entire MOP</p> <p>h) s1.5 states the rehabilitation design for the final landform has been designed to follow principles and strategies outlined in DPI's <i>Synoptic Plan: Integrated Landscapes for Coal Mine Rehabilitation in the Hunter Valley of New South Wales</i></p> <p>i) s7.2.4.2 j) s11.0 k) MOP</p>		
Agricultural Land Reinstatement Management Plan					
<i>Note: The Carrington West Wing revised proposed extension area is shown in Appendix 5.</i>					
4.62D	<p>The Agricultural Land Reinstatement Management Plan required under Condition 62C of Schedule 4 is intended to ensure that the alluvial lands are restored to a productive capacity at least equivalent to their pre-mining state and are able to be managed using techniques and equipment common to management of equivalent lands in the district. The plan must:</p> <p>(a) be prepared in consultation with DPI and to the satisfaction of the Director-General;</p> <p>(b) be prepared in accordance with any relevant DPI guideline;</p> <p>(c) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the Carrington West Wing revised proposed extension area, and triggering remedial action (if necessary);</p> <p>(d) include a long-term monitoring programme on the success of reinstating alluvial lands, which must:</p> <ul style="list-style-type: none"> assess a comprehensive suite of indicators of productivity and environmental sustainability (such as soil settling, soil profile development, other soil characteristics, water transmissivity and soil water availability, agricultural productivity, fertilizer needs, weeds and pests) over an extended period (a 	MOP - HVO North (18 January 2016)	<p>The Agricultural Land Reinstatement Management Plan contained in Appendix A of the MOP addresses these conditions in these sections:</p> <p>a) Chapter 4</p> <p>b) Section 2.4 states what has been used in preparation. No evidence of using relevant DPI guidelines for the plan outline however the plan is underpinned by agricultural land classes defined by NSW DPI.</p> <p>c) MOP main body Section 6.9, Table 30 contains a description of the ultimate phase of rehabilitation areas at completion: Ecosystem and Landuse Sustainability. This table contains no specific completion criteria.</p> <p>d) Chapter 7</p> <p>e) Chapter 9</p>	NC	Create and include detailed metric completion criteria.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>minimum of 20 years);</p> <ul style="list-style-type: none"> compare the performance of the reinstated alluvial lands with a reference site; and make monitoring results publicly available. <p>(e) in accordance with Condition 4(h) of Schedule 6 provide for reviews of progress against the plan every 3 years (unless otherwise agreed by the Director-General after completion of the second review) and for a final review by the end of 2033.</p>				
MINE EXIT STRATEGY					
4.63	<p>Within 5 years of the date of this consent, the Applicant shall work with the Council and MSC to investigate the minimisation of adverse socio-economic effects of a significant reduction in local employment levels and closure of the development at the end of its life</p>	<p>Independent Environmental Compliance Audit - SKM (2014)</p> <p>Interview with CCC Representative</p>	<p>Verified in 2013 IEA with exit strategy developed in 2004. Significant advances with development of programs.</p> <p>Community Development Fund continues to operate with a development of Enterprise Facilitation Program.</p>	C	
Operating Conditions					
4.63A	<p>The Applicant shall:</p> <p>(a) develop a detailed soil management protocol that identifies procedures for</p> <ul style="list-style-type: none"> comprehensive soil surveys prior to soil stripping; assessment of top-soil and sub-soil suitability for mine rehabilitation; and annual soil balances to manage soil handling including direct respreading and stockpiling; <p>(b) maximise the salvage of suitable top-soils and sub-soils and biodiversity habitat components such as bush rocks, tree hollows and fallen timber for rehabilitation of disturbed areas within the site and for enhancement of biodiversity offset areas;</p> <p>(c) ensure that coal reject or any potentially acid forming interburden materials must not be emplaced at elevations within the pit shell or out of pit emplacement areas where they may promote acid or sulphate species generation and migration beyond the pit shell or out of pit emplacement areas; and</p> <p>(d) ensure that no dirty water can drain from an out of pit emplacement area to any offsite watercourse or to any land beyond the lease boundary.</p>	<p>MOP - HVO North (18 January 2016)</p> <p>CNA Environmental Procedure 12.1 Acid Mine Drainage Prevention and Control</p> <p>Rio Tinto Environmental Standard E3 - Acid Rock Drainage Prediction and Control (version 1, Final, September 2003)</p> <p>HVO Water Management Plan (2016)</p>	<p>This condition is addressed in:</p> <p>a) MOP section 2.4.2 describes topsoil management principles and states that no further topsoil stripping is intended in the North Pit Area, however commits to preparing a detailed Topsoil Management Plan for the Carrington West Wing Extension area prior to disturbance.</p> <p>b) refer 4.34</p> <p>c) MOP section 4.2.11 states that acid mine drainage is managed through Rio Tinto <i>Environmental Standard E3 - Acid Rock Drainage Prediction and Control</i> and the CNA <i>Environmental Procedure 12.1 Acid Mine Drainage Prevention and Control</i>.</p> <p>d) The WMP outlines management measures to prevent discharge of "dirty water" to off-site water courses. No such discharges have been reported during the reporting period.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE 5					
ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT					
Notification of Landowners/Tenants					
5.1	<p>By the end of September 2013, the Applicant shall:</p> <p>(a) notify in writing any remaining private owners of:</p> <ul style="list-style-type: none"> • the land listed in Table 1 of schedule 4 that they have the right to require the Applicant to acquire their land at any stage during the development; • any residence on the land listed in Table 1 of schedule 4 that they have the right to request the Applicant to ask for additional noise and/or air quality mitigation measures to be installed at their residence at any stage during the development; and • any privately-owned land within 2 kilometres of the approved open cut mining pit/s that they are entitled to ask for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated; <p>(b) notify the tenants of any mine-owned land of their rights under this approval; and</p> <p>(c) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the documents listed in condition 2 of schedule 3 identify that dust emissions generated by the development are likely to be greater than any air quality criteria in schedule 4 at any time during the life of the development.</p>	Independent Environmental Compliance Audit - SKM (2014)	Verified in 2013 IEA.	C	
5.2	<p>Prior to entering into any tenancy agreement for any land owned by the Applicant that is predicted to experience exceedances of the recommended dust and/or noise criteria, or for any of the land listed in Table 1 purchased by the Applicant, the Applicant shall:</p> <p>(a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time);</p> <p>(b) advise the prospective tenants of the rights they would have under this approval; and</p> <p>(c) request the prospective tenants consult their medical practitioner to discuss the air quality monitoring data and prediction and health impacts arising from this information, to the satisfaction of the Director-General.</p>	Carrington West Wing Action Plan Wandewoi and Parnells Licence Agreement	Letter issued to all tenants detailing tenants' rights in line with conditions. Updated standard tenancy agreement to reflect conditions of approval as detailed in Carrington West Wing Action Plan.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
5.3	<p>As soon as practicable after obtaining monitoring results showing:</p> <p>(a) an exceedance of any criteria in schedule 4, the Applicant shall:</p> <ul style="list-style-type: none"> • notify each affected landowner and/or tenant of the land (including the tenants of any mine- owned land) in writing of the exceedance; and • provide each affected party with regular monitoring results until the development is again complying with the relevant criteria; and <p>(b) an exceedance of the air quality criteria in schedule 4, the Applicant shall additionally provide each affected party with:</p> <ul style="list-style-type: none"> • a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time), if not recently provided; and • monitoring data in an appropriate format such that the party’s medical practitioner can assist them in making an informed decision on the health risks associated with continued occupation of the property, to the satisfaction of the Director-General 	<p>Sample of monitoring data. AEMR 2013 - 15</p>	<p>No exceedance against criteria in Schedule 4</p>	<p>NT</p>	
Independent Review					
5.4	<p>If an owner of privately-owned land considers the development to be exceeding the criteria in Schedule 4, then he/she may ask the Director-General in writing for an independent review of the impacts of the development on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General’s decision, the Applicant shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to:</p> <ul style="list-style-type: none"> • consult with the landowner to determine his/her concerns; • conduct monitoring to determine whether the development is complying with the relevant impact assessment criteria in Schedule 4; and • if the development is not complying with these criteria then: <ul style="list-style-type: none"> - determine if more than one mine is responsible for the exceedance, and if so the relative share of each mine regarding the impact on the land; - identify the measures that could be implemented to ensure compliance with the relevant criteria; and <p>(b) give the Director-General and landowner a copy of the independent review</p>	<p>Sample of monitoring data. AEMR 2013 - 15</p>	<p>No independent review required as a result of noise and air exceedances.</p>	<p>NT</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
5.5	<p>If the independent review determines that the development is complying with the criteria in Schedule 4, then the Applicant may discontinue the independent review with the approval of the Director- General.</p> <p>If the independent review determines that the development is not complying with the criteria in Schedule 4, and that the development is primarily responsible for this non-compliance, then the Applicant shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the development complies with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant impact, assessment criteria, to the satisfaction of the Director-General.</p>	<p>Sample of monitoring data. AEMR 2013 - 15</p>	<p>No independent review required as a result of noise and air exceedances.</p>	<p>NT</p>	
5.6	<p>If the independent review determines that the relevant criteria are being exceeded, but that more than one mine is responsible for this exceedance, then together with the relevant mine/s the Applicant shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until there is compliance with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner and other relevant mine/s to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.</p>	<p>Sample of monitoring data. AEMR 2013 - 15</p>	<p>No independent review required as a result of noise and air exceedances.</p>	<p>NT</p>	
Land Acquisition					
5.7	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development, having regard to the:</p> <ul style="list-style-type: none"> • existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and • presence of improvements on the land and/or any approved building or structure which has been physically commenced on the land at the date of the landowner's written request, and is due to be completed subsequent to that date; 	<p>Interview - Environmental Specialist</p>	<p>The auditor was advised that no property acquisition has been triggered under condition of consent</p>	<p>NT</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> • relocating within the Singleton or Muswellbrook local government areas, or to any other local government area determined by the Director-General; and • obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>However, if at the end of this period, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.</p> <p>Upon receiving such a request, the Director-General will request the President of the NSW Division of the Australian Property Institute (the API) to appoint a qualified independent valuer to:</p> <ul style="list-style-type: none"> • consider submissions from both parties; • determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above; • prepare a detailed report setting out the reasons for any determination; and • provide a copy of the report to both parties. <p>Within 14 days of receiving the independent valuer's report, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.</p> <p>However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report disputing the independent valuer's determination, and any other relevant submissions.</p>				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>Within 14 days of this determination, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.</p> <p>If the landowner refuses to accept the Applicant's binding written offer under this condition within 6 months of the offer being made, then the Applicant's obligations to acquire the land shall cease, unless the Director-General determines otherwise.</p>				
5.8	The Applicant shall pay all reasonable costs associated with the land acquisition process described in Condition 7 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General		As above	NT	
SCHEDULE 6					
ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING & REPORTING					
ENVIRONMENTAL MANAGEMENT STRATEGY					
