

A practicable risk-based approach to RS22 implementation and ongoing compliance.

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Abstract

This paper explores a robust and practical approach to the implementation of Recognised Standard 22, based on experiences gained from a number of mine operations across Queensland - offering a snapshot of the experiences, challenges and reservations faced collectively by the industry when seeking to comply with RS22.

Recognised Standard 22 “Management Structure for the development and implementation of the Safety and Health Management System” was gazetted in Queensland, Australia in August 2021. It states a way for the Site Senior Executive (SSE) to develop and maintain a Management Structure for the purpose of development and implementation of the Safety and Health Management System (SHMS) for a coal mine. The SSE must also determine the competency requirements of Management Structure positions and delegated responsibilities associated with the management of risk; including where there is an absence of competencies as prescribed by the Coal Mining Safety and Health Advisory Committee (CMSHAC).

A number of challenges exist within the Recognised Standard, leading to varied interpretations regarding its effective and practicable implementation and compliance with its requirements. As part of our working engagement with several Open Cut and Underground coal mines (operating and under construction), arguably the single-biggest challenge identified has been gaps in the Resource and Infrastructure Industry (RII) Training Package appropriate to the most common Material Unwanted Events (MUEs) found across all mines studied. The approach requires a well-considered rationale and approach to the application of training and skilling; and equally so, how to maintain the coordination of these training needs around the changes to the Management Structure, the Risk Register and succession planning for key roles. Software-based solutions such as MyCompetencyExpert are increasingly being relied upon to address the needs of SHMS requirements, such as compliance with RS22 – especially in the face of ongoing Management Structure changes, site risk profiling and the coordination of training needs management.

1 Introduction

Recognised Standard 22 “RS22”: *Management Structure for the development and implementation of the Safety and Health Management System* was gazetted 27 August 2021 (Recognised Standard 22, 2021) and a subsequent RSHQ letter issued to SSE’s gave the target date for complete implementation by 24 Feb 2023.

‘A person discharges their obligation in relation to the risk only if they adopt and follow the stated way [in the Recognised Standard]; or adopt another way that achieves a level of risk equal to or better than the accepted level’ (Coal Mining Safety and Health Act, 1999, p. s.37 and s.71).

The intent of RS22 makes sense: SSEs are required to develop a Management Structure for development and implementation of the SHMS. The SSE must also determine the competency requirements of positions delegated responsibilities related to the development, implementation and maintenance of the SHMS, and management of risk, including where there is an absence of prescribed CSMHAC competencies.

RS22 mentions the use of the Resources and Infrastructure Industry Training Package (RII) throughout but stops short of mandating it.

The RS22 application process adopted by coal mine sites has varied in the interpretation, implementation, and ongoing compliance, with challenges and uncertainty around:

- What roles should be within the Management Structure.
- The identification of RII units of competency appropriate to roles within the Management Structure.
- Methods of determining competence.
- The requirement and sourcing of Registered Training Organisations (RTOs) to provide training & assessment; and
- Succession planning and contractor management implications.

This paper will provide some high-level insight into how several mine sites have approached RS22 in terms of practicability, sustainability, cost effectiveness and value-add. It will also introduce some of the uncertainties/inconsistencies and suggest practicable solutions. No identifying names or features regarding any mine site, or any mining professional is included in this paper.

Specific areas for discussion include:

1. Distilling the BBRA into Material Unwanted Events (MUEs).
2. Risk Owner, Control Implementer and Control Monitor roles in relation to MUEs.
3. RII units, their intent, meaning and misalignment (of some) with the AQF framework.
4. RTO and non-RTO based solutions; and
5. How to sustain ongoing, practicable and practical compliance with RS22.

2 Determining Material Unwanted Events

The term Material Unwanted Event (MUE) is used by the International Council on Mining & Metals (ICMM) in their *'Health and Safety Critical Control Management: Good Practice Guide'* (2015) to describe the most serious types of health and safety incidents, and is defined as “An unwanted event where the potential or real consequence exceeds a threshold defined by the company as warranting the highest level of attention (e.g., a high-level health or safety impact)” (ICMM, 2015). This same terminology has recently been included in the draft Recognised Standard 02: Risk Management (v2.0) (RS02) (Recognised Standard 02 draft v2, 2023) .

As part of our approach to the implementation of RS22, we adopted the aspect of MUEs from the ICMM because they provide a well-researched and grounded approach to alignment with the common mine site Broad Brush Risk Assessment (BBRA)/Baseline Risk Assessment (whole of mine risk assessment) – and are fit for purpose for the mining sector.

Critical Control Management (CCM) has been defined as “A process of managing the risk of MUEs that involves a systematic approach to ensure critical controls are in place and effective” (ICMM, 2015, p. 5).

Figure 1 below shows the nine (9) steps of CCM. Each step in the process has a target outcome that should be achieved before moving to the next step.

