



Planning,  
Industry &  
Environment

## WHS undertaking

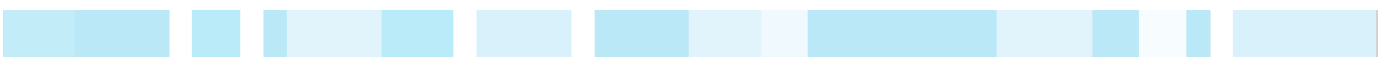
Undertaking to the Secretary,  
**Department of Planning, Industry and Environment**  
given for the purposes of Part 11 of the *Work Health and Safety Act 2011*

**by**

Clarence Coal Pty Ltd

ACN 083 465 212

ABN 53083465212



## Purpose

The purpose of this WHS undertaking is to document the undertaking given to the **regulator**, the Secretary of the Department of Planning, Industry and Environment, for the purposes of Part 11 of the *Work Health and Safety Act 2011 (WHS Act)* in connection with a matter relating to a contravention or alleged contravention by the person of the WHS Act.

## Section A - general information

### 1. details of the company or individual proposing the undertaking

Name of company or individual	Clarence Coal Pty Ltd	
Registered address	Level 18, 1 Market Street, Sydney, New South Wales, 2000	
Mailing address (if different from above)		
Telephone	[REDACTED]	
Email address	[REDACTED]	
Legal structure	Australian Proprietary company, limited by shares	
Type of business	Coal mine operator of the Clarence Colliery	
Commencement date of the entity	20 July 1998	
Workers	Full time: 300	Other: 20
Products and services	Coal	
Comments		

### 2. the details of the alleged contravention

It is alleged that on 4 July 2018, Clarence Coal, being a person conducting a business or undertaking at the Clarence Colliery at Clarence, NSW (the **Mine**), failed to discharge its obligations under section 19(1) of the *Work Health and Safety Act 2011 (NSW)* (the **WHS Act**) to ensure, so far as is reasonably practicable, the health and safety of workers at the Mine while the workers were at work in the business or undertaking conducted by Clarence Coal.

### 3. details of the events surrounding the alleged contravention, e.g. incident details

On 4 July 2018, two workers, employed by Clarence Coal as operators, were trammings the continuous miner to the face in the drive of the 806A panel. During the trammings, the workers were using the continuous miner to clean up loose coal and/or trim the floor. One worker was operating the continuous miner and the other was undertaking the role of cable hand.

The continuous miner was shut down so that the workers could assist a shuttle car operator to replace brattice that had fallen down. Upon re-starting the continuous miner, pieces of rib spall struck the operators (**Incident**). The piece of rib coal that struck the continuous miner operator was approximately 1 metre by 0.5 metre in size and weighed approximately 750 Kg.

### 4. an acknowledgement that the regulator alleged a contravention has occurred

It is acknowledged that the Resources Regulator has alleged that Clarence Coal contravened the WHS Act in respect of the Incident.

5. the details of any injury that arose from the alleged contravention



6. the details of any enforcement notices issued that relate to the alleged contravention

Notices received:

Yes (provide details)  No

Date issued	Notice type	Notice number	Contravention	Action taken to respond to notice
4 July 2018	Section 198	180704DJM	Non-disturbance of scene	Complied with directions in notice.
5 July 2018	Section 198	180705DJM	Non-disturbance of scene	Complied with directions in notice.
5 July 2018	Section 195	N195-2018/00167	Prohibition of activity	Complied with directions in notice.
5 July 2018	Section 191	N191-2018/00435	Comply with directions: 1. develop a system for classifying the roads according to condition of the roads. 2. map the roads to that system. 3. develop a plan for prioritising the road works. 4. develop an action plan for the road works that includes required resources, expected resources and timings for the work. 5. implement action plan.	Complied with directions in notice.
18 July 2018	Section 191	N191-2018/00465	Comply with directions: 1. carry out a full review of the rib support system. 2. investigate the use of cuttable rib supports for use where secondary extraction is planned and where intersections are to be formed.	Complied with directions in notice.
24 July 2018	Section 155	180724-AT001	Notice to give information to the Department of Planning and Environment (the Resources Regulator)	Information provided as requested.
9 April 2019	Section 155	190409-AT001	Notice to give information to the Department of Planning and Environment (the Resources Regulator)	Information provided as requested.
9 April 2019	Section 155	190409-AT002	Notice to give information to the Department of Planning and Environment (the Resources Regulator)	Information provided as requested.
22 May 2019	Section 155	190522-AT001	Notice to give information to the Department of Planning and Environment (the Resources Regulator)	Information provided as requested.
24 June 2019	Section 155	NTCE0003102	Notice to give information to the Department of Planning and Environment (the Resources Regulator)	Information provided as requested.

7. a statement of assurance about future work health and safety behaviour

Clarence Coal is committed to complying with all of its obligations under the WHS Act, the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* (NSW) (**WHS Mines Act**), and relevant regulations.