6.1	<p>Within 6 months of the date of this consent, the Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Director-General. This strategy must:</p> <p>(a) provide the strategic context for environmental management of the development;</p> <p>(b) identify the statutory requirements that apply to the development;</p> <p>(c) describe in general how the environmental performance of the development would be monitored and managed during the development;</p> <p>(d) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> • keep the local community and relevant agencies informed about the operation and environmental performance of the development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the development; • respond to any non-compliance; • manage cumulative impacts; and • respond to emergencies; and <p>(e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development</p>	Environmental Management Strategy, dated February 2016	Environmental Management Strategy was most recently approved February 2016.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
6.2	Within 14 days of the Director-General's approval, the Applicant shall: (a) send copies of the approved strategy to the relevant agencies, Council, and the CCC; and (b) ensure the approved strategy is publicly available during the development.	Interview with site management.	The plan was originally approved on 31 st January 2013, no evidence to support it was sent to the relevant Council and CCC within 14 days. Whilst the EMS was made publically available on the company website this is considered an administrative non-compliance. The auditor was advised that the EMS has been updated and is currently awaiting review by the DG.	ANC	Once the revised EMS is approved by the DG issue copies to Council and the CCC.
6.2A	Within 6 months of the completion of the Independent Environmental Audit, the Applicant shall review, and if necessary revise, the Environmental Management Strategy to the satisfaction of the Director-General.	Management Plan Review Register	Site maintains a Management Plan Review Register (MPRR). This is reviewed on a quarterly basis and was implemented in March 2016. MPRR is not triggered by incidents. Prior to March 2016 reviews and updates were conducted on an as needs basis, however this was not tracked in a structured manner.	Obsv	Review performance of system introduced in March 2016. If this review indicates the condition is not being met, revise as appropriate.
ENVIRONMENTAL MONITORING REQUIREMENTS					
6.3	Within 6 months of the date of this consent, the Applicant shall prepare an Environmental Monitoring Program for the development in consultation with the relevant agencies, and to the satisfaction of the Director-General. This program must consolidate the various monitoring requirements in schedule 4 of this consent into a single document.	Environmental Management Strategy, dated February 2016	Verified in 2007 IEA, however monitoring programs are now included in individual Management Plans and referenced in the EMS	C	
6.3A	Within 6 months of the completion of the Independent Environmental Audit, the Applicant shall review, and if necessary revise, the Environmental Management Strategy to the satisfaction of the Director-General	Environmental Monitoring Program Reviews	Monitoring programs reviewed and updated within six months of IEA. Auditor considers the intent of condition to require update of Monitoring Program as opposed to EMS.	C	Recommend rewording of condition to reflect requirement to update Monitoring Program.
MANAGEMENT PLAN REQUIREMENTS					
6.4	The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: <ul style="list-style-type: none"> the relevant statutory requirements (including any relevant consent, license or lease conditions); any relevant limits or performance measures/criteria; the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures/criteria; 	Management Plan Review	Review of relevant management plans.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: <ul style="list-style-type: none"> • impacts and environmental performance of the development; • effectiveness of any management measures (see c above); (e) a contingency plan to manage any unpredicted impacts and their consequences; (f) a program to investigate and implement ways to improve the environmental performance of the development over time; (g) a protocol for managing and reporting any: <ul style="list-style-type: none"> • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan and for a final review. Any final review must be submitted for the approval of the Director-General and include an assessment as to whether the objectives of the plan have been met and any requirements for further action(s) to ensure objectives are met. The Director-General may require the Applicant to carry out the further actions to the satisfaction of the Director-General, or require the Applicant to provide an annuity or other funding arrangement to enable the actions to be carried out to the satisfaction of the Director-General				
ANNUAL REVIEW					
6.5	By the end of March 2014, and annually thereafter, unless otherwise agreed, the Applicant shall review the environmental performance of the development to the satisfaction of the Director-General. This review must: <p>(a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the next calendar year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the development over the past calendar year, which includes a comparison of these results against the:</p> <ul style="list-style-type: none"> • the relevant statutory requirements, limits or performance measures/criteria; • the monitoring results of previous years; and • the relevant predictions in the EA; 	AEMR 2013 - 2015 Correspondence with DP&I	AEMRs produced for the audit period on an annual basis, submitted in accordance with requirements. The auditor reviewed a letter of approval provided by DP&I for AEMRs during the reporting period to demonstrate the report meets the intent of the review.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(c) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the development;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measures will be implemented over the next year to improve the environmental performance of the development</p>				
REVISION OF STRATEGIES, PLANS AND PROGRAMS					
<i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i>					
6.5A	<p>Within 3 months of:</p> <p>(a) the submission of an annual review under Condition 5 above; (b) the submission of an incident report under Condition 5B below; (c) the submission of an audit under Condition 6 below; and</p> <p>(d) any modification to the conditions of this consent (unless the conditions require otherwise), the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Director-General.</p>	Management Plan Review Register	<p>Site maintains a Management Plan Review Register (MPRR). This is reviewed on a quarterly basis and was implemented in March 2016. MPRR is not triggered by incidents.</p> <p>Prior to March 2016 reviews and updates were conducted on an as needs basis, however this was not tracked in a structured manner.</p> <p>Incident route cause investigation considers conformance with plans. Where process conforms to plans but results in an incident and therefore is deemed not appropriate the plan is updated.</p>	Obsv	Review performance of system introduced in March 2016. If review indicates condition is not being met, revise as appropriate.
INCIDENT REPORTING					
6.5B	The Applicant shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the development, the Applicant shall notify the Director-General and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	This audit	Review against CoA and Statement of Commitments which generally reflect the EA commitments and undertakings for current stage of works.	C	
REGULAR REPORTING					
6.5C	<p>The Applicant shall provide regular reporting on the environmental performance of the development on its website in accordance with:</p> <p>(a) the reporting arrangements in any plans or programs approved under the conditions of this approval;</p> <p>(b) the requirements of condition 9; and</p> <p>(c) the requirements of an approved on-line communication</p>	<p>Online Communication Plan</p> <p>Monthly Environmental Monitoring Report</p>	<p>During site visit auditor tested website for stated information.</p> <p>The auditor was advised that HVO is implementing an interactive complaints website.</p> <p>Online Communication Plan, dated 22 May 2014. Approved by DPE 12/2/2014.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>plan to be submitted to the Director- General by the end of September 2013 containing a description of the content and frequency of posting for information that could reasonably be expected to be provided on the website concerning:</p> <ul style="list-style-type: none"> incidents of the type included in condition 5B; any other non-compliance by the development; responses to operational requirements imposed by real-time management systems for air and noise; data from real-time management systems for air and noise. 		Monthly Environmental Monitoring Reports cover real time air quality and noise monitoring.		
INDEPENDENT ENVIRONMENTAL REPORT					
6.6	<p>Within 3 years of the date of this consent, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <p>(a) be conducted by suitably qualified, experienced, and independent expert/s whose appointment has been endorsed by the Director-General;</p> <p>(b) assess the various aspects of the environmental performance of the development, and its effects on the surrounding environment;</p> <p>(c) assess whether the development is complying with the relevant standards, performance measures, and statutory requirements;</p> <p>(d) review the adequacy of any strategy/plan/program required under this consent; and, if necessary,</p> <p>(e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy/plan/program required under this consent.</p>	This Audit	Review against CoA and Statement of Commitments which generally reflect the EA commitments and undertakings for current stage of works.	C	
6.7	<p>Within 3 months of completion of this audit, the Applicant shall submit a copy of the audit report to the Director-General, with a response to any of the recommendations contained in the audit report.</p>	Letter to DP&I (9 July 2013)	<p>Review against CoA and Statement of Commitments which generally reflect the EA commitments and undertakings for current stage of works.</p> <p>IEA audit completed 31 October 2013 and report submitted 24 December 2013. DP&I required submission by 31 December 2013.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
COMMUNITY CONSULTATIVE COMMITTEE					
Notes:					
<ul style="list-style-type: none"> The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this approval; and The CCC should have an independent chair and include appropriate representation from the Proponent, Council, recognised environmental groups and the local community. 					
6.8	The Applicant shall establish and operate a new Community Consultative Committee (CCC) for the development to the satisfaction of the Director-General. This CCC must be operated in general accordance with the <i>Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects</i> (Department of Planning, 2007, or its latest version, and be operating by the end of September 2013	Sample of CCC Minutes Sample of CCC Presentations	CCC generally meets guidance and is in place with an independent chairperson, three meetings are held per year, minutes demonstrate the required number of community representatives (three).	C	Add to CCC minutes statement that committee meets EPA Guidelines.
6.9	The Applicant shall: (a) by the end of September 2013, make the following information publicly available on its website: <ul style="list-style-type: none"> all documents referred to in Condition 2 of Schedule 3; all current statutory approval for the development; approved strategies, plans and programs required under the conditions of this consent; a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent; a complaints register, which is to be updated on a monthly basis; minutes of CCC meetings; the last five AEMRs or Annual Reviews; any independent environmental audit, and the Applicant's response to the recommendations in any audit; any other material required by the Director-General; and (b) keep this information up to date, to the satisfaction of the Director-General	Independent Environmental Compliance Audit - SKM (2014)	Verified in 2013 IEA.	C	
APPENDIX 3					
NOISE COMPLIANCE ASESMENT					
Applicable Meteorological Conditions					
Ap 3.1	The criteria in Table 9 and 10 apply under all meteorological conditions except: a) during periods of rain or hail; b) when average wind speed at microphone height exceeds 5 m/s; c) when wind speeds greater than 3 m/s are measured at 10 m above ground level; or d) during temperature inversion conditions greater than 3°C/100 m.			Note	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Determination of Meteorological Conditions					
Ap 3.2	Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be those recorded by the meteorological station located on the site.	MEMR	Monthly Environmental Management Report, Met data sourced from onsite meteorological station.	C	
Compliance Monitoring					
Ap 3.3	Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.	MEMR	Demonstrated in MEMR.	C	
Ap 3.4	Unless otherwise agreed with the Director-General, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the <i>NSW Industrial Noise Policy</i> (as amended or replaced from time to time), including the requirements relating to: a) monitoring locations for collection of representative noise data; b) meteorological conditions during which collection of noise data is not appropriate; c) equipment used to collect noise data, and conformation with relevant Australian Standards for such equipment; and d) modifications to noise data collected, including the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.	Noise Management Plan	Monitoring methodology detailed in Noise Management Plan as approved by DPE.	C	

