

# **NSW WHS statutory functions requiring certificates of competence**

## **Competency framework**

### **Work Health and Safety (Mines and Petroleum Sites Regulation) 2022**

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### Acknowledgements

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12 April 2023	0.3	Retitled COMPETENCY FRAMEWORK: NSW WHS statutory functions requiring certificates of competence 2023. Quarry Manager moved to level 3. Functions not requiring a certificate of competence removed.
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# Introduction

Mining by its very nature is a hazardous occupation. Consequently, the safety of mining operations and the health of mine workers are key policy priorities for the NSW Government. Fundamental among provisions designed to ensure the safety of mining operations is certification that holders of certificates of competence know and understand the health and safety requirements and obligations of their function, they are aware of hazards and risks involved in mining and are able to apply relevant control measures detailed in legislative and regulatory instruments.

Certification is designed to ensure that those with responsibility for the health and safety of mine workers and mining operations have the knowledge, understanding and skills needed to make the 'right decision,' that is, decisions that adequately provide for the control of hazards and risks in their mining environment.

This revision of the original competency framework builds on and consolidates prior work undertaken to identify and articulate the competencies required of mine workers exercising statutory functions at NSW mines requiring certificates of competence, including the development of statutory function descriptions (available on the NSW Resources Regulator website). The original framework has been simplified and reconfigured, with the removal of auditors and ventilation officer from the framework. Competencies and benchmarks have been replaced with domains and competencies. The competencies in the revised framework have the same status as the benchmarks in the original framework, so that candidates have now only to address up to 17 competencies for their function in their exams, rather than 40 benchmarks.

The competencies set out in this framework are focused on ensuring the health and safety of mine workers. They are separate from corporate knowledge and skills that mining companies and other employers of mine workers may see as important drivers of mine productivity and management.

## Technical input into the document

This document draws on the expertise and technical knowledge of examination panel convenors responsible for assessing candidates applying for certificates of competence, that will enable to obtain practising certificates to work in NSW mines. An external consultant Dr Bruce Mowbray (Denstat Solutions) was engaged in 2023 to work with the convenors of exam panels to make improvements and amendments to the framework developed in 2019. Contributors to the framework are listed at the end of this document.

## Legislative foundations

The framework is designed to ensure that mine workers who exercise statutory roles in NSW know and understand the obligations of their functions and can implement and apply the operational controls and protocols, set out in NSW Government work health and safety (WHS) legislation. Relevant legislation includes the:

- *Work Health and Safety Act 2011*
- *Work Health and Safety Regulation 2017*
- *Work Health and Safety (Mines and Petroleum Sites) Act 2013*

- Work Health and Safety (Mines and Petroleum Sites) Regulation 2022
- *Explosives Act 2003*
- Explosives Regulation 2013
- *Radiation Control Act 1990*, and
- Radiation Regulations 2013.

## Responsibility for determining competencies for statutory functions in NSW mines

The NSW Mining and Petroleum Competence Board was established under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Work Health and Safety (Mines and Petroleum Sites) Regulation 2022 to advise the Minister and the Regulator on:

- setting the competence standards
- standards for assessing competence
- requirements for the maintenance of competence for exercising functions at a mine that impact on the health and safety of any person.

The Regulator is responsible for operationalising the competency framework through the assessment of candidates applying for certificates of competence.

## Purpose and function of this competency framework

This competency framework serves two main purposes:

### 1. Competency assessment

The framework provides a basis for the consistent and reliable assessment of the competence of people applying for a certificate of competence for a statutory function.

The NSW Resources regulator is responsible for conducting competency assessments.

Each examination panel will determine the weighting of assessment, that is the number of questions and marks/responses required to assess each of the competencies for a function.

An overview of the assessment processes and how each domain and their focus areas/competencies will be examined is to be provided by the examination panel at the briefing session for each function prior to candidates having to apply and undertake exams.

### 2. Competency development

The framework provides direction and scope for development activities that support mine workers to meet the requirements of certification to work in statutory roles.

Mining companies, employers, training organisations, candidates and holders of practising certificates are stakeholders in competency development or maintenance.

## Practising certificates and certificates of competence for statutory functions at NSW Mines

Certificates of competence are required for 14 practising certificates for statutory functions in NSW mines. Statutory functions requiring practicing certificates are listed by class of mine in the following table.