8. when an alleged contravention is associated with an injury or illness

[Redacted]

[Redacted]

[Redacted]

[Redacted]

8.2. details of the support provided, and proposed to be provided, to the injured person(s) to overcome the injury/illness

The injured person is:

- an employee of the entity
- a self-employed person
- other (please specify) [Redacted]
- not applicable

Support provided to the injured person(s) or injured person(s) family:

Date	Description of support	Comment
	Please see above.	

9. the details of any existing safety management systems at the workplace including the level of auditing currently undertaken

Clarence Coal's Safety Management System (**SMS**) is a cohesive and comprehensive framework for the management of health and safety risks at the Mine. The SMS is an integration of documented plans, policies and procedures which are required to control the health and safety risks arising in the surface and underground operations at the Mine.

These plans, policies and procedures are built to meet the requirements of the WHS Mines Act, the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014* (NSW), the WHS Act and the *Work Health and Safety Regulation 2017* (NSW). They also align with *AS4801:2001 Occupational Health and Safety Management Systems - Specification with guidance for use*, *AS4804:2001 Occupational Health and Safety Management Systems - General guidelines on principles, systems and supporting techniques* and *AS/NZS ISO 31000:2009 Risk Management - Principles and guidelines*.

Clarence Coal recognises that for a SMS to be effective there needs to be appropriate checks and balances in place. This requirement stems from Clarence Coal's Health/Safety/Environment/Community (**HSEC**) Standards, in particular, the Audit, Review and Management HSEC Standard.

The SMS itself provides additional audit mechanisms, the key mechanisms including:

- The periodic review of the Mine Strata Failure Management Plan (**MSFMP**) to ensure that its suitability, adequacy and effectiveness is maintained;
- Weekly strata audits and panel inspections conducted by the Mine's undermanagers;
- Weekly Strata Meetings held by Technical Services;
- Inspections undertaken by deputies including their supervision of workers;
- Workplace inspections. Workplace inspection schedules are set out in the Business Management Framework (**BMF**). While Clarence Coal's culture is 'open door' the workplace inspections provide the Mine's management team with additional opportunities to engage with production and maintenance crews;
- Planned Task Observations (**PTOs**). The BMF identifies a focus for each PTO. The PTOs provide an opportunity for supervisors to reinforce safety elements in key areas of the Mine's operation;
- The review and consideration of previous shift reports / panel conditions;
- Daily HSEC Meetings;
- Modelling and data collection of the existing rib behaviour (geotechnical);
- The rostering of a Site Safety Health Representative to work an additional two shifts per week to undertake site inspections of the Mine and report any concerns to the Mine Manager;
- Compiling Monthly Operations Reports. Clarence Coal's Monthly Operations Reports capture leading and lagging safety indicators. Lag safety indicators are presented as graphs, assisting in the identification of any emerging trends. A summary is provided of any incidents including steps taken to prevent a recurrence. This provides transparency and accountability in relation to any incidents that occur.

10. the details of any consultation undertaken within the workplace regarding the proposal of a WHS undertaking (including workers and work health and safety representatives)

The Mine Manager issued a memorandum to all workers at the Mine advising that Clarence Coal is proposing to enter into a WHS Undertaking in relation to the Incident. The memorandum requested that the workers consider and provide any ideas they have for initiatives that could be included in the WHS Undertaking. The memorandum requested that all ideas be provided to be returned through the HSEC suggestions process and would be assessed by the WHS Undertaking Committee, which includes the Site Health and Safety Representative.

An undermanager provided feedback on undertaking virtual reality training. This has been adopted at the VRFR Program.

Clarence Coal also consulted with the Site Safety and Health Representative CFMEU about the projects and the representative is supportive of them.

11. a statement of regret that the incident occurred (ie not an admission of guilt)

Clarence Coal regrets that the Incident occurred.

12. any rectifications made as a result of the alleged contravention

After the Incident Clarence Coal took the following steps:

- Installed rib mesh and bolts at the face area as part of the mining process using the existing Joy Multibolters; and
- Installed rib mesh and rib bolts in any areas where secondary extraction was taking place. This was achieved by using either the Joy Multibolter, QDS Bolter or RUS Airtrack Bolter.

Subsequent to the above rectifications, the Mine sought to identify further safety innovations by undertaking consultation with its workforce. The goal was to reduce manual handling risks, improve operator ergonomics and reduce operators' exposure to unsupported rib.

The following innovations resulted (photographs **attached**):

- Mechanical Rib Bolts – (sourced through DSI International) common rock bolts used in the hard rock industry;
- Light Weight Rib Mesh – (sourced through DSI International) trialled by using Clarence Coal's own test roadway applying loads to simulate rib failure;
- Cocky Beak – Polyurethane extension bolted to the top of the drill rig to assist operators to balance the rib sheet during installation;
- Free Standing Rig Control Cabinets - upgraded to multibolters to allow the outsiderigs to lay over to rib bolt with controls in free standing cabinet.