Table C.2 (North Operations) Statement of Commitments
(HVO North - Carrington West Wing Extension)_011216

Table C.2 CNA Statement of Commitments (HVO North - Carrington West Wing Extension) DA-450-10-2003

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Compliance with the EA					
Groundwater					
a	Prior to mining within the extension area a groundwater barrier wall will be constructed across the western arm of the paleochannel. The wall will be sufficiently deep to prevent flows of groundwater within the alluvium in either direction.	HVO Management Plan, 2016	Water Plan, Mining had not commenced at the time of the audit. The WMP states that information to be included in a future version of the plan, once the date of mining within 100m of the western arm of the Hunter River is known.	NT	
b	Continued monitoring will include: - two-monthly monitoring of water levels in any new standpipe piezometer in proximity to the proposed extension area and quarterly monitoring elsewhere, unless water level changes dictate otherwise; - daily or more frequent monitoring of pore pressures by installed auto recorders at some existing piezometers in order to discriminate between oscillatory groundwater movements attributed to rainfall recharge, and longer term pressure losses related to open cut and underground mining; and	HVO Management Plan, 2016 AER 2013 AER 2014 AER 2015	Water Plan, Addressed in Table 8 of the WMP. The prescribed monitoring to be commenced once mining begins in the Carrington West Wing extension area. Construction of additional piezometers to be as deemed necessary based on information generated by existing network, once mining commences. Table 8 of the WMP is incorrectly titled "on-site monitoring of Stream and Riparian Vegetation Health of the Hunter River".	O	Correct the title of Table 8 in future version.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> - construction of additional piezometers where deemed necessary, as information is generated from within the existing network, during the course of mining. Permeability testing will be completed on new piezometers in order to facilitate estimation of leakage and subsurface flows. 				
c	<p>The recommended management measures from each of the technical reports include a number of control measures to minimise the potential impacts resulting from the proposal. These measures have been considered in the context of the existing HVO activities and the CNA EMS. Many of these measures are already in place as part of existing controls for the HVO South activities, and will continue to be implemented across HVO South to minimise the potential impacts resulting from the proposal.</p> <p>This Statement of Commitments details those controls that are considered specific to the proposal.</p>			Note	
	<p>Continued groundwater quality monitoring will include:</p> <ul style="list-style-type: none"> - two-monthly or quarterly (depending upon location) monitoring of basic water quality parameters, pH and EC, 				

Table C2

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>in existing and any new piezometers; and</p> <ul style="list-style-type: none"> - six monthly measurement of TDS and speciation of water samples in piezometers. 				
	<p>Future impact analyses will include the following.</p> <ul style="list-style-type: none"> - Where monitoring data shows significant departures from predictions in three consecutive readings, an investigation into the cause will be triggered. This could include a need to conduct more intensive monitoring, eg increased frequency, parameters or additional piezometers, or to review the management and mitigation measures. - Formal review of depressurisation of coal measures and comparison of responses with aquifer model predictions, conducted biennially by a suitably qualified hydrogeologist. - Annual reporting (including all water level and water quality data) in the AEMR. 	<p>HVO Water Management Plan, 2016 Interview - Environmental Specialist - Systems and Monitoring</p>	<p>Mining not yet commenced in the extension area. Section 9.2 of the WMP covers Response to Exceedance & Performance Indicators.</p>	<p>NT</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Surface Water					
d	<p>Water quality monitoring will be continued.</p> <ul style="list-style-type: none"> • The HVO water balance model will be updated regularly to ensure currency with the operational configuration of the mine water management system. • Runoff from undisturbed catchments will be diverted away from disturbed areas using surface drains. • Surface runoff from disturbed areas will be treated through sedimentation basins prior to discharge from the site. All new sediment dams and water management systems will be designed in accordance with relevant standards. • Sedimentation basins will be used to treat surface runoff from rehabilitated areas until the quality of runoff is suitable for release. These will be maintained or constructed as required and will be designed in accordance with relevant design standards. • Saline water from mining related activities will be collected within the mine water management system. Discharges will be managed in compliance with the HRSTS. 	HVO Water Management Plan, 2016	The WMP adequately addresses the requirements of this commitment in general terms. The plan will need to be updated to provide relevant specific details for mining activities in the extension area once commenced.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>A Management Plan for the temporary diversion and reinstatement of the Unnamed Tributary will be developed in consultation with NOW and I&I NSW, and will include details of:</p> <ul style="list-style-type: none"> - existing and proposed channel alignment, longitudinal section and cross-sections; - proposed locations of cut and fill; - sediment and erosion control measures to be implemented during construction; - proposed revegetation of the channel bed, banks and riparian zone; - a proposed monitoring regime to ensure ongoing stability and ecological health of the stream, which would include periodic inspection for erosion or deposition and a photographic record of key cross-section locations, supplemented by ground survey if instability is detected; and - contingency measures to be implemented to address any observed issues with establishment of the modified channel. 	<p>Interview - Environmental Specialist - Systems and Monitoring</p>	<p>Not yet developed at the time of the audit. Will be required prior to the commencement of mining.</p>	<p>NT</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Soils and Land Use					
e	<ul style="list-style-type: none"> • Management and mitigation strategies for the stripping, handling and use of topsoil, landform design, erosion and sediment control and seedbed preparation will be implemented to achieve the desired post-mining land capability and agricultural suitability outcomes. The detailed rehabilitation plans, consistent with Figure 3.4, will be documented in the REMP/ MOP, and will be tracked for progress in the AEMR. • Rehabilitation will aim to achieve the following objectives: <ul style="list-style-type: none"> - successful design and rehabilitation of landforms to ensure structural stability, revegetation success and containment of wastes; - development of a final landform with recognition of the pre-mining landform features, which incorporates the existing rehabilitated landforms and is consistent with the surrounding landscape features; and - post-mining land use compatible with surrounding land uses, capable of supporting viable grazing and 	Interview Environmental Specialist	- Mining has not yet commenced in the extension area,	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	ecological values and providing environmental and community benefits.				
Noise and Vibration					
	<ul style="list-style-type: none"> Permanent real time directional noise monitoring will be undertaken at Jerrys Plains with back-to-base feed of data. The system will include trigger alarms, which are set to an appropriate trigger level for Jerrys Plains. In the event of an alarm, the Open Cut Examiner will be notified and operational practices reviewed to minimise the potential for noise increasing beyond compliance levels. Coal & Allied will participate in ongoing research towards the use of predictive weather forecast data as a definitive tool to manage noise. The system of mining and overburden emplacement permission rules being developed at HVO South will be extended to HVO North, once these have been developed and implemented. This system will feed real time site weather data into an information system. The operator of the system will be provided with instructions on whether mining or emplacement is to 	HVO Noise Management Plan, December 2013 2013-2015 AERs	The Noise Management Plan adequately addresses the requirements of this commitment. Directional Noise monitoring equipment was observed in the field at Jerrys Plains. Attended noise monitoring results are provided in the AERs. As mining has not commenced in the extension, the final point is not yet applicable.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>be allowed or restricted during certain wind conditions.</p> <ul style="list-style-type: none"> • Pro-active contingency mine planning will be used to plan for events such as prevailing wind conditions that have the potential to increase noise beyond acceptable levels. The management and scheduling of mobile equipment will also be undertaken with consideration to prevailing meteorological conditions. • Attended noise monitoring will be undertaken quarterly and as required due to community requests. • Consultation and arrangements will be made with Receptor No. 10 in advance of any blasts within 900m of the residence. • To achieve 10mm/s peak particle velocity at the Lemington road bridge (due to blasting), the charge mass must be approximately 5,400kg MIC or less, given a minimum separation distance of approximately 2,500m for the closest mining area in Year 1 of the proposal. 				
Air Quality					
g	<ul style="list-style-type: none"> • Only the minimum area necessary for mining will be disturbed. • Completed overburden emplacement 	HVO Air Quality and Greenhouse Gas Management Plan,	The AQMP captures and adequately addressed the requirements of this commitment.	C	

Table C2

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>areas will be reshaped, topsoiled and rehabilitated as soon as practicable after the completion of overburden emplacement.</p> <ul style="list-style-type: none"> • Coal handling areas/ stockpiles will be maintained in a moist condition to minimise wind-blown and traffic-generated dust. • Water sprays will be available on ROM stockpiles and used to reduce airborne dust, as required. • All roads and trafficked areas will be watered as required, using water trucks, to minimise the generation of dust. • All haul roads will have edges clearly defined with marker posts or equivalent to control their locations, especially when crossing large overburden emplacement areas. • Obsolete roads will be ripped and re-vegetated. • Development of minor roads will be limited and the locations of these will be clearly defined. • Minor roads in regular use will be watered. 	<p>February 2014 Independent Environmental Audit (SKM, 2014) Observations</p>	<p>This identified as an improvement opportunity in the previous audit.</p> <p>Active management of dust, including stabilisation of stockpiles, and dust suppression on haul roads and the ROM was observed during the audit inspection.</p>		

Table C2

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • Obsolete roads will be ripped and re-vegetated. • Access tracks used by topsoil stripping equipment will be watered. • Long term topsoil stockpiles, not used for over three months, will be re-vegetated. • Dust aprons will be lowered during drilling. • Drills will be equipped with dust extraction cyclones, or water injection systems. • Water injection or dust suppression sprays will be used when high levels of dust are being generated. • Adequate stemming will be used at all times. Blasting will be restricted during unfavorable weather conditions, where practicable. 				
Aboriginal Cultural Heritage					
i	<ul style="list-style-type: none"> • Any required salvage of Aboriginal objects from the proposal will be undertaken on the basis of a staged approach, subject to operational requirements. As a general 	HVO North Heritage Management Plan, December 2013 Independent Environmental Audit,	The HVO North Heritage Management Plan adequately addresses the requirements of this condition. Schedule 15 of the plan provides	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>management principle, these stages will align with a minimum three year and maximum five year mine operating plan mitigation buffer ahead of mining impacts. Permits, as required under s90 of the NPW Act, will be sought for each salvage stage.</p> <ul style="list-style-type: none"> • Specific management measures for each cultural heritage place, in the event that they will be impacted by mining activities, are as follows. <ul style="list-style-type: none"> - An opportunity for the Aboriginal Community to undertake a cultural salvage of surface stone artefacts within the CM-CD1 precinct will be provided. Following this, a series of progressive machine scrapes will be completed across these areas to provide additional opportunities for this exercise. - The details and resourcing requirements of this salvage strategy will be agreed directly with the CHWG and in consultation with DECCW and the CHIMA. - If CM19 and CM32 will be impacted by the proposal, the Aboriginal community will be provided with an opportunity to inspect these areas and, 	SKM (2014)	<p>measure to avoid disturbance of CM-CD1.</p> <p>Disturbance has not commenced in the extension area, hence some requirements are not yet triggered.</p> <p>The current Care Agreement #C0001890 is dated 3 June 2016.</p>		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>should any cultural material be identified, undertake a salvage of that material.</p> <ul style="list-style-type: none"> - A salvage collection of the isolated stone artefacts that have been identified and recorded as HVO-1121-1124 will be undertaken with the Aboriginal community. - The existing Care and Control permit (#2863 valid until 16 January 2013), issued by DECCW for the HVO cultural heritage places will be modified to include the cultural material salvaged under any new permits associated with the proposal. Alternatively, a new Care and Control Permit application will be submitted for this cultural material. 				
Ecology					
j	<ul style="list-style-type: none"> • Fauna utilising hollows on the site will be relocated prior to clearing and during clearing. Mitigation of direct impacts on fauna will be in accordance with Coal & Allied's existing environmental procedures for the management of flora, fauna, disturbance and rehabilitation. • Prior to removal of the Tiger Orchid from the project area, a translocation 	Interview - Environmental Specialist - Systems and Monitoring	Refer to DA - 450-10-2003 Schedule 4, Condition 35 and 62 Mining not yet commenced and hence no relocation of fauna or translocation flora undertaken.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>plan will be prepared in consultation with DECCW, relevant botanical experts and with reference to best practice guidelines such as those identified in the Vallee et al. (2004) Guidelines for the Translocation of Threatened Plants in Australia.</p> <ul style="list-style-type: none"> • Management of weeds, landscape disturbance and rehabilitation, and sediment and erosion control will be undertaken in accordance with Coal & Allied's existing environmental procedures. • Ecological monitoring will include monitoring of rehabilitation and the success of plant translocation efforts. General monitoring inspections will be carried out pre-clearing, during clearing, and post weed and erosion controls. 				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Visual Amenity					
k	<ul style="list-style-type: none"> Disturbed areas will be progressively rehabilitated, and revegetation of rehabilitated areas will be undertaken as soon as practical after final landforms and drainage structures are completed. Lighting instalments will be designed and placed to minimise lighting impacts wherever possible, including provision of shields on floodlights, fitting lights with sensor switches or time switches and/ or directing lighting away from mine boundaries where possible. All external lighting will comply with AS4282-1997 Control of Obtrusive Effects of Outdoor Lighting. Response procedures will be in place for the advent that lighting is observed to be impacting public roads or sensitive receptors or if a complaint is received. 	Observation Environmental Management Strategy, February 2016	Refer to DA - 450-10-2003 Schedule 4, Condition 53-55 The EMS outlines complaints response procedures.	O	Review the Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting to ensure all practicable measures to mitigate off-site lighting impacts are implemented.
	<ul style="list-style-type: none"> An annual visual assessment of operations will be undertaken, including recommendations for additional mitigation measures where necessary. 	Independent Environmental Audit, SKM (2014)	The previous IEA identified that no formal annual assessments undertaken. HVO committed to address this and visual assessments yet to be completed	NC	Complete annual visual assessments.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Greenhouse Gas					
l	Coal & Allied's existing energy saving and GHG emission reduction plans and standards will be implemented at HVO, inclusive of the proposal, and will be revised as required.	AER 2013-2015	Refer DA 450-10-2003 Schedule 4, Condition 4 HVO report on Climate Change and Greenhouse Gas performance in the AERs.	C	
Traffic and Transport					
m	Blasting-related road closures will be managed in accordance with the relevant Coal & Allied procedures and a Road Closure Management Plan and Traffic Control Plan to be developed for Lemington Road.		Road closure management plan details closure protocols for blasts affecting Lemington Road	C	