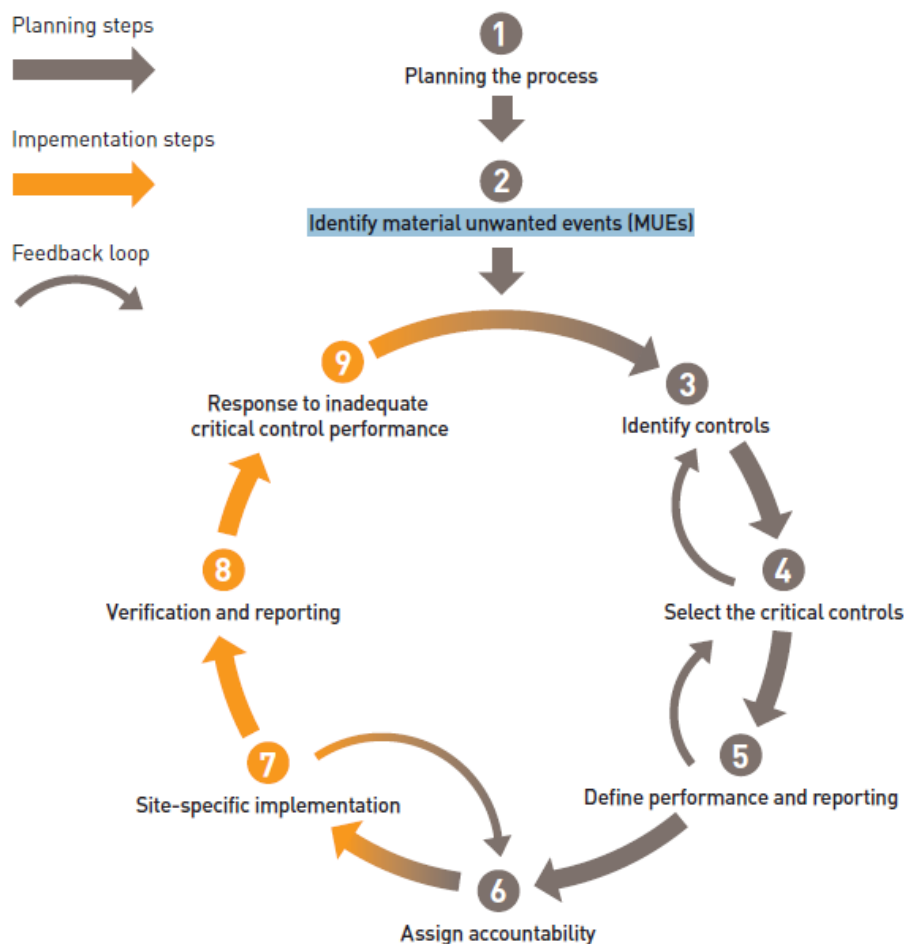


Figure 1 *The critical control management process* (ICMM, 2015)

Table 1 shows the Critical Control Management steps and their individual target outcomes as defined by ICMM.

	STEP	TARGET OUTCOME
Planning steps	1	A plan that describes the scope of the project, including what needs to be done, by whom and the timescales.
	2	Identify MUEs that need to be managed.
	3	Identify controls for MUEs, both existing controls and possible new controls. Prepare a bowtie diagram.
	4	Identify the critical controls for the MUE.
	5	Define the critical controls' objectives, performance requirements and how performance is verified in practice.
	6	A list of the owners for each MUE, critical control and verification activity. A verification and reporting plan is required to verify and report on the health of each control.
Implementation	7	Defined MUE verification and reporting plans, and an implementation strategy based on site-specific requirements.
	8	Implement verification activities and report on the process. Define and report on the status of each critical control.
	9	Critical control and MUE owners are aware of critical control performance. If critical controls are underperforming or following an incident, investigate and take action to improve performance or remove critical status from controls.

Table 1- CCM steps and target outcomes (ICMM, 2015)

According to (draft) RS02 (V2.0), the process of MUE identification occurs as a result of the Mine Baseline / Broad Brush Risk Assessment (BBRA), whereas RS22 requires a mine site to undertake the BBRA but does not mention the process to identify MUE's, instead stating only that the BBRA "identifies Multiple Fatality Hazards, Serious Risks (Single Fatality and Serious Harm events) and Health Exposure risks" (as shown in Figure 2).

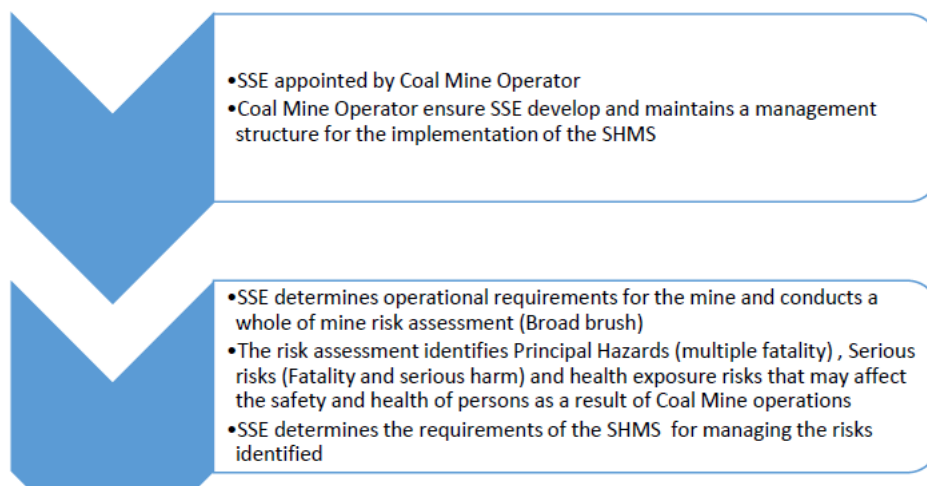


Figure 2 Key process steps for Management Structure Development (Recognised Standard 22, 2021, p. 8)

There is close alignment between RS22 and ICMM with respect to the identification of MUEs and Critical Controls and the ICMM terminology is readily adapted to RS22. We have taken this one step further and defined 'Risk Responsibility Roles' for each level of management hierarchy as shown in Table 2, **Error! Reference source not found.:**

Title	ICMM – CCM role	RS22 – SHMS role	Risk Responsibility Role
Manager / Superintendent	MUE Owner	Establish element/s of SHMS	RISK OWNER
Superintendent / Coordinator	Control Owner	Implement controls	CONTROL IMPLEMENTER
Supervisor	(Not defined)	Apply & monitor controls	CONTROL MONITOR

Table 2 - Determination of Risk Responsibility Roles

3 The role of Risk Owner, Control Implementer & Control Monitor roles in relation to MUEs.

The process of determining persons within the Management Structure to align with individual MUE risk responsibilities requires a cascading approach to consultation with the SSE, then the Risk Owners, the Control Implementers and finally the Control Monitors and a review of the site Management Structure as per CMSH Act section 55.