Several other initiatives were also implemented that related to workers' health and safety including the introduction of:

- Ethos Health (Pre-work warm up and injury prevention program); and
- Mental Health Movement (Mental Health Awareness and Education). Both of these programs will continue through 2019 / 2020.

Since July 2018, the total amount Clarence Coal has spent on the purchase of additional bolting equipment, modifications and upgrades of bolting equipment is \$5 million. Clarence Coal is planning to spend a further \$1 million on bolting equipment upgrades during 2020.

Between mid July 2018 and October 2019 Clarence Coal incurred additional operating expenditure of \$2.92 million since adopting systematic rib support installation in face areas.

13. an acknowledgement that the WHS undertaking may be published and publicised

Clarence Coal acknowledges that the undertaking will be published on the regulator's website and may be referenced in NSW Resources Regulator material.

Clarence Coal acknowledges that the undertaking may be publicised in newspapers or other publications (where applicable, as specified in Section B – enforceable terms).

14. a statement of ability to comply with the terms of the undertaking

Clarence Coal has the financial ability to comply with the terms of this WHS undertaking and can provide evidence with this undertaking to support this declaration.

15. statement regarding relationships with beneficiaries

There are no known current relationships with any of the beneficiaries outlined in the enforceable undertaking, other than current employees and contractors of Clarence Coal and the broader coal mining community.

16. intellectual property licence

Clarence Coal grants the regulator a permanent, irrevocable, royalty-free, world-wide, non-exclusive licence to use, reproduce, publish, distribute, electronically transmit, electronically distribute, adapt and modify any materials developed as a result of this WHS undertaking.

17. the company or individual may be required to provide information of any prior work health and safety convictions

The regulator requests a list outlining details of any prior work health and safety convictions or findings of guilt under work health and safety legislation<sup>2</sup> or work health and safety related legislation.

Does Clarence Coal have any such prior convictions or findings?

Yes                      No

<sup>2</sup> Subject to any local legal constraints such as spent conviction legislation.

The list is attached (if applicable)

Yes                      No

18. a commitment to participate constructively in all compliance monitoring activities of the undertaking

Clarence Coal acknowledges that responsibility for demonstrating compliance with this WHS undertaking rests with the organisations who have given this WHS undertaking. Evidence to demonstrate compliance with the terms will be provided to the regulator by the due date for the term.

Clarence Coal acknowledges that the regulator may undertake other compliance monitoring activities to verify the evidence that is provided and compliance with the relevant terms of this WHS undertaking. The evidence provided to demonstrate compliance with the WHS undertaking will be retained by the organisations who have given this WHS undertaking until advised by the regulator that the WHS undertaking has been completely discharged.

Clarence Coal acknowledges that the regulator may initiate additional compliance monitoring activities of compliance with the terms of the WHS undertaking, such as inspections, as considered necessary at the regulator's expense.

19. a commitment that the behaviour that led to the alleged contravention has ceased and will not reoccur

Clarence Coal commits that the behaviour that led to the alleged contravention has ceased and that it will take all reasonably practicable steps to prevent recurrence of the Incident.

20. a commitment to the ongoing effective management of work health and safety risks

Clarence Coal commits to the ongoing effective management of work health and safety risks in accordance with the legislation and regulations referred to above.

21. acknowledgment of WHS undertaking guidelines

I have read and understood:

*Enforceable undertakings guidelines* version 5 dated August 2019.

## Section B – enforceable terms

1. Publication of information about the undertaking

Clarence Coal must, within 30 days of receiving notification from the regulator of the acceptance of the WHS undertaking, cause a public notice to be published in the Lithgow Mercury and the Sydney Morning Herald which will be drafted using the script provided in Attachment B.

2. A commitment to disseminate information about the undertaking to workers, and other relevant parties (which may include work health and safety representatives), and in the annual report (if applicable)

Clarence Coal must disseminate information by implementing the following:

- (a) display a summary of the WHS undertaking on all Mine, Mine office and contractor noticeboards at the Mine for 30 days;
- (b) communicate, as far as reasonably practicable, the WHS undertaking through toolbox talks to workers at the Mine, following acceptance; and
- (c) present the WHS undertaking to all the workforce during the State of the Nation presentation (a quarterly presentation delivered by the Mine Manager).

Dissemination by each of the above methods must occur within 30 days of receiving notification from the regulator of the acceptance of the WHS undertaking and continue at regular intervals of no more than three months throughout the life of the undertaking.

3. Strategies that will deliver worker benefits

In conjunction with Aframes Safety, Clarence Coal will deliver the Mindful Safety Worker Program (**MSW Program**) to its workforce. The MSW Program teaches workers how their mind works (including thought processes) and how to control their behaviours. The MSW Program provides the workers with mindfulness tools that will assist their decision making process, both at work and outside of work. In addition to providing each worker with mindfulness tools, the MSWP, at a collective level, contributes to fostering a positive safety culture at the Mine by reinforcing safety behaviours.