Table C.3 (North Operations) Statement of Commitments
(HVO North - Carrington Pit Extended)

Table C.3 CNA Statement of Commitments (HVO North - Carrington Pit Extended) DA-450-10-2003

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Compliance with the EA					
Surface Water					
	Ongoing implementation of CNA EMS Procedures 7 - Water Management, HVO North Site Water Management Plan and CNA Erosion and Sediment Control Plan	HVO Water Management Plans, May 2016	The current WMP generally cover requirements of this commitment.	C	
	Dam 9N (refer to Figures 22 and 23 in Annex D) will be relocated to the south-east of its current position and continue to receive pit water;	Independent Environmental Audit (AECOM, 2011)	Verified in the 2011 IEA, a new Dam 9N was constructed in 2007.	C	
	Sedimentation dam 12N will be destroyed;	Independent Environmental Audit (SKM, 2014)	SKM 2014 - Decommissioned and destroyed prior to 2009.	NT	
	Sedimentation dam 13N will be enlarged following closure;	Independent Environmental Audit (SKM, 2014)	SKM 2014 - Decommissioned and destroyed as part of construction of Carrington Levee 5.	NT	
	A number of additional temporary sedimentation dams will be constructed to manage runoff from the final landform;	Independent Environmental Audit (SKM, 2014)	SKM 201 - area has been mined, backfilled and rehabilitated to final landform.	NT	

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	Runoff from surrounding undisturbed catchments will continue to be diverted to minimise contributions to the mine water system;	Independent Environmental Audit (SKM, 2014)	SKM 2013 - area has been mined, backfilled and rehabilitated to final landform.	NT	
	Continue to capture and treat all runoff from disturbed areas;	Independent Environmental Audit (SKM, 2014)	The area rehabilitate to final landform at time of previous audit.	NV	
	Ensure that new banks, channels and similar works are constructed to convey runoff from areas above the dams and ensure they do not cause damage to, or interfere with the stability or water quality of existing water courses;	HVO Water Management Plan, May 2016	The WMP generally addresses the requirements of this commitment.	C	
	Monitoring of water quality parameters pH, EC and NFR at Dam 12N at monthly intervals during periods of sustained runoff	Independent Environmental Audit (SKM, 2014)	SKM 2013 - Decommissioned and destroyed prior to 2009.	NT	
	Compare measurements to measured water quality in the water course below the Dam 12N;	Independent Environmental Audit (SKM, 2014)	As above	NT	
	Future dams will be designed with criteria considered appropriate to local conditions and mirco climate influences;				

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	Monitoring procedures as outlined in CNA EMS Procedure 1.10 - Monitoring and Measurement, will be continued and will include fortnightly measurement of the volume of water pumped from the mine pit(s) and monthly monitoring of mine pit(s) water quality by measurement of pH and EC in the receiving dam(s).	RTCA Procedure HSEQMS13 - Measuring and Monitoring.	Refer DA 450-10-2003 Schedule 4, Condition 27, HVO Surface Water Monitoring Programme	C	
Groundwater					
	Ongoing implementation of CNA EMS Procedure 7 - Water Management and HVO North Site Water Management Plan	HVO Water Management Plan, May 2016	The HVO WMP supersedes previous plans and procedure 7. DA 450-10-2003 Schedule 4, Condition 27	C	
	Groundwater quality monitoring, as outlined in CNA EMS Procedure 1.10 - Monitoring and Measurement, should be continued and include; <ul style="list-style-type: none"> • Bimonthly monitoring of basic water quality parameters (pH and EC) in nominated existing piezometers • Six-monthly measurements of TDS and major ion speciation of water samples from nominated existing piezometers; 	HVO Water Management Plan, May 2016 AER 2013-2015	The HVO WMP supersedes procedure 10. Refer DA 450-10-2003 Schedule 4, Condition 27 Groundwater monitoring results included in the AERs.	C	

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> Graphical plotting of data and identification trend lines and statistics including mean and standard deviation quarterly; and Comparison of trends with rainfall and any other identifiable processes that may influence such trends. 				
	<p>Additional monitoring procedures will include:</p> <ul style="list-style-type: none"> Modification to monitoring programs will occur as required to ensure appropriate data is collected; Installation of additional bores if required; 	AER 2013-2015	Monitoring data sighted AERs for monitoring bores installed in the Carrington Extension area.	C	
	<ul style="list-style-type: none"> Formal review of depressurisation and comparison of responses with aquifer model predictions annually; Expert review will be undertaken by a suitably qualified hydrogeologist if measured pit seepage and depressurisation exceeds predicted seepage and depressurisation and Annual reporting (including all water level and water quality data) to DoP in an agreed format. 	AER 2013-2015	Review of depressurisation and comparison of responses with aquifer model predictions provided in Annual Groundwater Impacts Reports appended to AERs.	C	

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Noise and Vibration					
	Ongoing implementation of CNA EMS Procedure 9 – Noise		Refer to DA Schedule 4, Condition 10, HVO Noise Management Plan which details noise management strategies.	C	
	Ongoing noise monitoring which currently includes directional noise monitoring		Directional noise monitoring is an integral part of HVO's Noise Management System. Directional monitor was observed at Jerry's Plains.	C	
	Management of equipment to be used in the pit at night during winter months or adverse weather conditions; and	HVO Noise Management Plan	Refer to DA 450-10-2003 Schedule 4, Condition 10, HVO Noise Management Plan which addresses management of equipment. No ground vibration non-compliances during the audit period. All blasting is carried out in accordance with the site Blast Management Plan.	C	
	Blast design to incorporate control on the maximum instantaneous charge to ensure that acceptable vibration limits are maintained.	HVO Blast Management Plan, April 2014	The BMP addresses maximum instantaneous charge.	C	

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Air					
	<ul style="list-style-type: none"> • Ongoing implementation of CNA EMS Procedure 8 - Air Quality Management; • Disturb only the minimum area necessary for mining; • Reshape topsoil and rehabilitate completed overburden emplacement areas as soon as practicable after the completion of overburden tipping; • Adequate stemming will be used at all times; • Maintain coal handling areas in a moist condition using water carts to minimise the generation of dust; • Dust aprons will be lowered during drilling; • Drills will be equipped with dust extraction cyclones or water injection systems and will be used when drilling; • All roads and trafficked areas will be watered using water carts to minimise the generation of dust; 	<p>Air Quality & Greenhouse Gas Management Plan (AQMP), February 2014</p> <p>Observation</p>	<p>The HVO AQMP supercedes procedure 8 and addresses the requirements of this commitment..</p> <p>Active dust management was observed during the site inspection, including stabilisation of stockpiles, dust suppression on haul roads and ROM.</p>	C	

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> All haul roads will have edges clearly defined with marker posts or equivalent to control their locations, especially when controlling large overburden placement areas; Development of minor roads will be limited and the location of these will be clearly defined; Obsolete roads will be ripped and revegetated; and Access tracks used for topsoil stripping equipment will be kept damp during use. Topsoil stripping to be avoided in extreme dry periods. 				
Visual					
	<ul style="list-style-type: none"> Ongoing implementation of CNA EMS Procedure 10.1 - Visual Management; and Progressive rehabilitation be undertaken to reduce visual impacts associated with the extension. 	Observation	The auditors observed stabilised landform of the Carrington spoil emplacements which minimise visual impact from Lemington Road.	C	

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Archaeology					
	<ul style="list-style-type: none"> • Ongoing implementation of CNA EMS Procedure 2.1 - Cultural Heritage Management; • Further archaeological investigation at sites C1, C2, C8, C9 and C10 prior to removal; • Scarred tree (Site C3) to be removed and relocated (in consultation with the Aboriginal community) to a location where it will be protected from further development; • Protect CM-CD1 by maintaining a buffer zone of at least 15m wide; • Protection of CM1 and part of CM2 	HVO North Heritage Management Plan, December 2013	DA 450-10-2003 Schedule 4, Condition 41	C	
Ecology					
	<ul style="list-style-type: none"> • Ongoing implementation of CNA EMS Procedure 10.2 - Flora and Fauna; 	<p>Ground Disturbance Permit procedure</p> <p>Ground Disturbance Permit sample GDP-HVO-00504</p> <p>CNA Flora and Fauna Procedure (CNA-10-EWI-SITE-E9-021)</p>	<p>Example Ground Disturbance Permit sighted which stated ecological pre-clearance procedure.</p> <p>CNA Flora and Fauna Procedure contains habitat pre-clearance and procedure for habitat tree marking and checking.</p>	C	

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		AEMRs (2011-2015)	AEMRs (2011-2015) report that clearing of vegetation occurs according to the Ground Disturbance Permit procedure which includes pre-clearance by ecologists to identify threatened species or fauna presence, along with seed and timber features that could be salvaged for reuse in rehabilitation.		
	<ul style="list-style-type: none"> Grazing cattle will be removed from the billabong area to enable recruitment of the River Red Gums and to reduce stresses on this area; No River Red Gums will be removed from the billabong area; 	Site visit	Field visit observed adequate stock proof fencing and no cattle in area.	C	
	<ul style="list-style-type: none"> Buffer areas (areas in which no construction, vehicle or personnel movements or mining activities are undertaken) will be defined around the stand of River Red Gums surrounding the billabong to prevent compaction of soil and edge effects. It is recommended the buffer be at least 20m in width; 	Site visit	Field visit observed adequate stock proof fencing with clear signage on the fence regarding the protected vegetation within.	C	