Understanding that there is a difference between an Organisational Structure (HR oriented) and the CMHSH Act s.55 Management Structure (SHMS oriented), allows the determination of positions to be listed on the Management Structure. This often leads to the omission of senior organisational roles such as HR manager, Shotfirers, Commercial Manager, Crew Members and more from the Management Structure. While this may seem counterintuitive at first, it makes sense where they do not have a direct SHMS 'Risk Responsibility Role' to play in respect to any of the site specific MUEs.

The final Management Structure accommodates the alignment of the MUE's, Risk Responsibilities and Roles to provide a MUE Risk Responsibility Matrix such as the example in Figure 3 (produced using MyCompetencyExpert [MCE] Software).

MUE Number	BBRA Risk Number	Name	Primary SHMS Document(s)	Risk Owner Role	Control Implement Roles	Control Monitor Roles / Other Requirements	Units of Competency
101	12, 13	Vehicle Interaction	PHMP-001 Principle Hazard Management Plan Traffic	Contracts Manager	CHPP Manager	Open Cut Examiner (OCE) CHPP Operations Engineer	Risk Owner ROAD_SAFETY - Mine Haul Road Safety Control Implementer RIIMPOS02D - Manage the interaction of heavy and light vehicles and mining equipment Control Monitor RIIMP0403D - Monitor interaction of heavy and light vehicles and mining equipment
102	15	Explosives	PHMP-003 Principle Hazard Management Plan Explosives	Contracts Manager	Technical Services Superintendent	Open Cut Examiner (OCE)	Risk Owner RIIBLA602E - Establish and maintain explosives safety and security management systems Control Implementer RIIBLA401E - Manage blasting operations RIIBLA403 - Design blasts Control Monitor RIIBLA401E - Manage blasting operations RIIBLA403 - Design blasts
103	CCM052, CCM053	Geotechnical	PHMP-002 Principle Hazard Management Plan Geotechnical	Technical Services Manager		Open Cut Examiner (OCE)	Risk Owner RIIMEX602D - Establish and maintain surface mining ground control and slope stability systems RPEQ Geotechnical/Civil - AQF6 + Geotech OR Civil Engineering (RPEQ) Control Implementer RIIMEX504 - Implement the ground control management plan Control Monitor RIIMEX407 - Apply and monitor the ground control

Figure 3 - Example MUE Risk responsibility matrix (produced using MCE Software) (Zen Meerkat, 2023)

We have adapted and extended the terminology from ICMM regarding Risk Owner and Control Owner to better align with the hierarchy as laid out by RS22 – splitting into Control Owner, Control Implementer and Control Monitor roles.

The definitions and role related responsibilities that we have applied with many clients is:

Risk Owner

- Typically, one Risk Owner per MUE.
- Manager/ Superintendent Senior positions within the Management Structure with the risk management responsibility to Establish (Develop) and Maintain elements of the SHMS.
- Responsible for the development of the SHMS related content (e.g., PHMPs and SOPs) that relate to an element of the SHMS designed to control specific risk/s as identified in the BBRA.
- Responsible for reviewing available information, identifying risk, managing, monitoring, and mitigating each risk in their area of responsibility (Recognised Standard 02 draft v2, 2023, p. 8).
- To maintain this element of the SHMS, this person is required to remain current with legislation, Recognised Standards, QGN's, Safety Alerts, OEM updates, Technology, Incident data and publications that relate to the topic – and to undertake review as required to ensure the integrity and compliance of the element.

- Review reports from Control Implementers regarding the compliance and effectiveness of controls and critical controls.
- Ensure that Control Implementers & Control Monitors are adequately resourced to do their job.
- Their attendance at Broad Brush and Principal Hazard risk assessments (and similar) and incident reviews should be documented, along with a record of them reviewing BBRA, Risk Register, Control Plans, PHMPs and similar.

Control Implementer

- Typically, a few Control Implementers to ensure coordination and homogenous implementation of controls across the mine and different departments.
- Superintendent / Coordinator level Supervisory positions within the Management Structure with the risk management responsibility to Implement elements of the SHMS.
- Active participating in risk assessments that underpin SHMS elements such as SOPs, MOPs and HMPs and review of these documents.
- To implement an element of the SHMS, the Control Implementer is required to undertake verification activities to review approved and proposed controls for compliance and effectiveness.
- Undertake Critical Control Verification (CCV) activities to ensure that the SHMS element is being maintained as planned and required by the SHMS – and prepare update reports for the Risk Owner (Establisher role).
- Arrange the scheduled review of risk assessments, SOPs, MOPs and HMPs with input from the Risk Owner and Control Monitors.
- Ensure that coal mine workers are trained in the risk and control requirements arising from the BBRA (including PHMPs, SOPs, MOPs and HMPs)
- Ensure that Control Monitors are adequately resourced and supported to do their job.
- This role should be documented as attending risk assessments, inspections, meetings and undertaking document control (review history).