Clarence Coal will also work with Coal Services to develop a bespoke Virtual Reality "Free Roam" Strata Hazard Training Program (**VRFR**). The VRFR Program aims to deliver state of the art interactive training on managing strata related hazards. The VRFR Program works by integrating Clarence Coal's TARPs and safety procedures into the VRFR Program. The VRFR Program then enables the participant to communicate safety information from TARPs using messages, questions and small animations. The questions will test participants' understanding of the types of hazards they are being presented with and what steps they need to take. The utilisation of the interactive technology will assist Clarence Coal's workers to gain a different perspective on the management of strata related hazards at the Mine.

Clarence Coal recognises the importance of good ergonomics in rib bolting processes and the impact this has on the health of the workforce. As such, Clarence Coal will engage the University of Queensland to undertake an ergonomic assessment of roof and rib bolting processes used at the Mine to identify areas of improvement. Improvements in the ergonomics of roof and rib bolting processes will benefit the workforce at the Mine because it will reduce the instances of sprains or strains that may be caused by undertaking the roof and rib bolting processes. The outcome of the ergonomics assessment will allow Clarence Coal to identify opportunities to improve its roof and rib bolting processes including allowing it to re-evaluate the design of the bolting processes and equipment.

#### 4. Strategies that will deliver industry benefits

Clarence Coal will also undertake a benchmarking study into rib behaviour in relation to seam height. The benchmarking study will be facilitated by SRK Consulting, an independent consulting company. A University of New South Wales student will be engaged to undertake a thesis, as part of the benchmarking study, that will look at rib behaviour and the effectiveness of support at different seam thickness. The benchmarking study will assist in the selection of support types (including density of that support) to control the hazards associated with rib strata during roadway development and extraction processes. The benchmarking study thesis and any reports or results and recommendations will be made available to the coal mining industry of NSW and findings presented at least three industry conferences/seminars.

The VRFR Program can be shared with other coal mines as a new benchmark in interactive training. It will demonstrate the technology that is available for other mines to adopt and, in turn, provide their workers with a fresh perspective on strata management.

A video will be prepared by Coal Services identifying key parts of the VRFR program. The Video will be made available to share at NSW Coal Mining Industry seminars, including the Mining Engineering Managers Safety Seminar and the Mine Managers Association of Australia Annual CPD Seminar

The results of the ergonomics assessment and any improvement opportunities will be made available to share at NSW coal mining industry seminars and through presentations.

Clarence Coal will engage Coal Services to undertake a short animated video presentation of the incident, in consultation with the Regulator that will be made available to the mining industry and delivered at three mining industry seminars including the Mining Engineering Managers Safety Seminar and the Mine Managers Association of Australia Annual CPD Seminar.

#### 5. Strategies that will deliver community benefits

A donation to the Lithgow Community Hospital's (**Hospital**) therapy pool will deliver benefits to the local Lithgow community by providing the community with a therapy pool to assist patients with their short and long term rehabilitation. Current issues with the Hospital's therapy pool, including the unreliability of pump and filter systems, have resulted in the need for patients to travel to Katoomba and Bathurst to receive their rehabilitation treatment. A donation will enable the issues with the therapy pool to be resolved and provide patients with access to a local therapy pool.

**WHS undertaking**

6. A commitment regarding linking the strategy and promotion of benefits to the WHS undertaking

Clarence Coal commits that it will link the promotion of any benefits arising from the WHS undertaking and associated initiatives to the WHS undertaking.

7. Reimbursement of the regulator's agreed costs associated with, and any monitoring of, the enforceable undertaking

Clarence Coal must pay the regulators recoverable costs associated with the undertaking, as itemised below, and acknowledges that payment is due **30 days** after receipt of the regulator's invoice:

<input type="checkbox"/> investigative, legal and administrative costs	\$81,717
<input type="checkbox"/> compliance monitoring costs	\$10,000.00
<input type="checkbox"/> publication costs	\$
<b>Total amount</b>	<b>\$91,717</b>

8. Minimum spend

Clarence Coal must spend a minimum of \$524,942 excluding GST, in carrying out its obligations as set out in this WHS undertaking, inclusive of the regulator's recoverable costs.

Clarence Coal acknowledges the minimum spend comprises of:

Activities to deliver	Total estimated cost
Benefits to workers	\$196,225 (excl GST)
Benefits to industry	\$122,000 (excl GST)
Benefits to community	\$115,000 (excl GST)
Regulator recoverable costs	\$91,717 (excl GST)
<b>Estimated total value of the undertaking</b>	<b>\$524,942 (excl GST)</b>

9. Project of undertaking

Where a project or projects are proposed to deliver benefits to workers, industry and community, Clarence Coal offers and will carry out the projects set out in Attachment A to this WHS undertaking.

10. Timeframe for delivery

The strategies set out in this WHS undertaking must be completed by Clarence Coal on or before 18 months following acceptance of this WHS undertaking by the regulator.

## Section C - Offer of undertaking

### BY AN INDIVIDUAL

I offer this undertaking and commit to the terms herein.