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • Fencing will be constructed on the development side of the buffer around the River Red Gums to prevent access by construction personnel and vehicles; • Construction of levees will take into consideration the indirect impacts on surface water flows, particularly close to the billabong area; • Appropriate erosion and sediment controls will be implemented across the study area prior to commencement of any construction activities to prevent potential impacts on the Hunter River, the billabong and drainage lines within the study area; 	Independent Environmental Audit (AECOM, 2011)	Verified in the 2011 IEA, a new Dam 9N was constructed in 2007.	C	
	<ul style="list-style-type: none"> • Pre-clearance surveys in accordance with CNA EMS Procedure 10.2 - Flora and Fauna will be undertaken for all trees to be removed from the services corridor; 	Ground Disturbance Permit procedure Ground Disturbance Permit sample GDP-HVO-00504 CNA Flora and Fauna Procedure (CNA-10-EWI-SITE-E9-021) AEMRs (2011-2015)	Example Ground Disturbance Permit sighted which stated ecological pre-clearance procedure. CNA Flora and Fauna Procedure contains habitat pre-clearance and procedure for habitat tree marking and checking. AEMRs (2011-2015) report that clearing of vegetation occurs according to the Ground	C	

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			Disturbance Permit procedure which includes pre-clearance by ecologists to identify threatened species or fauna presence, along with timber features that could be salvaged for reuse in rehabilitation.		
	<ul style="list-style-type: none"> Any soil removed for the proposed mine construction or associated activities will not be dumped on, or directly adjacent to, conserved areas, buffer areas or any watercourses or waterbodies where there is potential for weed seeds to be spread during rainfall events; 	Independent Environmental Audit (SKM, 2014)	Verified in previous IEA.	C	
	<ul style="list-style-type: none"> Development and implementation of a monitoring programme to assess groundwater conditions and the health of the stand of River Red Gums in the billabong area; and 	HVO River Red Gum Rehabilitation and Restoration Strategy (EMGA, March, 2010) AEMR (2013)	<p>Section 7.1.2 describes baseline and subsequent surveys (2007 and 2008). Section 7.1.3 contains a timetable for future monitoring including year 3 (2010), year 5 (2012) and year 10 (2017) monitoring.</p> <p>Other timing for actions are stated in Section 5.3, Table 5.1.</p> <p>AER (2013) Section 5.1.1.2 contains reported results of the year 5 monitoring event</p>	ANC	Future monitoring to ensure access to all required stands is available well in advance.

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			<p>undertaken in 2013 although the HVO River Red Gum Rehabilitation and Restoration Strategy designates that monitoring should have been undertaken in 2012. This explained by RTCA by:</p> <p><i>Monitoring delayed due to access to Camyr Allyn control site not being available. Decision was made to proceed with monitoring of Carrington Billabong in Oct 2013 despite access to Camyr Allyn still not being available. Dispute with Camyr Allyn land owner was resolved and monitoring of this site was undertaken in May 2014.</i></p>		
	<ul style="list-style-type: none"> If monitoring identified groundwater changes which impact on the trees as a result of mining activities, surface water management will be developed to redirect surface water to the billabong to simulate a flooding event as in an ephemeral drain 	<p>Monitoring of River Red Gums at Hunter Valley Operations, NSW (Umwelt, November 2010)</p>	<p>No monitoring indicated tree impacts from mining related groundwater disturbance. Umwelt (2010) monitoring reported that poor tree health stated that areas are impacted by weeds.</p>	<p>NT</p>	

Table C3

	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Soils					
	<ul style="list-style-type: none"> • Class II land to be rehabilitated in accordance with methods currently used for HVO alluvial lands; and • Rehabilitation plan to connect undisturbed and rehabilitated areas of Class II land where possible. 	Independent Environmental Audit (SKM, 2014)	Verified in previous EIA	C	

Annex B

DRE and OEH Correspondence

Oliver Moore

From: Kate Walsh <kate.walsh@industry.nsw.gov.au>
Sent: Wednesday, 19 October 2016 1:31 PM
To: Gleeson, Gerard (RTCA); kate.walsh@trade.nsw.gov.au
Cc: Oliver Moore; Catherine Lewis
Subject: RE: Hunter Valley Operations - Independent Environmental Audit

Hi Gerard,

Thank you for your email below and note that a formal letter will not be required.

DRE suggests the audit address the following questions. Note further that this listing is not intended to be exhaustive and that the auditor should consider all matters he or she considers appropriate.

Audit Component - Desktop

Is there a current Mining Operations Plan (MOP) in place and has it been approved by DRE?

Has the MOP been prepared in consultation with the relevant agencies as outlined in the Project Approval?

Is the rehabilitation strategy as outlined in the MOP consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s)?

Has the rehabilitation objectives and completion criteria as outlined in the MOP been developed in accordance with the proposed final land(s) as outlined in the Project Approval?

Has a rehabilitation monitoring program been developed and implemented to assess performance against the nominated objectives and completion criteria? – verified by reviewing monitoring reports and rehabilitation inspection records.

Has a rehabilitation care and maintenance program been developed and implemented based on the outcomes of monitoring program? – verified by reviewing Annual Rehabilitation Programs or similar documentation.

Audit Component - Site Inspection

Are mining operations being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary? – to be verified by site plans and site inspection.

Is rehabilitation progress consistent with the approved MOP as verified by site plans and a site inspection? This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in Project Approval.

Based on a visual inspection, are there any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation?

In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.

Regards,

Kate Walsh

Kate Walsh | Inspector Environment
NSW Department of Industry | Resources & Energy
516 High Street | Maitland NSW 2320
GPO Box 344 | Hunter Region Mail Centre NSW 2310
T: +61 (02) 4931 6739 | M: +61 (0) 427 039 514 | E: kate.walsh@industry.nsw.gov.au
W: www.resourcesandenergy.nsw.gov.au
Twitter: [@nswre](https://twitter.com/nswre) | Facebook: [nswre](https://www.facebook.com/nswre)

From: Gleeson, Gerard (RTCA) [mailto:Gerard.Gleeson@riotinto.com]
Sent: Monday, 26 September 2016 1:23 PM
To: kate.walsh@trade.nsw.gov.au
Cc: Oliver.Moore@erm.com
Subject: Hunter Valley Operations - Independent Environmental Audit

Good afternoon Kate,

I refer to the upcoming Independent Environmental Compliance audit to be undertaken at our Hunter Valley Operations (HVO) site, against the relevant conditions of Planning Approvals DA450-10-2003 as modified (HVO North) and PA 06_0261 as modified (HVO South). The relevant conditions of the approvals requires that the audit ***"include consultation with the relevant agencies"***. The site inspection component of the audit will be undertaken between **24th and 27th October 2016**, with a report to be prepared for the Secretary (DP&E) before 31st December 2016. The audit will be led by Oliver Moore (copied here).

HVO seeks DRE input to the audit. The attached letter outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. Can you please advise if there are any particular areas of focus which DRE would seek to have specifically tested during this audit, or any other comments of note?

Further, can you please advise if this email is sufficient to satisfy DRE? I can prepare a formal letter requesting input to the audit if required.

Please contact me as per my details below as required.

Many thanks

Gerard Gleeson

Environmental Specialist - Systems & Monitoring

Rio Tinto

PO Box 315 Singleton, NSW 2330

P: (02) 6570 0372

M: 0427 700 519

E: Gerard.Gleeson@rtca.riotinto.com.au



Critical Risk Management
Protects your life

This message is intended for the addressee named and may contain confidential information. If you are not the intended recipient, please delete it and notify the sender. Views expressed in this message are those of the individual sender, and are not necessarily the views of their organisation.

Oliver Moore

From: Robert Gibson <Robert.Gibson@environment.nsw.gov.au>
Sent: Tuesday, 18 October 2016 3:47 PM
To: Gleeson, Gerard (RTCA)
Cc: Oliver Moore; Richard Bath
Subject: RE: Hunter Valley Operations - Independent Environmental Audit

Dear Gerard,

Thank you for your e-mail. I have reviewed Planning Approvals DA450-10-2003 (Hunter Valley Operations North Coal Project) and PA 06_0261 (Hunter Valley Operations South Coal Project) in relation to the forthcoming Independent Environmental Audit and I suggest the following:

1. That the status of actions or outcomes to be delivered by set dates, as stipulated by consent conditions is provided;
2. That the audit for Hunter Valley Operations North Coal Project considers the effectiveness of the salvage and reuse of soil, seeds, tree hollows, rocks and logs, from clearance ahead of mining (Schedule 4, Condition 32) and provides recommendations on how this aspect may be modified to improve environmental outcomes;
3. That in relation to the Hunter Valley Operations South Coal Project that the audit reviews and comments on the success of any additional measures for rehabilitation and biodiversity management that were suggested by the previous audit of the Rehabilitation and Biodiversity Management Plan (Schedule 3, Condition 36); and
4. That the audit reports and associated reports prepared for this audit are made available on the Rio Tinto web page once they are available; as has been done for previous audits.

Please phone me on (02) 4953 6875 if you wish to discuss this further.

Kind regards,

Robert

Robert Gibson
Regional Biodiversity Conservation Officer
Regional Operations Group
Office of Environment and Heritage
Locked Bag 1002 Dangar NSW 2309
(Level 4/26 Honeysuckle Drive Newcastle)
T: 4927 3154
W: www.environment.nsw.gov.au

From: Gleeson, Gerard (RTCA) [<mailto:Gerard.Gleeson@riotinto.com>]
Sent: Monday, 26 September 2016 1:29 PM
To: Robert Gibson <Robert.Gibson@environment.nsw.gov.au>
Cc: Oliver.Moore@erm.com
Subject: Hunter Valley Operations - Independent Environmental Audit

Good afternoon Robert,

I refer to the upcoming Independent Environmental Compliance audit to be undertaken at our Hunter Valley Operations (HVO) site, against the relevant conditions of Planning Approvals DA450-10-2003 as modified (HVO North) and PA 06_0261 as modified (HVO South). The relevant conditions of the approvals requires that the audit ***"include consultation with the relevant agencies"***. The site inspection component of the audit will be undertaken between **24th and 27th October 2016**, with a report to be prepared for the Secretary (DP&E) before 31st December 2016. The audit will be led by Oliver Moore (copied here).

HVO seeks OEH input to the audit. The attached letter outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. Can you please advise if there are any particular areas of focus which the Office would seek to have specifically tested during this audit, or any other comments of note?

Further, can you please advise if this email is sufficient to satisfy the Office? I can prepare a formal letter requesting input to the audit if required.

Please contact me as per my details below as required.

Many thanks

Gerard Gleeson

Environmental Specialist - Systems & Monitoring

Rio Tinto

PO Box 315 Singleton, NSW 2330

P: (02) 6570 0372

M: 0427 700 519

E: Gerard.Gleeson@rtca.riotinto.com.au



Critical Risk Management
Protects your life

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.

If you are not the intended recipient, please notify the sender and then delete it immediately.

Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment and Heritage.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

ERM has over 100 offices
across the following
countries worldwide

Australia	Netherlands
Argentina	New Zealand
Belgium	Peru
Brazil	Poland
China	Portugal
France	Puerto Rico
Germany	Singapore
Hong Kong	Spain
Hungary	Sri Lanka
India	Sweden
Indonesia	Taiwan
Ireland	Thailand
Italy	UK
Japan	USA
Korea	Venezuela
Malaysia	Vietnam
Mexico	

Environmental Resources Management

Level 15 309 Kent Street
Sydney NSW 2000
Locked Bag3012,
Australia Square NSW 1215

T: 61 2 8584 8888
F: 61 2 8584 8800
www.erm.com



Attachment 2: Response to Recommendations

Table 1 Response to the recommendations contained in the audit report.