Control Monitor (and Applier)

- Typically, numerous Control Monitors to ensure the ongoing and widespread application and effectiveness monitoring of controls across the mine and different departments.
- Supervisory positions within the Management Structure with the risk management responsibility to Apply and Monitor elements of the SHMS.
- Responsible for applying and monitoring the risk controls that have been implemented to prevent an incident or mitigate its impact.
- Ensure that the controls are working as intended and that they are effective in managing the risks they were designed to control.
- Gather and review verification activities including inspections, service history, sampling results, engineering results, observations (such as OCE reports, Pre-Start Inspections and Field Leadership activity), training data, radar data, incident investigation findings, etc.
- Confirm that requirements regarding controls being applied correctly, completely, and consistently are happening by all coal mine workers.
- Compare the results of monitoring activity to expectations.
- Initiate actions to correct controls being applied.
- Submit verification summary report to the Control Implementer.

Consideration must be given to:

1. Include **Contractors** in the above allocation of risk responsibilities.
2. **Step-Up / Relief and Succession planning** of positions with allocated risk responsibilities; and
3. The role that **Subject Matter Experts** play in the provision of technical knowledge relevant to the execution of risk responsibilities.

Figure 4 provides a broad overview of the process used to align the MUEs from the BBRA, to roles within the Management Structure, and then to the SHMS and individual skilling requirements.

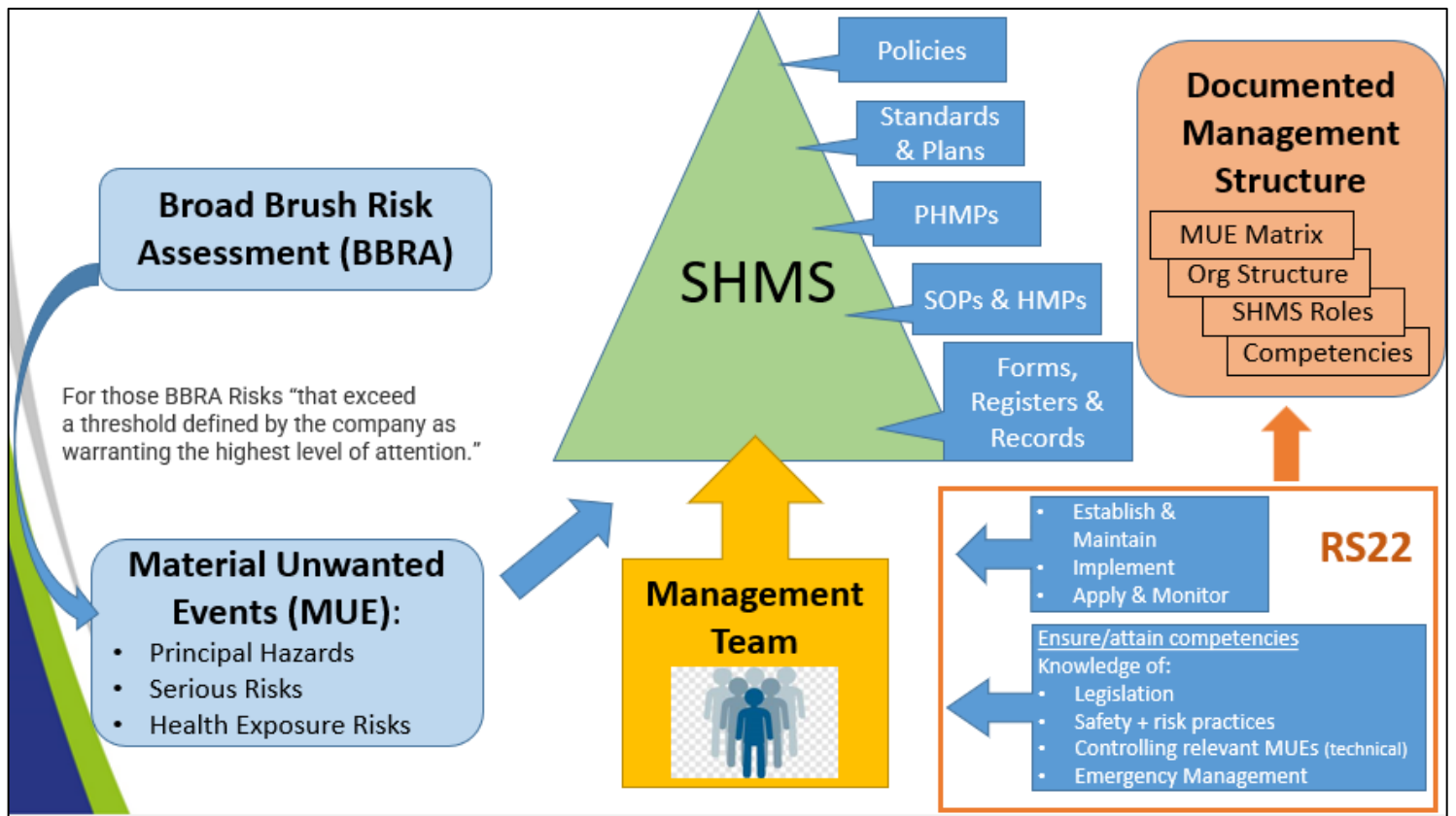


Figure 4 RS22 risk, responsibility, and SHMS alignment model

4 Determination of skills to support the MUE risk responsibility

Table 3 describes the alignment between the Management Structure hierarchy, relationship with the effectiveness of the SHMS, ICMM recommendations and the Australian Qualifications Framework (AQF) for skill level requirements.

RS22 Position Hierarchy	Description of Position	SHMS Role	MUE Role	AQF level	ICMM Alignment
Senior	Manager	Establish (Develop) & maintain	Risk Owner	6+ (Adv. Diploma) & above	MUE Owner
Supervisory	Superintendent	Implement	Control Implementer	5 (Diploma)	Critical Control Owner
Supervisory	Supervisor	Apply & Monitor	Control Monitor	4 (Cert IV)	Verification Activity Owner

Table 3 - Risk responsibility alignment between RS22, ICMM and AQF levels

A significant objective of RS22 is the assurance that persons within the Management Structure have the appropriate skills and knowledge to competently fulfil their risk related role requirements in relation to the SHMS.