Signed: .....  
[Person]

Name: .....  
[Print name]

Position: .....

Dated at..... this  
..... day of ....., 20.....

### BY A CORPORATION

As a duly appointed and authorised officer or agent of

*Clarence Coal Pty Ltd*

I offer this undertaking and commit

*Clarence Coal Pty Ltd*

to the terms herein.

Signed: *P Parry* .....  
[Director]

**Peter Parry**  
Name: .....  
[Print name]

Position: Director

Dated at *Sydney* ..... this  
*31st* day of *January* ..... 20*20*

Signed: *Tony Macko* .....  
[Director or company secretary]

**TONY MACKO**  
Name: .....  
[Print name]

Position: *COMPANY SECRETARY*

Dated at *Sydney* ..... this  
*31st* day of *January* ..... 20*20*

## Section D – Regulator’s acceptance of undertaking

I accept this undertaking as an enforceable undertaking under section 216 of the *Work Health and Safety Act 2011*.

Signed: .....

Position..... delegate of the Secretary,  
Department of Planning, Industry and Environment

Dated at ..... this ..... day of ....., 20.....

## **ATTACHMENT A**

(This attachment is incorporated in and considered part of the WHS undertaking given by Clarence Coal for the purposes stated herein, and are enforceable terms given under section B of the undertaking by Clarence Coal)

Clarence Coal will undertaking the following:

### **1. Project 1: Mindful Safety Worker Program**

#### **(a) Objective**

To foster a positive culture of safety at the Mine by delivering a training program that is focussed on mindfulness.

#### **(b) Purpose**

Clarence Coal recognises that each of its workers contributes to the safety culture of its organisation - every worker contributes to fostering a positive safety culture.

Clarence Coal also recognises that the importance of a positive safety culture in the workplace needs to be constantly reinforced and invigorated. In this regard, Clarence Coal has identified a fresh concept to deliver to its workforce. The concept involves using mindfulness to enhance the Mine's safety culture.

Aframes Safety, a safety consultancy, has developed the Mindful Safety Worker Program (**MSW Program**) that takes participants through a number of mindfulness elements. These elements include explaining:

- The way their mind works;
- Their thought processes and demonstration of how to develop effective thought processes;
- How to control emotions and behaviours; and
- How each worker contributes to the Mine's positive safety culture.

The workers will also establish their "safety purpose" including the encouragement of positive beliefs and learn tools for mental and emotional control. The combination of learnings will support the development of an effective safety culture. The participants will leave the MSW Program with mindfulness tools that will assist their decision making process both at work and outside of work.

#### **(c) Deliverables**

Clarence Coal will engage 'Aframes Safety' to deliver the MSW Program. The MSW Program will be delivered to all of Clarence Coal's workforce over a three month period. The initial MSW Program will involve the safety leaders (Deputies and Undermanager's) participating in small groups (3 – 6 people) to overview the program (1 hour session) and create buy in by the leadership team. Shift team sessions will then be held (15 – 20 people per session) for a 3 hour education session on site to educate people in the fundamentals of the MSW Program. Approximately, 250 Clarence Coal workers will attend the education sessions.

To test the veracity of the MSW Program, Aframes Safety will undertake safety culture interactions after the MSW Program has been rolled out. These sessions will involve interactions "on the job" to assess behaviours and thought processes in each crew rostered on each shift at the Mine, including production panels and outbye processes. Two interaction sessions will be undertaken for every crew. The first interaction session will be undertaken during the initial assessment to serve as a benchmark. The second interaction session will be undertaken after the education sessions to assist in measuring the success of the MSW Program. The interaction sessions will be for a duration of 2 – 3 hours.

A report will be prepared on the veracity and success of the MSW Program.

**(d) Timeframe**

Key task	Due
Engagement of Aframes Safety to conduct the MSW Program and develop a training schedule to involve the entire Clarence Coal workforce over a 3 month period.	Within 2 months of acceptance of WHS undertaking
Completion of the roll out of the MSW Program to the Clarence Coal workforce.	Within 7 months of acceptance of WHS undertaking
Completion of the follow up safety culture interactions, undertaken by Aframes Safety, to assess the effectiveness of the MSW Program.	Within 9 months of acceptance of WHS undertaking
Report completed on the veracity and success of the MSW Program	Within 12 months of acceptance of WHS undertaking

**2. Project 2: Virtual Reality “Free Roam” Strata Hazard Training Program**

**(a) Objective**

To provide the Clarence Coal workforce with an innovative virtual reality technology tool that trains workers on the management of strata failure.

**(b) Purpose**

Effective strata management is a key piece in managing work health and safety risks at the Mine. A core component to effective strata management is the sufficient training of workers on the identification of conditions and implementation of the hierarchy of risk controls. While Clarence Coal has provided its workers with extensive training on the application of its TARPs, developments in virtual reality technologies have created innovative training and development opportunities for Clarence Coal that will enable it to optimise learning outcomes for its workforce.