Reference	Recommendation	Response	Timing
Hunter Valley Operations Environmental Protection Licence (EPL 640)			
A1.1 – Scheduled activities	Ensure that records of volume of crushed aggregate are maintained.	HVO currently collects and maintains this information, and will ensure it is available for the next IEA.	Ongoing
L2.4 – Water and/or Land concentration limits	Clarification should be obtained as to whether conductivity should be reported for Point 8 (EPL Annual Return reporting requirements).	HVO agrees with this recommendation.	30/06/2017
L4.2 – Airblast overpressure	Further action required	HVO acknowledges a number of non-compliant airblast overpressure measurements recorded during the audit period. It should be noted however that each event has been the result of non-related causal factors. Each has been investigated with actions put in place as a result, in accordance with the requirements of Rio Tinto HSEQ Management System.	Ongoing
M2.2 – Air monitoring requirements	Clarification should be obtained as to the definition of continuous monitoring and period of time permissible for outage.	HVO agrees with this recommendation.	30/06/2017
M2.3 – Water and/or Land monitoring requirements	Clarification should be obtained as to whether a conductivity reporting limit needs to be established for Point 8.	HVO does not agree with this recommendation. Electrical Conductivity “limits” are established on a case by case basis under the Hunter River Salinity Trading Scheme. Conformance with HRSTS requirements is also reported through annual HRSTS reports.	N/A
R2.2 – Incident reporting	Maintain records of process for incident reporting. Keep a record of initial phone call notification and following up email.	HVO agrees with this recommendation, and the process described is currently in place.	Ongoing
U1.1 – Premises Noise Limits	Obtain confirmation from the NSW EPA as to next steps required to close out this requirement.	HVO agrees with this recommendation. These discussions are underway.	Ongoing
Hunter Valley Operations South Coal Project Approval (PA 06_0261)			
Schedule 3, Condition 8 – Ground Vibration Impact Assessment Criteria	Review location of Archerfield Vibration monitor.	HVO agrees with this recommendation. A review to confirm that existing monitoring locations are adequately capturing representative data for the outbuildings at Archerfield is worthwhile.	30/09/2017
Schedule 3, Condition 18 – Blast monitoring program	Review road closure plan to make sure it is correct and current.	HVO agrees with this recommendation.	31/03/2017

Reference	Recommendation	Response	Timing
Schedule 3, Condition 27 – Water Management Plan	Review Appendix headings against references in Table 1 of the HVO WMP, i.e. Sch. 3 Cond. 27(c) (on page 12, last row) references Appendix D – Groundwater Monitoring Programme, where it should reference Appendix C – Surface Water Monitoring Programme.	HVO agrees with this recommendation.	Next review
Schedule 3, Condition 31 – Hunter Lowland Red Gum Forest	Clarification should be sought to ensure protections are to the satisfaction of the Director-General.	HVO to seek confirmation of approval from DP&E for HVO River Red Gum Rehabilitation and Restoration Strategy (submitted in 2010).	31/03/2017
Schedule 3, Condition 34 – Rehabilitation	Observation was made that areas shown in the MOP as pasture were sown with a native woodland mix. Opportunity exists to clarify and make consistent the proposed rehabilitated vegetation types across all plans.	The conceptual final landscape plan presented in Appendix 6 of PA 06-0261 will be used to guide the revegetation layout presented in the MOP plans however inconsistencies will exist due to MOP final landform variations etc. Where there are inconsistencies the MOP secondary domains will be the overriding consideration to determine the seed mix to be used. Note that the seed mixes used in HVO pasture areas may contain tree and shrub species at lower seeding rates designed to produce a pasture with scattered trees and shrubs.	Ongoing
Schedule 3, Condition 40 – Aboriginal Heritage Management Plan	Consider whether the current inspection regime is sufficiently meeting the intent of the ACHMP and this condition and seek clarification from DPE as to the adequacy of same.	Aboriginal stakeholders are on site several times per year (three in 2016) and afforded the opportunity to inspect various operational areas & our compliance with the ACHMP in those areas. It is recognised that these visits need to be formalised to better meet the requirements of Condition 40. RTCA is in the process of updating the HVO South AHMP with the Aboriginal Stakeholders, as well as implementing a regular compliance audit regime across this & all Coal & Allied sites.	30/06/2017
Schedule 3, Condition 50 – Visual Amenity	As there have been complaints during the reporting period, combined with the auditor's observation in the field, it would be advisable to review the Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting to ensure all practicable measures to mitigate off-site lighting impacts are implemented.	HVO does not agree that receipt of complaints constitutes non-compliance with the condition. That said, HVO agrees with the recommendation, and will review current practice against the AS.	31/12/2017
Schedule 3, Condition 52 – Visual Impact Mitigation	Follow-up is recommended to confirm formal feedback from DP&E once the MOD is updated.	Recommendation refers to a future modification. HVO considers this recommendation to be appropriate, but is contingent on approval of Modification 5.	N/A
Schedule 3, Condition 57 – Waste	Confirm with DP&E the current status of approval with regard to disposal of heavy earthmoving tyres. Confirm EPA expectations and/or approach to disposal of used tyres in mine voids. Consider need for inclusion of waste tyres in the EPL.	HVO is currently considering these recommendations and seeking further advice on same.	30/5/2017

Reference	Recommendation	Response	Timing
Schedule 3, Condition 58 – Dangerous Goods	Communicate appropriate storage and segregation rules for dangerous goods to maintenance teams, particularly with respect to segregation of incompatible Dangerous Goods i.e. Class 2 and Class 3.	HVO agrees with this recommendation. These requirements are communicated on an ongoing basis to ensure compliance with chemical management procedures and HSE standards.	Ongoing
Schedule 3, Condition 60 – Fire Control	The Bushfire Management Plan on the HVO website is dated June 2007. It is recommended the current plan is added to the website.	HVO agrees with this recommendation and will update the website	31/03/2017
Schedule 4, Condition 4 – Independent Review	Consideration should be given to addressing wording in consent when updating the DA to reflect an appropriate timeframe for reporting.	HVO agrees with this recommendation.	N/A
Schedule 4, Condition 5 – Independent Review	Obtain notification from the DG that the Independent Review demonstrates compliance with noise criteria and that the review may be discontinued.	HVO does not consider this recommendation to be value adding, but will seek this approval to satisfy the condition.	31/06/2017
Schedule 5, Condition 4A – Revision of Strategies, Plans and Programs	Review performance of system introduced in March 2016. If the review indicates this condition is not being met, revise as appropriate.	HVO agrees with this recommendation.	Ongoing
Schedule 5, Condition 8 – Community Consultative Committee	Add to CCC minutes a statement that committee meets DPE (sic) guidelines.	HVO is satisfied with the operation of the CCC, and does not consider this recommendation to be value adding.	N/A
Hunter Valley Operations South Coal Project Approval (PA 06_0261) – Statement of Commitments			
Blast and Vibration	Consider updating the BMP to address the specific requirements of this commitment.	Recommendation refers to the inclusion of specific blasting relating commitments from a (now archived) environmental procedure in the Blast Management Plan. HVO will consider these inclusions at the next review of the BMP.	Next review
Ecology	Collect River Red Gum seed from existing stands	Update Environmental Procedure CNA-10-EWI-STE-E9-021 Flora and Fauna (replaced Environmental Procedure 10.2) to include provenance guidelines for River Red Gum plantings. Plantings of River Red Gums undertaken as part of the HVO RRG Rehabilitation and Restoration Strategy have utilised seed collected from a large RRG community at Camyr Allyn near Scone to help increase genetic diversity in the RRG communities surrounding HVO.	30/06/2017
Mine Landscape Planning	Identify opportunities to monitor vegetation within the Project Application area but outside the proposed disturbance area. Incorporate more log re-use in rehabilitation areas for habitat creation and enhancement for common and threatened species.	Incorporate remnant HVO South native vegetation areas in weed control activities and follow-up monitoring. HVO agrees with the recommendation.	31/12/2017 31/12/2017
Hunter Valley Operations North Development Consent (DA 450-10-2003)			
Schedule 4, Condition 6 – Air Quality and Greenhouse Gas	Confirm relevance of the commitments made in the Monitoring Program and implement monitoring of PM _{2.5} if deemed	HVO agrees with the intent of this recommendation and will discuss with DP&E. Commencement of HVO	30/06/2017

Reference	Recommendation	Response	Timing
Management Plan	necessary.	operated PM _{2.5} monitoring is not considered valuable as long as the Upper Hunter Air Quality Monitoring Network remains in place.	
Schedule 4, Condition 9 – Noise Operating Conditions	Continue to manage noise attenuation via campaign use of haul truck and/or upgrade fleet to meet improved operation noise attenuation. Finalise options for coordination of noise management with adjoining Wambo mine and update NMP accordingly.	HVO has commenced works to attenuate all haul trucks to 117dB. HVO and Wambo currently share monitoring data from nearby sensitive receptor location at Moses Crossing under an informal agreement. HVO will update the NMP to contemporise these details at the new revision.	Next revision
Schedule 4, Condition 16B – Property Investigations	It is recommended that the intent of the condition is confirmed with Director-General with consideration given to modification of the wording of the condition.	The recommendation relates to a current impracticability that exists by virtue of the wording of the condition that could be clarified through a guidance note or modification to the wording. The condition wording does allow for extension of time approved by the DG.	N/A
Schedule 4, Condition 35	Provide details regarding relocation of bat roosts or salvaging habitat resources.	Update HVO North MOP and Environmental Procedure CNA-10-EWI-STE-E9-021 Flora and Fauna to include details on relocating bat roosts and salvaging habitat resources.	30/06/2017
Schedule 4, Condition 54 – Visual amenity	Review the relevance for requirement for any further tree planting and bund, and report findings to DRE and DG.	HVO agrees with the recommendation.	31/12/2017
Schedule 4, Condition 56 – Lighting emissions	Review the Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting to ensure all practicable measures to mitigate off-site lighting impacts are implemented.	HVO agrees with the recommendation.	31/12/2017
Schedule 4, Condition 62(d) – Agricultural Land Reinstatement Management Plan	Create and include detailed metric completion criteria.	Detailed performance criteria contained in Table 5.1 of Agricultural Land Reinstatement Management Plan (Appendix B of HVO North MOP).	N/A
Schedule 6, Condition 2 – Environmental Management Strategy	Once the revised EMS is approved by the DG, issue copies to Council and the CCC.	HVO agrees with the recommendation.	Pending DP&E approval of EMS
Schedule 6, Condition 3(a) – Environmental Monitoring Programme	Recommend rewording of condition to reflect requirement to update Monitoring Program.	As each Environmental Management Plan requires a Monitoring Program, the value of Condition 3 and 3A is questionable. HVO notes that these conditions are not included in contemporary approvals, and will seek to remove these conditions at a future modification.	N/A
Hunter Valley Operations North Statement of Commitments (Carrington West Wing)			
Groundwater	Correct the title of Table 8 in future version	Recommendation relates to HVO Water Management Plan. Noted, and will be updated at future revision.	Next revision
Visual Amenity	Complete annual visual assessments	Per above, HVO will discuss the relevance of	30/06/2017