“Each position in the Management Structure must be responsible and competent to develop, implement or apply parts of the SHMS that are relevant to the activities that the position is responsible for. For example:

- *Mining positions should be competent to develop, implement and apply the mining parts of the SHMS.*
- *Engineering or maintenance positions should be competent to develop, implement and apply the engineering or maintenance parts of the SHMS; and*
- *Processing positions should be competent to develop, implement and apply the processing parts of the SHMS.”* (Recognised Standard 22, 2021, p. 9)

Furthermore,

“A Senior Position is a position at the mine authorised by the SSE to be responsible for the development and implementation of relevant parts of the SHMS. Parts of the SHMS include the relevant vocational field, including Principal Hazard Management Plans (PHMPs), other Hazard Management Plans, Standard Operating Procedures (SOPs) and other controls required to ensure the risk from coal mining operations is at an acceptable level.

Where positions have obligations to manage and control activities under the CMSHA the SSE should ensure that the position is placed in the structure at a level that allows them to meet their obligation.

A Supervisory Position is a position at the mine authorised by the SSE to be responsible for the implementation of relevant parts of the SHMS and the application of plans. Parts of the SHMS include the relevant vocational field, including PHMPs, other Hazard Management Plans, SOPs and other controls required to ensure the risk from coal mining operations is at an acceptable level”.

All persons appointed a role within the Management Structure must be competent.

“To be assessed as competent, a person should have a range of competency across a spectrum of required knowledge. These areas of competence should include:

- *Knowledge of legislative or procedural requirements.*
- *Knowledge of safety and risk management practices.*
- *Knowledge of controlling hazards relevant to the activity and the position’s responsibilities; and*
- *Knowledge of emergency management.*

In determining position competence requirement, an SSE must consider the Australian Qualifications Framework to determine the appropriate level of competency and the Resources and Infrastructure Industry training packages, mine site-specific training and competency content, and experience of the worker etc. The SSE may determine that a position does not require an RII accreditation but must be able to demonstrate that the basis competence assessment, meets or exceeds the endorsed components of the resource and industry training packages. This may include the use of RPL/RCC as defined in Recognised Standard 11.” (Recognised Standard 22, 2021, pp. 11-12)

The above statements in RS22 pose, what many of our client mine sites experienced, as one of the greatest challenges in relation to the practicable implementation and maintenance of compliance with RS22. Figure 5 - **Implications of the intent of RS22** provides a version of a mind-map showing the implications of the intent of RS22.