Clarence Coal has identified Coal Services as a partner for it to work with to achieve its training objectives. Coal Services is a specialised health and safety scheme that provides an integrated suite of services to help identify, assess, monitor and control risks inherent in the coal mining industry.

Coal Services has developed a program called Virtual Reality “Free Roam” Strata Hazard Training Program (**VRFR Program**). The VRFR Program aims to deliver state of the art interactive training on managing strata related hazards. The “Free Roam” Virtual Reality technology will allow the workers to enter into a realistic underground environment using the Gen4 VR Software Systems. The workers will follow a training program designed specifically for identification of strata hazards and the responses required to control those hazards using the Mines documented processes. It is proposed that the VRFR Program will be designed to have both team based and individual components as part of the competencies.

The virtual reality technology provides the flexibility to learn as you go whilst participating in problem solving strata related hazards by using the Mine’s documented processes. This VRFR Program will also develop an industry leading strata training program that can be shared with the industry to allow for “site specific” development by Coal Services.

**(c) Deliverables**

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Coal Services will develop a bespoke program for Clarence Coal by integrating its current roof and rib TARPs, safety procedures and photographs of current strata conditions into the VRFR Program. The VRFR Program will enable the participant to communicate safety information from TARPs using messages, questions and small animations. The questions will test participants' understanding of the types of hazards they are being presented with and what steps they need to take.

The VRFR Program will conclude with a competency assessment using both interactive on screen assessments and an e-learning module that can with be used in conjunction with a desktop version of the VRFR Program.

The VRFR Program can be shared with other coal mines as a new benchmark in interactive training.

A video will be prepared by Coal Services identifying key parts of the VRFR program. The Video will be made available to share at NSW Coal Mining Industry seminars, including the Mining Engineering Managers Safety Seminar and the Mine Managers Association of Australia Annual CPD Seminar

#### (d) Timeframe

Key Task	Due
Engagement of Coal Services to start Gen4 development of the VRFR Program and the E Learning Module	Within 3 months of acceptance of WHS undertaking
Completion of the review and test of the VRFR Program including receiving input from Clarence Coal technical services team and the workforce to ensure accuracy of the scope and practicality of the VRFR Program.	Within 6 months of acceptance of WHS undertaking
Development of a training schedule for the VRFR Program across all shifts and including a maximum of 25 workers per session	Within 8 months of acceptance of WHS undertaking
Completion of the rollout of the VRFR Program and the e-learning module to Clarence Coal workforce. Approximately, 250 workers will complete the VRFR Program.	Within 18 months of acceptance of WHS undertaking
Development of a video, by Coal Services, depicting the benefits of the VRFR Program. to be made available to the Industry and presented at three mining industry seminars	Within 20 months of acceptance of WHS Undertaking

### 3. Project 3: Strata Support Ergonomics Assessment undertaken by the University Of Queensland

#### (a) Objective

Undertake an ergonomic assessment of roof and rib bolting processes used at the Mine to identify areas for improvement in both process and equipment.

#### (b) Purpose

Clarence Coal is continuously looking at ways to improve its work practices from a health and safety perspective. One area that could be enhanced is the ergonomic aspect of work practices at the Mine, in particular, the ergonomics of undertaking roof and rib bolting processes.

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Improvements in the ergonomics of roof and rib bolting processes will benefit the workforce at the Mine because it will reduce the instances of sprains or strains that may be caused by undertaking the roof and rib bolting processes.

The outcome of the ergonomics assessment will allow Clarence Coal to identify opportunities to improve its roof and rib bolting processes including allowing it to re-evaluate the design of the bolting processes and equipment.

The ergonomics assessment will be led by Robin Burgess – Limerick, Professor of Human Factors, Minerals Industry Safety and Health Centre, the University of Queensland, and assisted by Danellie Lynas, masters degree in ergonomics and bachelor's degree in physiotherapy, who also works for the Minerals Industry Safety and Health Centre of the University of Queensland.

#### (c) Deliverables

The ergonomic assessment will include:

- Undertaking workplace observations at the Mine;
- Evaluating the ergonomic risks to health and safety identified in the workplace observations;
- Consulting with the workforce to assist in the identification of design and process improvements;
- Providing ongoing human factors and ergonomics expertise throughout the ergonomic assessment; and
- Providing a documented report on the findings of the ergonomic assessment and its recommended actions.

The results of the assessment and any improvement opportunities will be made available to share at NSW coal mining industry seminars, for example, the Mining Engineering Managers Safety Seminar and the Mine Managers Association of Australia Annual CPD Seminar and through presentations.

#### (d) Timeframe

Task	Due
Engagement of the University of Queensland to undertake an ergonomic assessment.	Within 3 months of acceptance of WHS undertaking.
Completion of the physical ergonomics assessment including engagement with the participatory ergonomics team through workplace interactions.	Within 8 months of acceptance of WHS undertaking.
Completion of ergonomic assessment report including task analysis, risk assessment, participatory ergonomics process outcomes and provide ongoing assistance with any redesign activities.	Within 10 months of acceptance of WHS undertaking.