Underground coal mines	Underground mines other than coal mines
<ul style="list-style-type: none"> <li>• Mining engineering manager</li> <li>• Electrical engineering manager</li> <li>• Mechanical engineering manager</li> <li>• Undermanager</li> <li>• Deputy</li> </ul>	<ul style="list-style-type: none"> <li>• Mining engineering manager</li> <li>• Electrical engineer</li> <li>• Underground mine supervisor</li> </ul>
Coal mines other than underground mines	Mines other than underground mines or coal mines
<ul style="list-style-type: none"> <li>• Mining engineering manager</li> <li>• Electrical engineer</li> <li>• Mechanical engineer</li> <li>• Open cut examiner</li> </ul>	<ul style="list-style-type: none"> <li>• Quarry manager</li> <li>• Electrical engineer</li> </ul>

## How to read the framework

The competencies within the framework are arranged in domains, focus areas, and levels. Each of these are defined below.

### Domains

Domains represented related sets of foundation knowledge, understanding and abilities.

This framework has 4 domains. These relate to practitioners:

#### Domain 1: Statutory functions and regulatory requirements

Knowledge and understanding of their statutory function, of relevant others, and related WHS regulatory requirements.

#### Domain 2: Application & implementation of hazard management through technical knowledge

Knowledge and understanding to ensure the health and safety of mining operations and workers through the application and implementation of risk management and technical knowledge.

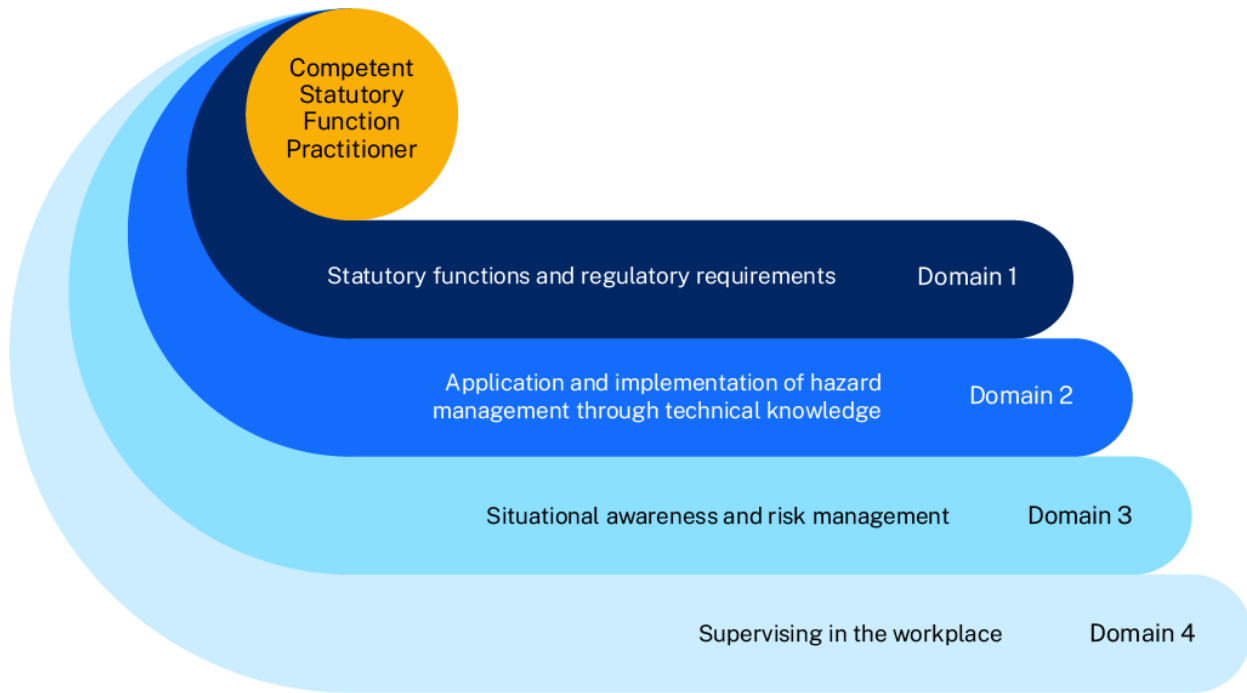
#### Domain 3: Situational awareness and risk management

Actions to identify, assess and minimise risks, hazards, emerging Issues and changing work conditions that may affect the safe functioning of the mine.

## Domain 4: Supervising in the workplace

Capacity to act decisively to make operational decisions, to lead and effectively communicate, to plan and organise their work in a structured manner, and to initiate actions that manage and control hazardous situations.