Reference	Recommendation	Response	Timing
		Conditions and commitments in the context of property purchases in recent years. Further action will be informed by those discussions.	
Hunter Valley Operations North Statement of Commitments (Carrington Pit Extended)			
Ecology	Future monitoring to ensure access to all required stands is available well in advance.	HVO agrees with the recommendation.	Ongoing

TECHNICAL MEMORANDUM



Peter Horn
Environmental Consultant
692 Glen Martin Rd
Clarence Town
NSW 2321
peter.horn62@gmail.com

ECO LOGICAL AUSTRALIA PTY LTD
ABN 87 096 512 088
www.ecoaus.com.au

Our ref: ELA_4724

7th November, 2016

Dear Peter,

Hunter Valley North Operations Environmental Audit: Groundwater Model Review

Key points

- A calibrated numerical groundwater model for the Hunter Valley Operations North (HVO North) mine was developed for the latest development proposal and serves to model the entire HVO North complex. This model has produced water levels and water fluxes to simulate mining for a six year period subsequent to initiation of extension works.
- Calibration results are considered in good agreement with observed groundwater trends and levels, though calibration is based more on expert knowledge than sound calibration procedures. The calibration results, however, are adequate for the assessment of groundwater impacts in the area.
- The model assumes construction of two barrier walls to isolate an eastern and western arm of a palaeochannels of the Hunter River. To date, only the eastern wall has been constructed and development has focussed on the eastern arm. Impacts to the western area thus remain unverified at this time.
- Impacts to the eastern arm are minimal and are comparable to modelled expectations following revision of the model to account for revised barrier wall permeabilities.
- The water take impacts predicted by the model are low and similar to observed and currently estimated seepage rates and these levels are considered to constitute minimal harm (as defined by the *NSW Water Management Act (2000)*) and would not trigger further investigation under the NSW Aquifer Interference Policy (AIP).
- Hunter Valley Operations North currently hold significantly greater groundwater extraction licenses than is currently (or expected to be) observed (or modelled).

Introduction

The Hunter Valley Operations Water Management Plan (HVO-WMP) was approved by the Secretary of the NSW Department of Planning and Environment on 19th May, 2014. The HVO-WMP supports all operations within the Hunter Valley Operations Complex and includes open-cut mining developments north and south of the Hunter River. HVO North and HVO South operate under separate planning approvals and this review specifically refers to the development consent for the Hunter Valley Operations – North Coal Mine (DA 450-10-2003) and satisfies Schedule 4, Condition 27(c), requiring “*an independent review of the [groundwater] model every 3 years, and comparison of monitoring results with modelled predictions*”.

Section 8.4 of the HVO-WMP specifically concerns validation of the groundwater model used to support mine water management, groundwater licensing and assessment of groundwater impacts that may result from these projects. Section 8.4 states: “Every three years HVO will instigate an independent review (validation and re-

calibration, if necessary) of the groundwater model. The first 3-year review of the model will be scheduled for late-2016”

Section 8.4 of the HVO-WMP further submits that: Groundwater Impacts Reports for HVO North and South are undertaken on an annual basis, ensuring verification of monitoring results with modelled predictions.” Rio Tinto Coal Australia (RTCA) commissioned Australasian Groundwater and Environmental Consultants P/L (AGE) to undertake these reports and these have provided background and context to this groundwater model review.

This review assesses the 2010 MER numerical groundwater model against existing monitoring data and evaluates its use as a predictive tool for groundwater management and licensing needs. As such, this review WILL:

- Assess the calibration of the groundwater model;
- Compare calibrated parameters against locally- and regionally-comparable data sets
- Assess the criticality of predictive results against future impacts
- Assess the closeness of fit between designated monitoring bores and calibrated, modelled groundwater levels/pressures
- Consider the efficacy of the existing monitoring bore locations
- Assess the areal extent of the modelled groundwater impacts and attributes relevant to the NSW Aquifer Interference Policy (AIP)
- Assess the model’s estimation of impacts associated with the low permeability wall constructed as a barrier between the mine operations and the Hunter River compared to observed impacts at relevant monitoring locations.

This review does NOT:

- Assess groundwater quality data against environmental trigger values as listed in the HVO-WMP nor consider response to any Environmental Protection Licences
- Assess the actual impacts (if any) of groundwater changes (current and predicted) on groundwater dependent ecosystems
- Review groundwater licensing arrangements (except as reported in the HVO Annual Review).

Data and reports

In addition to the HVO-WMP, critical documents reviewed included:

1. Carrington West Wing Environmental Assessment: Volume 1 – Main Report (EMGA, 2010)
2. Carrington West Wing Environmental Assessment Appendix C: Groundwater Study (MER, March 2010)
3. Review of the Mackie Environmental Research Modelling Report (F. Kalf, December 2010)
4. MER response to Kalf review (January, 2011)
5. Rio Tinto response to Kalf review (January, 2011)
6. HVO North 2015 Annual Groundwater Impacts Review (AGE, March 2016)
7. HVO North 2014 Annual Groundwater Impacts Review (AGE, March 2015)
8. NSW Office of Water assessment of DA 450-10-2003 MOD 3 (February 2011)
9. Hunter Valley Operations groundwater monitoring data from December 2013 to September 2016 was provided as an Excel data file from Rio Tinto Coal Australia (RTCA) on 19/10/2016
10. NSW DPI, (2012) NSW Aquifer Interference Policy: NSW Government policy for the licensing and approval of aquifer interference activities, September 2012.

Assessment of the calibration of the groundwater model

MER (2010) refer to previous (MER, 2007) calibration for the alluvial system and subsequent adjustment of hydraulic parameters “until model generated groundwater flows and piezometric levels reasonably match the measured flows and levels.” The independent reviewer (Kalf, 2010) pointed out that, while acceptable, this is not an optimal calibration process, though visual inspection of results indicate a “reasonable to good” calibration, with a few bores exhibiting poor fit. This reviewer concurs with Kalf and would prefer to see calibration statistics across the model domain to determine the efficacy of the hydraulic parameters used. Further, no rigorous sensitivity analysis was undertaken. Rather, an assessment (by MER) of the relative contribution from each hydraulic parameter during the calibration process provided an apparent sensitivity test.

MER (2010) determined that variability in hydraulic conductivities of the aquifer units generated the greatest sensitivity in the critical outputs of dewatering and pressurisation response compared to any other parameter. As parameters such as hydraulic conductivity, recharge and storativity can be co-variant (that is, adjustment of one parameter can be compensated with adjustment of another), the trial and error methodology for calibration utilised by MER can be prone to mis-identification of critical sensitivities.

MER (2010) admits that there are four key factors affecting model accuracy and Kalf (2010) has questioned the validity particularly of the adopted permeability values for i) the natural materials of the various strata and ii) the barrier wall to be constructed to isolate the mining from the Hunter River sediments.

Most critical (in this reviewer's estimation) were the values initially adopted for the wall. As stated above, the variance in hydraulic conductivities of natural materials can vary within significant bounds and still generate calibrated results due to the co-variance of other parameters. These can be calibrated against actual historic data and refined with time. The future introduction of a defined and localised barrier to the system, however, must be well characterised as it has a function that would be compromised if the wrong assumptions are made (e.g. modelling with a lower permeability than reality will be difficult to rectify subsequent to construction and potentially detrimental to the environment before adequate data is acquired to substantiate the modelling parameters).

Fortunately, the barrier wall was constructed within the time frame of the modelling and review process and MER (2011) were able to incorporate construction data into a revised run of the model and also included a further sensitivity assessment of increasing the apparent permeability of the wall on the leakage and impact to local groundwater systems.

Both in situ permeability tests of the wall and the revised computer simulations indicated that the wall would still operate as required. Continuous measurement of water levels in standpipes adjacent to the wall (on the southern – river – side) do not reveal any significant change in water levels in the Hunter River alluvium and show a sympathetic relationship either with water levels in the river (indicating connectivity with the river sediments and response to rainfall events) or with water levels in the adjacent spoil (to the north of the barrier) indicating minimal to no connectivity across the wall barrier, as modelled by MER (2010).

Comparison of calibrated parameters against locally- and regionally-comparable data sets

As noted in the 2010 EIS for the Carrington West Wing development (EMGA, 2010), hydraulic parameterisation of units in the area has been iteratively undertaken since 2000 through a combined field and computer simulation approach, generally with the aim of defining areas of greater and lesser hydraulic conductivity and connectivity between the local palaeo-channel sediments and sediments in direct contact with the Hunter River. These studies included assessment of hydraulic gradients and development of the extensive monitoring network across the HVO, to the extent that the majority of installed piezometers and standpipes have subsequently been destroyed (mined through), demonstrating the commitment that HVO has provided to understanding the groundwater environment through which they are developing.

There are a significant number of coal mines in this region, with adjacent mines also undergoing continual development which requires numerical groundwater modelling to provide predictive estimates of groundwater impacts. The proximity of mines results in cumulative impacts, hence it is desirable that all models are comparable and independently generate comparable and similar parameterisation of hydraulic parameters. Critically, HVO South operates immediately south of the Hunter River and this is managed under the same Water Management Plan and has similarly undergone groundwater modelling and refinement since before 2005.

Further, the Wambo Mine (owned by Peabody Energy) to the south of the HVO complex and the Ravensworth/Narama Mine include both open pit and underground workings, and provide additional information on hydraulic parameterisation. Groundwater models for both complexes utilise (and calibrate to) comparable hydraulic parameters determined for HVO North, giving confidence in the parameterisation at HVO North. Of note, all complexes have been independently modelled by different modellers (e.g. HydroSimulations at Wambo; NTEC and ERM at HVO South), providing further confidence that the comparable parameterisations are adequate to describe the movement of groundwater across the region.

The MER model employs higher recharge to the alluvium (~10% annual rainfall) than other models in the region (e.g. 1.2% at Wambo) and lower recharge to all other units (<0.1% annual rainfall). The ability to reach

comparable calibration statistics and trend similarities for all models highlights the interplay between the different calibration parameters and the need for long-term monitoring data to refine the calibration process.

In this case, the adoption of parameters within acceptable bounds (as determined across the Hunter region) provides some constraint and confidence that the reasonable fit of most bore hydrographs with modelled hydrographs demonstrates that the model is predicting appropriate responses to mining regardless of whether the actual parameters are exact. Transient response for each calibration bore is therefore deemed adequate both by the original independent reviewer (Kalf) and this reviewer.

Assessment of the criticality of predictive results against future impacts

Regardless of the efficacy of the calibration procedure or method of generating groundwater trends with time, the majority of model results suggest a comparable impact to what was observed over the transient calibration period and model hydrographs generally display similar trajectories (trends) to the observed data.

Modelling at locations of piezometers that have been mined through gave good estimation of water levels until the piezometers were destroyed. Further, the current monitoring network results exhibit good comparison to predicted values at almost all shallow bores and most deep bores. This suggests that the forward predictions of the model (to six years following initiation of the development) are proving sufficiently accurate and slightly conservative to give confidence in the predictive results. It should be realised, however, that the model only presents results out to six years, with all calibration bores predicting gradually lower water levels than has been observed. The fact that none of the monitoring bores have thus far shown any significant decline suggests the model and observed results would continue to diverge, albeit that the model would thereby become increasingly conservative based on current observations.