### 4. Project 4: SRK Consulting Benchmarking Study into Rib Behaviour in Relation to Seam Height

#### (a) Objective

Undertake a benchmarking study into coal rib behaviours in relation to coal seam heights and the effectiveness of support in controlling risks to health and safety.

#### (b) Purpose

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To deliver a benchmarking study on rib behaviour and the effectiveness of support at different seam thickness. A benchmarking study will assist in selection of support types and density of that support to control the hazards associated with rib strata during roadway development and extraction processes.

#### (c) Deliverables

The benchmarking study will form part of an overall thesis focusing on creating a database of information that provides guidance to assist with selecting effective support types and designing support systems to effectively control rib behaviour during the mining process.

The benchmarking study will be facilitated by SRK Consulting. The benchmarking study will utilise Clarence Coal's technical Support, site based technical services experts and David Hill, Geotechnical Consultant at Strata 2. The benchmarking study will also involve support from manufacturers DSI and Jenmar.

As a part of the benchmarking study Clarence Coal will sponsor an internal University of New South Wales (**UNSW**) student to work closely with SRK Consulting, Clarence Coal technical services, external experts and suppliers to produce a thesis and any subsequent reports, findings or recommendations. The selected student will be mentored by Professor Ismet Canbulat from the UNSW School of Minerals and Energy Resources Engineering during the benchmarking study.

Any reports / results and recommendations will be published in the University of New South Wales thesis library as part of the sponsored students Master's Degree program. The thesis will also be made available to the coal mining industry of NSW and findings presented at least three industry conferences/seminars.

The findings of the benchmarking study into rib behaviour to be delivered at three mining industry seminars, including the Mining Engineering Safety Seminar and the Mine Managers Association of Australia Annual CPD Seminar.

#### (d) Timeframe

Key Task	Due
Engage SRK Consulting and form benchmarking study team including at least SRK Consulting, UNSW student, Strata 2. Finalise the scope of the benchmark study, develop a program, set outcomes and finalise a timeline. Develop a list of mines to visit for the purpose of benchmarking.	Within 3 months of acceptance of WHS undertaking
Undertake mine site visits and conduct benchmarking. Collect all relevant data from suppliers required for the benchmarking study.	Within 9 months of acceptance of WHS undertaking
Complete and publish benchmarking study and thesis with findings and recommendations.	Within 15 months of acceptance of WHS undertaking
Present findings and outcomes implemented of benchmarking study at least three industry conferences/seminars, including the Mining Engineering Safety Seminar and the Mine Managers Association of Australia Annual CPD Seminar	Within 18 months of acceptance of WHS undertaking



## 5. Project 5: Donation to Lithgow Community Hospital

### (a) Objective

To provide a donation to the Lithgow Community Hospital (**Hospital**) that will enable it to increase availability of the therapy pool by improving the pump and filter systems.

### (b) Purpose

The Hospital has identified the need for funding towards its therapy pool. The therapy pool at the Hospital assists patients with their short and long term recovery. In particular, the therapy pool can decrease patient pain and swelling, increase function, strength and range of movement. In turn, this improves patient recovery time and their quality of life. On average around 150 – 200 people use the therapy pool each week.

At present, the therapy pool at the Hospital is in need of improvement to its pump and filter system reliability. This is largely due to the age of the equipment. Unfortunately the deterioration of the therapy pool equipment has led to extended pool outages (6 – 8 weeks per year) and has dramatically increased the cost of maintaining the therapy pool. The unreliability of the therapy pool means that patients wishing to have hydro therapy are required to travel to Katoomba or Bathurst on a regular basis to carry out their rehabilitation.

### (c) Deliverables

We have been advised by the Hospital that a donation of \$115,000 will greatly assist the Hospital to undertake the repairs to the pump and filtering systems, upgrades to the backwash tank and upgrades to the therapy pool interior facilities that will render it reliable for use by the Lithgow and surrounding communities.

### (d) Timeframe

Key Task	Due
Commitment of funds to the Hospital of \$115,000.	Within 4 months of acceptance of WHS undertaking

## 6. Project 6: Development of a short animation video presentation of the incident and safety lessons learnt

### (a) Objective

To develop a short animated video presentation of the incident and the safety lessons learnt to provide a clear message to the workforce and industry, of the impact of the incident and that safety can always be improved.

### (b) Purpose

Effective communication of an incident and its safety lessons, through a video presentation provides an excellent tool to continue the safety messaging of Clarence Coal, to think safe, work safe and home safe.

### (c) Deliverables

Clarence Coal will engage Coal Services to undertake the short animated video presentation, in consultation with the Regulator that will be made available to the mining industry and delivered at three mining industry seminars including the Mining Engineering Managers Safety Seminar and the Mine Managers Association of Australia Annual CPD Seminar.