Figure 1 -The domains are represented schematically in this diagram.



## Focus areas

Focus areas identify specific areas of knowledge, understanding, skill, or skills application within each domain. The focus areas within domain each are set out in the following table.

Table 1: Focus areas within each domain

Domain 1: Statutory functions & regulatory requirements	
Focus areas	
1.1	Statutory function being examined and other relevant statutory functions and responsibilities.
1.2	Safety management system requirements for mines in NSW, specifically: Principal hazard management plans Principal controls plans (emergency, explosive, health, mechanical and electrical) Specific mining, electrical and mechanical engineering control measures and related risk plans.
1.3	Incident reporting requirements and protocols.
1.4	Work, health and safety requirements and regulations within the framework as it applies: General - WHS Act and Regulation

<b>Domain 1: Statutory functions &amp; regulatory requirements</b>	
	<p>Mine specific - WHS (Mines and Petroleum Sites) Act and Regulation</p> <p>Hazard specific relevant to the function e.g., Explosives Act and Regulation, Radiation Control Act and Regulation etc</p> <p>Legislated codes and standards</p>
1.5	Relevant current Australian and international standards, codes of practice, and alerts and bulletins

<b>Domain 2: Application and implementation of hazard management through technical knowledge</b>	
<b>Focus areas</b>	
2.1	Apply technical knowledge and understanding to the development and implementation of the mine safety management system.
2.2	<p>Apply working knowledge and technical understanding of effective controls for the management of hazards, safe operation, inspection and maintenance of systems, plant and equipment, relevant to the statutory function, such as:</p> <ul style="list-style-type: none"> <li>• risks/hazards and controls</li> <li>• life cycle management plans</li> <li>• change management plans</li> <li>• review of control measures.</li> </ul>
2.3	Mining/engineering design and planning through the development, implementation and/or application of technical knowledge.
2.4	Training and instructing workers.

<b>Domain 3: Situational awareness and risk management</b>	
<b>Focus areas</b>	
3.1	Assess, inspect and monitor the workplace to identify and manage hazards, risks, emerging issues and changing work conditions through the application of a hierarchy of controls
3.2	Compile and review shift/engineering reports, information provided by others and other available objective evidence to inform risk assessment and mitigation.
3.3	Management of high-risk activities or work.



## Domain 4: Supervising in the workplace

### Focus areas

4.1	Situational and operational leadership to ensure the health and safety of mining operations.
4.2	Act decisively to manage emergency situations and to control hazardous situations.
4.3	Communicate actions and necessary information in a timely, clear and effective manner in response to risks.
4.4	Carry out required consultation with others across the mine's operations.
4.5	Systematic and structured approach to management and problem solving in the workplace.

## Levels

The framework articulates requirements for statutory functions at 3 levels. The levels are differentiated by the technical or specialised nature of the roles, and the extent of their responsibilities within and across mining operations.

**Level 1** Front line supervisors have a working understanding of the relevant concepts and methods they are required to apply. They demonstrate autonomy, judgment, and responsibility within their operational environment, and can source additional information if required to carry out their function. This level covers practitioners required to supervise workers and inspect work areas in a part of the mine within their shift.

**Level 2** Undermanagers supervise mining operations at an underground coal mine for a shift. They must demonstrate a more in-depth understanding of and are able to apply theoretical and technical concepts and methods to demonstrate autonomy, and judgement in discharging their responsibilities in known or changing circumstances across broader work contexts.

**Level 3** Managers/engineers have broad responsibilities across the mine's operations. They have deep and broad theoretical and technical knowledge and skills, and the ability to apply advanced concepts and methods to guide their work and that of others. They operate autonomously, demonstrating high levels of experience, and judgement in undertaking their function. This level covers 3 types of practitioners.

- a) Those required to develop, supervise, monitor, and review standards and procedures forming part of mining operations at the mine and supervise the installation, commissioning, maintenance, and repair within their area of practice.
- b) Those specialised functions, required to develop and review the standards of their specialised area of knowledge, as well as supervise the installation, commissioning, maintenance, and repair within their area of practice.

Table 2 -The statutory functions at each level of the framework are listed below:

Level 1	Level 2	Level 3
Underground mine supervisor Deputy Open cut examiner	Undermanager	Mining engineering manager Electrical engineering manager Mechanical engineering manager

Level 1	Level 2	Level 3
		Electrical engineer Mechanical engineer Quarry manager

## Competencies

The competencies set out the knowledge, understanding and skills to be demonstrated by candidates addressing the focus areas at each level. The competencies are numbered according to their domain, focus area and level. For example, competency 3.2.3, refers to the competency relevant to domain 3, focus area 2, level 3.