The modelling was predicated only on six years development and the modelled and observed results appear to be gradually diverging. Divergence should be critically reviewed during the next review in three years to more accurately estimate the consequences of the final void on the future of the Hunter Alluvium. Further, the model assumed the construction of barrier walls within eastern and western arms of the palaeochannels. To date, only the eastern barrier wall has been constructed, with no mining currently beneath the western arm near the Hunter River.

It should be stressed that the majority of hydrographs from monitoring bores exhibit flat (zero trend) profiles and this strongly suggests minimal to no impact to the surficial and non-mining-related formations. In particular, hydrographs from bores immediately to the south of the barrier wall (which separates the mining operations from the Hunter River alluvium) remain stable, strongly indicating that the wall is performing its function adequately and minimal leakage is observed.

Assessment of the closeness of fit between designated monitoring bores and calibrated, modelled groundwater levels/pressures

Notwithstanding the lack of statistical analysis of closeness of fit between the modelled and observed water levels and pressures at calibration bore locations, visual inspection of the presented bores indicates a very good closeness of fit for most bores through to the initiation of mining and variable closeness of fit subsequent to that.

Changes in trends of water levels in particular provide a good basis to assess the efficacy of a model's calibration and bores in the alluvium show matching profiles, even where the magnitude of change between modelled and observed is different (e.g. CGW47).

Spatially, calibration bores to the south of the barrier are observed to record levels slightly lower than observed (conservative), while immediately north of the barrier, bores record slightly lower levels than modelled (i.e. slight mounding is predicted north of the barrier). Closest fit between modelled and observed levels occurs in locations within the mined pit and reflect good parameterisation of the coal measures and surficial deposits. The modelled permeability for the barrier was likely, therefore, to be lower than actual. This discrepancy was subsequently adequately investigated following the initial independent review of the model and while the permeability was found to be higher than initially modelled, subsequent measurements confirm the capability of the wall to act as a near-impermeable barrier.

Consideration of the efficacy of the existing monitoring bore locations

The current monitoring network consists of 60 monitoring locations encompassing the region north of the Hunter River from the eastern to western boundaries of HVO and extending north to beyond the northern rehabilitation area. This does not include an additional 44 locations that have been mined through over the last 15 years that provide important baseline and calibration data for on-going revisions to groundwater models of the area.

Notwithstanding that there are no longer any monitoring bores north of the barrier, the critical receptor of the Hunter River is adequately covered with two transects of shallow bores between the river and the barrier wall.

Bores within targeted coal measures continue to provide adequate information on groundwater pressures in deeper formations and provide adequate coverage of the operations.

Assessment of the areal extent of the modelled groundwater impacts and attributes relevant to the NSW Aquifer Interference Policy (AIP)

The groundwater model (and approvals for the current HVO development) was undertaken prior to release of the AIP. The critical issues dealt with by the model, however, satisfactorily account for all relevant components of the AIP.

The modelled groundwater impacts are contained entirely within the model boundaries, with critical areas of impact primarily related to the mining proximity to the Hunter River and the combined effects of depressurisation of the coal seams and the need to excavate through the old alluvial palaeochannel to mine the coal. The alluvium of the palaeochannel was demonstrated to contain groundwater of poor quality, with no identified users. The alternate groundwater supply from the currently active Hunter River alluvium provides complete support of the only identified potentially groundwater-dependent ecosystem in the area, namely, “the population of River Red Gums (*Eucalyptus camaldulensis*) along the bank of the Hunter River and in the Carrington billabong area” (MER, 2010).

Importantly, the palaeochannel has been demonstrated to be isolated from the current course of the Hunter River with intermittent recharge historically resulting in elevated groundwater heads resulting in gradual leaching (estimated to be ~0.22 ML/day) of saline groundwater back to the river. During the course of recent mining (pre-2010), this gradient reversed causing low levels of leakage from the Hunter River to the palaeochannel calculated at 0.2 ML/day. An approval condition for HVO North was to stem this flow by means of the barrier wall. Initial modelling (by MER 2010) under-estimated the permeability of the proposed wall and suggested leakage to be no more than 0.05 ML/day, as presented in the EA. In a subsequent response to the independent reviewer, MER were able to utilise the newly-available results from actual barrier wall materials, which suggested a revised permeability 50 times greater than used in for the EA results. A revised leakage was determined to be 0.14 ML/day. This has since been confirmed through monitoring and reported in the 2015 HVO North Groundwater Impact Review (AGE (2015) as 0.12 ML/day. This equals 44 ML/a additional extraction from the Hunter River alluvium, or an estimated reduction in baseflow of <1% total flow. HVO North currently holds Hunter River water access licences allowing 3,165 ML/a, significantly in excess of the calculated take. (Note: The 2015 Annual Review states a take of 84 ML/a. It is not made clear how this was assessed as it is higher than the calculated value in the Groundwater Impact Review – though still significantly below licenced allowance.)

MER (2010) predict “negligible impact on the alluvial aquifers beyond the barrier walls”, despite complete dewatering of the coal seams to the north of the walls. To date, this has been shown to be true, with alluvium bores displaying water levels that respond to and closely approximate the water levels in the Hunter River, demonstrating that minimal impact has occurred.

Under the Aquifer Interference Policy (2012), therefore, the impact to the alluvial aquifers would be deemed to be negligible, while adequate licencing is held by HVO to support the limited (direct and indirect) extraction from the Hunter River. Impacts to the coal measures aquifers, however, is significant, as expected and HVO hold sufficient licenses (400 ML/a under the Water Act 1912 for the hard rock aquifers) to account for the relatively little ingress of ~50 ML/a currently into the pit. This value is comparable to the peak seepage rate predicted by the model of 42 ML/a.

For post mining recovery, MER uses a separate groundwater model with water levels derived from heads computed during the last time step in the predictive model. Recovery in the mined out void(s) is then simulated by assigning parameters to the material backfilling each void and allowing the model to recover to equilibrium or close to equilibrium. For the final void a steady state simulation was then subsequently conducted to determine the final equilibrium level of the water level of the ponded water. Kalf (2010) noted that "This is an acceptable approach although it would have been more complete if the method of simulating the actual pond in the computer code had been included in the description".

Conclusions

The numerical groundwater model developed by MER (2010) to assess potential impacts to groundwater and related dependent users under the recent extension of operations at HVO North has been reviewed for its efficacy in predicting current groundwater levels, seepage rates into the open pit and impact on the Hunter River alluvium.

A manual approach to calibration was undertaken, which is not currently considered as best practice, however reflects a commonly-used approach at that time (2010). The wealth of local data and previous models for the area provide confidence in the final calibration values, though these should be supported by statistical analysis of sensitivity and co-variance. Calibration hydrographs are presented that appear to give good calibration at most sites.

The model incorporated the construction of a barrier wall across a palaeochannel that has historically acted as a weak source of saline groundwater to the main Hunter River channel. More recently, due to mining, this aquifer has undergone a reversal of flow away from the river, causing increasing loss of baseflow to the river as mining has progressed. The barrier wall was designed to stop this ingress and has been shown to be effective in doing this, though the initial (very low) values for seepage had to be revised under scrutiny and following actual construction of the wall (MER, 2011). Nevertheless, the barrier wall serves its function to prevent significant impact to the Hunter River and observed seepage is similar to that estimated from the revised modelling.

Observed water levels are comparable to predicted levels, hence drawdowns are also comparable and considered negligible in the river alluvium south of the barrier wall.

Modelled seepage rates are directly comparable to observed volumes, with vertical seepage from the alluvium aquifers into underlying coal measures and thence lateral seepage to the pit accounting for approximately 80% of all pit ingress, though total volumes are relatively low (<50ML/a). Estimated seepage through the barrier wall was modelled to be ~50ML/a and current observations suggest 44 ML/a. Both pit ingress and river loss are significantly below allowed take from the hard rock aquifers (400 ML/a) and river system (3,165 ML/a), respectively.

The numerical model provided predictions assuming a six year life-of-mine, allowing for an additional year prior to actual coal development to remove surficial sediments. To date, mining has impacted the eastern arm of the palaeochannels and not the western arm, hence the model remains untested to the west of the mining lease.

The monitoring network at HVO North comprises 60 bore locations and the areal and depth spread is deemed acceptable to monitor potential impacts to the aquifer systems.

At this stage of the mine the model results may be viewed as adequate to inform trends in water levels and is slightly conservative (over-estimates) in prediction of fluxes between groundwater units and to and from alluvial aquifers. Current groundwater licensing is adequate for projected future water take from mine operations.

Yours sincerely,



Dr Richard Cresswell
Principal Hydrogeologist
Mobile: +61 417 063 993



Contact: Chris Knight
Phone: (02) 6575 3404
Email: christopher.knight@planning.nsw.gov.au
compliance@planning.nsw.gov.au
Our ref: DA 450-10-2003
MP 06_0261

Mr Andrew Speechly
Coal and Allied- Hunter Valley Operations
PO Box 315
Singleton NSW 2330

Hunter Valley Operations DA 450-10-2003/MP 06_0261 Independent Environmental Audit 2016

Dear Mr Speechly,

Reference is made to the Independent Environmental Audit (IEA) Report dated 15 December 2016 prepared by Environmental Management Resources Australia Pty Ltd (ERM) for the period 1 November 2013 to 31 October 2016 for Hunter Valley Operations (HVO) North and HVO South, and submitted to the Department of Planning and Environment (the Department) as required under Schedule 5, Condition 5 of MP 06_0261 and Schedule 6, Condition 6 of DA 450-10-2003 (the Approvals) for HVO South and HVO North, respectively. Reference is also made to HVO's revised response letter to recommendations contained in the IEA Report, submitted to the Department on 30 January 2017, as required under Schedule 5, Condition 6 and Schedule 6, Condition 7 of the Approvals.

The Department has reviewed the IEA Report and considers that it generally satisfies the requirements of the Approvals. Furthermore, the Department agrees with HVO's revised response letter to recommendations contained in the IEA, and notes the timeframes for completion.

In accordance with Schedule 2, Condition 4 of MP 06_0261 and Schedule 3, Condition 4 of DA 450-10-2003, the Department considers it a reasonable request for HVO to undertake the following:

1. include more details on reportable incidents that have occurred, and what the outcomes were, in future IEA Reports;
2. report all reportable incidents, including water related incidents, to the Department (Schedule 5, Condition 2 of MP 06_0261 and Schedule 6, Condition 5B of DA 450-10-2003); and
3. HVO should develop completion criteria in the Mining Operations Plan, which has been developed to satisfy the requirement for a Rehabilitation Management Plan in accordance with Schedule 4, Condition 62C of DA 450-10-2003.

Please perform a review and revision as necessary by **31 May 2017**, of any strategies/plans/programs in relation to the outcomes of the IEA, as required under Schedule 5, Condition 7 of MP 06_0261, and Schedule 6, Condition 5A of DA 450-10-2003.

Please ensure the website is updated and maintained in accordance with Schedule 5, Condition 9 of MP 06_0261, and Schedule 6, Condition 9 of DA 450-10-2003, by **31 March 2017**.

Please ensure the findings and resultant actions are presented in future Annual Reviews.

Please contact Chris Knight, Senior Compliance Officer, on (02) 6575 3404 or christopher.knight@planning.nsw.gov.au should you have any questions.

Yours sincerely

 20/2/2017

Leah Cook
Team Leader - Compliance (North)
As nominee of the Secretary