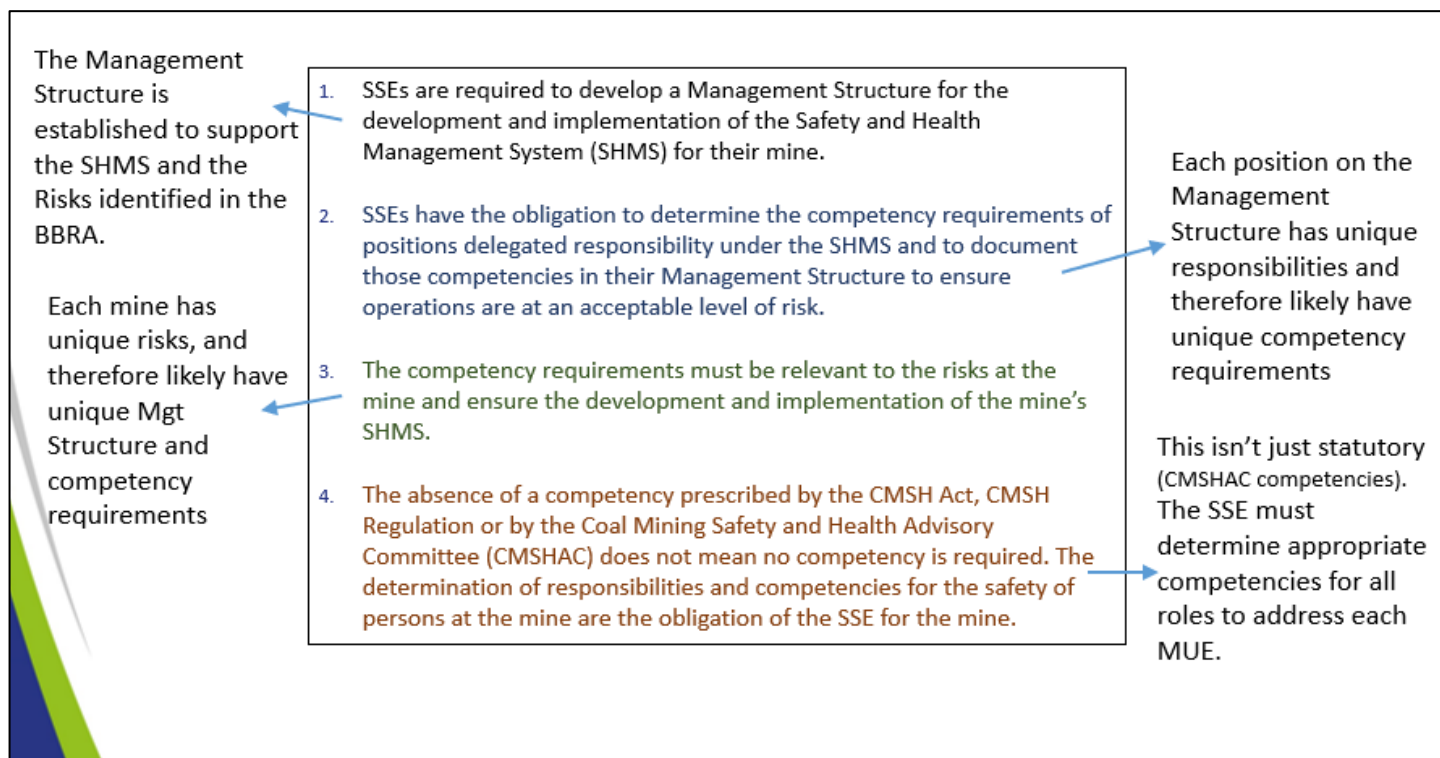


Figure 5 - Implications of the intent of RS22

It would be easy to 'step either side' of a fit-for-purpose solution for the implementation of RS22 – making it too hard and unsustainable, or making it too 'easy' and not robust. This is especially the case when it comes to the determination of what skills are required by persons in the Management Structure and then how to gain those skills.

CMSHA section 12 'Meaning of competence' plus Recognised Standard 11: Training in coal mine (RS11) provide the pathway for RS22 skilling; our approach has been (in broad terms):

1. Confirm persons in the roles within the Management Structure.
2. SSE allocation of risk responsibilities to each role (Risk Owner, Control Implementer and Control Monitor).
3. Determine technical skills and levels required to support step 2.
4. Propose skills to the SSE for endorsement.
5. Determine mix of practicable methods for attaining the skills:
 - a. RTO – accredited training course.
 - b. RPL/RCC – with RTO.
 - c. VOC – using purpose-built tools; and/or
 - d. Recognition of time on the job, in the industry and working within the SHMS
6. Propose the skilling solution for SSE endorsement; and
7. Coordinate the attainment of skills, gathering of evidence and tracking to closure.

The Resource and Infrastructure Industry (RII) Training Package is the endorsed industry training package for the mining industry, and there are many 100's of units of competency (UoCs) that can be combined to establish an RII qualification. Regarding the qualifications, there are:

- 1 x Cert I Qualification.
- 11 x Certificate II Qualifications.
- 13 x Certificate III Qualifications.
- 13 x Certificate IV Qualifications.
- 8 x Diploma Qualifications.
- 7 x Advanced Diploma Qualifications; and
- Plus, skill sets, and National units specifically developed through collaboration between industry and RTO's.

Although there are many UoCs that exist and have been developed to meet specific applications within the mining sector, the reality is there is a huge gap when it comes to actually being able to source an RTO that is prepared, capable and able to provide training and/or assessment against the full suite of units. This is clearly a business 'catch-22' for RTO's, whereby they will only add units onto their scope of registration and provision the courses if there is sufficient need in terms of a viable business model to service the unit.

To date the focus of RTO registration scope has been on CSMHAC required competencies, plant & equipment operations and operational skills (typically at AQF 2 & 3 level). Our research of more than 300 units of competency and over 110 RTOs has identified a significant gap in the range of units between AQF 4 - 6 that relevant for typical MUE's for Open Cut and Underground Mining Operations, plus Construction, Shutdown, Exploration and other bespoke mining operations.

Units, qualifications and RTOs able to deliver them are readily identified through the website www.training.gov.au. An RTO with a UoC listed as 'implicit' in their scope of registration means that the RTO has the ability to provide a Qualification that **may** be able to be comprised of a specific UoC (as these are interchangeable), however it is highly likely that the RTO **may not** have any training or assessment materials, or a Trainer / Assessor to facilitate a program.

For example, generally every Open Cut coal mine in Queensland has the same three (3) common Principal Hazards of Vehicle Interaction, Explosives and Geological (Ground & Strata) hazards. The example scenarios on following pages show the difficulty to locate topic suited competencies for AQF 4, 5 & 6 roles within a Management Structure.

Note: Red text indicates issues of misalignment in the AQF structure, and/or RTO scope coverage.

Example 1: Vehicle Interaction PHMP competency matrix

Vehicle Interaction (Principal Hazard)		Risk Owner	Control Implementer	Control Monitor
RIIMPO403D	Monitor interaction of heavy and light vehicles and mining equipment			X
RIIMPO502D	Manage the interaction of heavy and light vehicles and mining equipment		X	
No RII unit at AQF6	Mine Haul Road Safety topic	X		
RATIONALE: <ul style="list-style-type: none"> All role holders should be aware of RS19 - <i>Design and construction of mine roads</i> No formal AQF Units exist above AQF5, however this is ranked as a Principal Hazard, and so led to the recommendation for external training offered by road design experts in order to give attendees an appreciation of industry best practise and legislation in order to manage this element of the SHMS. RIIMPO AQF5 and 4 units given to IMPLEMENTERS and MONITOR, as expected. 				
AQF level & Role	Unit code	Availability	Comments	
AQF4 Control Monitor	RIIMPO403D	Yes	RTO options exist to obtain	
AQF5 Control Implementer	RIIMPO502D	Implicit scope only	<ul style="list-style-type: none"> Cannot easily obtain via an RTO. Unit appears to have incorrect naming "Manage" and should be termed and focused on "Implement" 	
AQF6 Risk Owner	No UoC	No	Possibly use external course e.g. AARB "Mine Haul Road Safety"	