**(d) Timeframe**

Key Task	Due
Engagement of Coal Services to develop a short animated video presentation of the incident and safety lessons learnt.	Within 3 months of acceptance of WHS Undertaking

**7. Costs**

Clarence Coal agrees to pay the following minimum amounts as tabled in relation to each project identified.

Project	Cost \$
<b>Project 1: Mindful Safety Worker Program</b>	\$61,000
<b>Project 2: Virtual Reality “Free Roam” Strata Hazard Training Program</b>	\$76,400
<b>Development of Video of Training</b>	\$8,000
<b>Project 3: Strata Support Ergonomics Assessment undertaken by the University Of Queensland</b>	\$50,825
<b>Project 4: SRK Benchmarking Study into Rib Behaviour in Relation to Seam Height (including presentations).</b>	\$110,000
<b>Project 5: Donation to Lithgow Community Hospital</b>	\$115,000
<b>Project 6: Development of Animation Video</b>	\$12,000
<b>Total Minimum Cost</b>	<b>\$433,225</b>

**8. Project Management Team**

The Mine has assembled a “Project Committee” that comprises of a cross section of roles specific to each area that is required to manage each of the Project elements:

- Clarence Coal Manager Mining Engineering (Project Owner);
- Clarence Coal Business Improvement Manager (Chair);
- Clarence Coal Production Manager;
- Clarence Coal Engineering Manager;
- Clarence Coal HSEC Superintendent;
- Clarence Coal Technical Services Superintendent; and
- Clarence Coal Site Safety and Health Representative.

Overall responsibility for the Project will be allocated to the Clarence Manager of Mining Engineering.

The Clarence Business Improvement Manager will act as the Project Committee Chairperson and is responsible for organising Project Committee meetings, allocating actions and tracking overall progress of each element of the projects.

Each person on the Project Committee will have responsibilities to manage the relevant parts as allocated to them by the Project Committee.

The Project Committee will meet on a monthly basis as a minimum, this may vary dependent on the status of the project. The Business Improvement Manager will be responsible for Scheduling meetings as required.

Any external resources, for example training providers, will be organised through the Project Committee and scheduled by the person responsible for the project.

## ATTACHMENT B

(This attachment is incorporated in and considered part of the WHS undertaking given by Clarence Coal for the purposes stated herein, and are enforceable terms given under section B of the undertaking by Clarence Coal)

### Public Notice of regulator's acceptance of undertaking

#### Notice of acceptance of a WHS undertaking under Part 11 of the Work Health and Safety Act 2011

On 4 July 2018, at the Clarence Colliery (the **Mine**), two workers who were employed by the Mine, were injured when rock and coal fell onto the workers whilst tramming the continuous miner to the face (the **Incident**).

Clarence Coal Pty Ltd (**Clarence Coal**) is the mine operator at the Mine. The Department of Planning, Industry and Environment investigated the Incident and subsequently alleged that Clarence Coal contravened the *Work Health and Safety Act 2011* (the **Act**) by failing to discharge its obligations under section 19(1) of the Act to ensure, so far as is reasonably practicable, the health and safety of workers at the Mine.

Clarence Coal entered into a work health and safety enforceable undertaking with the Department of Planning, Industry and Environment in relation to the Incident.

This notice has been published under the terms of a WHS undertaking and acknowledges acceptance of an undertaking, that is enforceable under the WHS Act, from Clarence Coal.

The undertaking requires the following actions:

- Deliver a training program to the workforce on mindful safety;
- Deliver a training program to the workforce on strata management using virtual reality technology and develop a video of the training;
- Undertake an ergonomic assessment of roof and rib bolting processes used at the Mine;
- Undertake a benchmarking study into rib behaviour in relation to seam height;
- Donate \$115,000 to the Lithgow Community Hospital for repairs and upgrades to the therapy pool; and
- Engage Coal Services to prepare a short animated video presentation of the incident and safety learnings to be delivered to the mining industry.

The total value of the WHS undertaking is **\$524,942**.

The full undertaking and general information about enforceable undertakings is available at [www.resourcesregulator.nsw.gov.au](http://www.resourcesregulator.nsw.gov.au).

#### List of any prior work health and safety convictions or findings of guilt under work health and safety legislation

1. **Citation:** *Morrison v Clarence Coal Pty Ltd and Centennial Coal Company Limited* [2007] NSWIRComm 270.

**Date of judgment (sentencing hearing):** 30 November 2007.

**Date of incident:** 12 July 2004.

**Provision breached:** s 8(1) *Occupational Health and Safety Act 2000* (NSW) (**OHS Act**) Clarence Coal Pty Ltd and s 8(2) OHS Act Centennial Coal Company Limited.

**Orders:** Each defendant was fined \$80,000 and required to each pay half of the prosecutor's (Department of Primary Industries) costs.

Photographs referred to at section 12:



Installation of rib support



Mechanical Rib Bolt

WHS undertaking



Testing Lightweight Rib Mesh



Cocky Beaks Fitted to Bolting Rig

WHS undertaking



Self Standing Rig Cabinets



Rib Stabilisation