Table 4 - Vehicle Interaction PHMP Risk Responsibility Skills Matrix

Example 2: Explosives PHMP competency matrix

Explosives (Principal Hazard)		Risk Owner	Control Implementer	Control Monitor
RIIBLA401E	Manage blasting operations		X	X
RIIBLA403	Design Blasts		X	X
RIIBLA602E	Establish and maintain explosives safety and security management systems	X		
RATIONALE:				
<ul style="list-style-type: none"> Shotfirer is a CSMHAC role with formal qualifications stated - they are NOT part of RS22 Management Structure. No formal AQF Units exist at AQF5, so it is recommended that IMPLEMENTOR AND MONITOR both obtain RIIBLA401 and 403. As this is a Principal Hazard, the RISK OWNER is recommended to obtain the RII AQF6 unit (according to www.training.gov.au RIIBLA403 is equivalent to and supersedes RIIBLA601E). 				
AQF level	Unit code	Availability	Comments	
AQF4 Control Monitor	RIIBLA401 RIIBLA403	Yes	<ul style="list-style-type: none"> RIIBLA401 has wrong title and focus of "manage" RIIBLA403 should be "design" 	
AQF5 Control Implementer	No UoC	No	<ul style="list-style-type: none"> There is no RII AQF5 unit SSE to decide to apply one of the 3 x AQF4 or 1 x AQF6 units or other rationale. 	
AQF6 Risk Owner	RIIBLA602E	Yes	RTO options exist to obtain	

Table 5 - Explosives PHMP Risk Responsibility Skills Matrix

Example 3: Open Cut Ground & Strata PHMP competency matrix

O/Cut Ground and Strata (Principal Hazard)		Risk Owner	Control Implementer	Control Monitor
RIIMEX407	Apply and monitor the ground control management plan			X
RIIMEX504	Implement the ground control management plan		X	
RIIMEX602D	Establish and Maintain Surface Mining Ground Control and Slope Stability Systems	X		
RATIONALE:				
<ul style="list-style-type: none"> There are suitable RII units of competency at each required AQF level 				
AQF level	Unit code	Availability	Comments	
AQF4	RIIMEX407	Implicit Only	No current viable RTO option	
AQF5	RIIMEX504	Implicit Only	No current viable RTO option	
AQF6	RIIMEX602D	Implicit Only	No current viable RTO option	

Table 6 - Open Cut Ground & Strata PHMP Risk Responsibility Skills Matrix

We find it incredulous for the Coal Mining Industry that three (3) Principal Hazards (MUEs) commonly found on every open cut coal mine have problems when it comes to gaining the industry endorsed RII units of competence at the correct AQF levels: Here within lies the single-biggest challenge when it comes to RS22 compliance.

5 RTO and non-RTO based solutions

Although ideal, it is not always practical or practicable to apply an RTO based solution to the attainment or confirmation of skills to support the needs of those persons listed in the Management Structure.

The word **Practical** implies sensible, whereas **Practicable** implies possible. However, while practical refers to something that is effective, useful, or easy to use, practicable means "something that is or could be done".

Working closely with site SSE's and Senior Managers, solutions can be determined to suit the needs of the business, the appetite for risk, budget, enduring value of upskilling and available options to fulfil any training and/or assessment requirements for persons to be considered not only competent by the SSE, but suitable to fulfil a role as Risk Owner, Control Implementer and/or Control Monitor.

In our work across the sector, we have observed that many Queensland coal mining sites have applied combinations of the following:

- Engaging an RTO that offers an RII UoC.
- Engaging an RTO that offers a non-RII equivalent unit.
- Engaging with a recognised subject matter expert organisation (such as an OEM, SIMTARS or AARB) to run topic specific training targeted to the risk role.
- Undertaking a Verification of Competency (VOC) process – typically this can focus on the Practical Skills of a person supported by evidence of undertaking key tasks in the workplace and meeting the principles of evidence requirements as defined by ASQA in the 2015 Standards for RTO's; and
- Using the site SHMS to complement any or all of the above – putting the training/evidence into direct correlation with the site requirements.

The various solutions as listed above require a rationale to track and provide an audit trail for the decisions made, as over time, the options available and utilised may change.

The rationale for the solution provides an audit trail for the ongoing sustainability of compliance to RS22, as well as insight for RSHQ and Inspectors when auditing a site.

As examples of approach:

- At one site, the SSE provided the phrase of "**Diligence over Negligence**" when describing his approach to identifying and closing the skills gap requirements; seeking credible RTO based solutions as a preference, followed using Subject Matter Experts (SME) holding credible qualifications to act as a Content Experts working with Risk Owners and Control Implementers (there was no need at the Control Monitor level). There is then a process of documenting the time with the SME to be recognised towards growing competency in the subject, balanced with time and exposure to differing situations; and
- At another site, the SSE also adopted the use of RTO's solutions where practicable, including engaging with RTOs to expand their scope and provide bespoke solutions. Where this was not viable, the adoption of VOC tools and processes was applied, with the VOC tools mapped to the Required Skills (practical application evidence) of the particular Unit of Competence. This VOC approach is based on the limitation that no RTO can provide a Statement of Attainment upon completion, the VOC requires the gathering and submission of documented and verifiable evidence and is balanced by time in the industry, and time in the role.

Budget, sustainability, accessibility, and succession planning are all significant factors in the decision regarding how to address gaining, maintaining and retaining skills for the Management Structure roles, and will greatly influence the process for RS22 compliance from its initial application and implementation on site, through to the actual skilling of personnel.

6 Sustaining ongoing, practicable and practical RS22 compliance

It is the nature of many coal mine sites to have dynamic Management Structures in terms of changes to personnel in positions affected by RS22. This presents a requirement to be able to track changes and remain current (and consistent) with the recognition of skills required and skills held by individuals. This is further exacerbated by the inclusion of contractors in this mix and the additional requirement of RS22 to ensure succession planning and relief roles are considered in terms of their skills and allocation of responsibilities for the establishment and implementation of the SHMS.

Any changes to the risk register and BBRA may also impact the application of RS22, in terms of MUE's, and the allocation of risk responsibilities across the Management Structure.

The ability to have a single source of truth for the coordination of changes to the risk profile and management structure of the site, plus the application of appropriate skilling solutions is key to the sustainability of a consistent approach, manage personnel, identify budget implications, and track compliance. Software-based solutions such as *MyCompetencyExpert* Figure 6 are increasingly being relied upon to track changes, competence requirements and generate required reporting to facilitate RS22 compliance and the maintenance of skills suited to risk responsibilities.

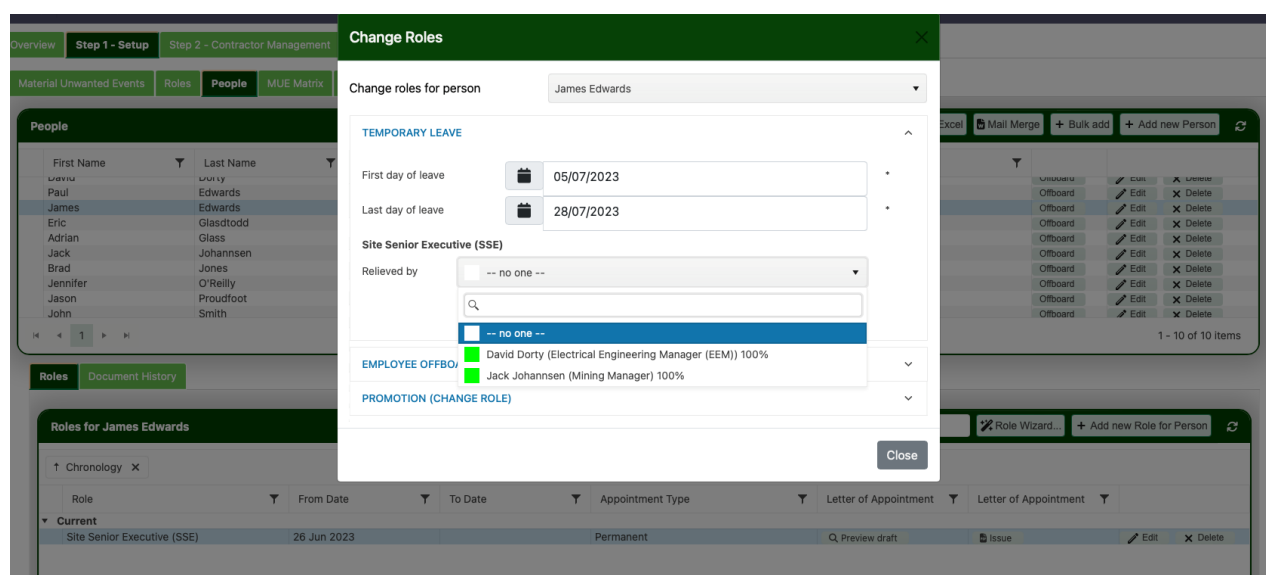


Figure 6- ongoing compliance with RS22 will rely on software-based solutions

It has been recognised at all sites that we have engaged with that the ability for the site to remain current in the application of RS22 across the roles and risks as they change, plus the management of gaining appropriate skills for key roles is a significant challenge and requires a well-considered approach and solution.

It is more likely that a site will be in a constant state of 'working towards' compliance than achieving a 'steady state' of compliance regarding skills, industry experience, succession planning and all facets of RS22.

Many sites use a Training Management System (TMS) or Learning Management System (LMS) database type system to identify Training Needs and completion of persons gaining and refreshing skills, but this process is typically focused on operational level skills at AQF2 and AQF3, with limited coverage for AQF4 – 6, other than the ubiquitous CSMHAC competencies. Furthermore, the trigger to review and re-apply the competency requirements is often not well established, i.e., such as a Mining Supervisor stepping into a Mining Superintendent role is often not underpinned by a range of risk or technical skills – whereas RS22 drives this skill profile to be more in-depth around technical capability. The site TMS/LMS can and should be used, but via an interface approach based on changes to the Management Structure and BBRA.

7 Conclusion

RS22 makes sense – it provides a structured approach to protecting the safety and health of persons on site and those impacted by operations (underpinning the Objects of the CSMH Act). It also provides the framework for transportability of people across the industry being able to take on Management Structure roles with a greater depth of skills targeted to Material Unwanted Events and the risk related responsibilities to establish, implement, and maintain the SHMS.

There is close alignment between RS22 and ICMM with respect to the identification of MUEs and Critical Controls and the ICMM terminology is readily adapted to RS22 (and draft RS02) and so leveraging off this provides an efficient and structured approach to RS22 compliance.

The issues raised, considerations put forward and strategies discussed in this paper provide a snapshot of the approach and considerable work employed across a number of Queensland coal mining operations – each on a fit-for-purpose basis, with the underpinning common approach that the BBRA drives the identification of MUE's, the Management Structure identifies key roles with risk related responsibilities around the development, implementation and maintenance of the SHMS and that the upskilling of these roles needs to be practicable, sustainable and managed.

The RII Training Package holds many units of competency that relate to the broad spectrum of roles and skills identified through RS22 profiling – but are not all readily available for delivery. This requires a well-considered rationale and approach to the training solution; and equally so, how to maintain the coordination of these training needs around the changes to the Management Structure and Risk Register. Here within lies the single-biggest challenge when it comes to RS22 compliance.

Software-based solutions present a practical tool and process to maintain compliance with RS22 in the face of ongoing Management Structure changes.

RS22 is here to stay and should be embraced in a way that adds value to each site in the ongoing management of risk.

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