## The competency framework

### Domain 1: Statutory functions and regulatory requirements

**Definition:** This domain is concerned with practitioners' knowledge and understanding of their statutory function, of relevant others, and related WHS regulatory requirements

Level 1	Level 2	Level 3
Focus area 1.1: Statutory function being examined and other relevant statutory functions and responsibilities		
1.1.1 Know and understand their function and statutory responsibilities.	1.1.2 Know and understand the statutory responsibilities of their function and the functions of those they supervise.	1.1.3 Know and understand the statutory responsibilities of their function and the functions of those they supervise.
Focus area 1.2: Safety management system requirements for mines in NSW, specifically: <ul style="list-style-type: none"> <li>principal hazard management plans</li> <li>principal controls plans (emergency, explosive, health, mechanical and electrical)</li> <li>specific mining, electrical and mechanical engineering control measures and related risk plans</li> </ul>		
1.2.1 Demonstrate an understanding of the safety management systems that apply to their function including implementation and compliance protocols and practices.	1.2.2 Demonstrate the ability to supervise the implementation of and monitor compliance with the mine's safety management systems relevant to their statutory function.	1.2.3 Demonstrate in-depth knowledge and technical understanding in the development, supervision, monitoring, and review of safety management systems relevant to their statutory function.
Focus area 1.3: Incident reporting requirements and protocols		
1.3.1 Demonstrate an understanding of statutory obligations for the reporting of	1.3.2 Demonstrate an understanding of statutory obligations for reporting of	1.3.3 Demonstrate knowledge and understanding of statutory requirements for reporting of

**Definition: This domain is concerned with practitioners’ knowledge and understanding of their statutory function, of relevant others, and related WHS regulatory requirements**

incidents applied through the mine safety management system.	incidents and protocols for ensuring compliance applied through the mine safety management system.	incidents, and the capacity to develop and incorporate processes and protocols for ensuring compliance within the mine’s safety management systems.
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Focus area 1.4: Work, health and safety requirements and regulations within the framework as it applies:

- General - WHS Act and Regulation
- Mine specific - WHS (Mines and Petroleum Sites) Act and Regulation
- Hazard specific relevant to the function eg. Explosives Act and Regulation, Radiation Control Act and Regulation etc
- Legislated codes and standards

1.4.1 Demonstrate a working understanding of the range of WHS legislation requirements that apply to the statutory function.	1.4.2 Demonstrate an in-depth knowledge of current WHS requirements and regulations that apply to the statutory function.	1.4.3 Demonstrate in-depth knowledge and understanding of the range of current WHS requirements and regulations relevant to the statutory function.
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Focus area 1.5: Relevant current standards, codes of practice, and alerts and bulletins

1.5.1 Demonstrate knowledge and understanding of the application of standards, and codes of practice that apply to their statutory function.	1.5.2 Demonstrate knowledge, understanding and the ability to interpret standards, codes of practice, guidance, and safety alerts and bulletins relevant to their statutory function.	1.5.3 Demonstrate skill, technical knowledge and understanding in the interpretation and application of standards, codes of practice, guidance, safety alerts and bulletins relevant to their statutory function.
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## Domain 2: Application and implementation of hazard management through technical knowledge

**Definition: This domain is concerned with ensuring the health and safety of mining operations and workers through the application and implementation of risk management and technical knowledge**

Level 1	Level 2	Level 3
Focus area 2.1: Apply technical knowledge and understanding to the development and implementation of the mine safety management system		
2.1.1 Apply relevant technical knowledge and understanding of	2.1.2 Apply technical knowledge and understanding of hazards and	2.1.3 Apply technical knowledge including knowledge of hazards

**Definition: This domain is concerned with ensuring the health and safety of mining operations and workers through the application and implementation of risk management and technical knowledge**

hazards and risks when supervising the implementation of mine safety management system relevant to the function.	risks to the supervision and implementation of mine safety management system relevant to the function.	and risks to the development, implementation, supervision, monitoring, and review of the mine safety management system relevant to the statutory function.
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Focus area 2.2: Apply working knowledge and technical understanding of effective controls for the management of hazards, safe operation, inspection and maintenance of systems, plant and equipment, relevant to the statutory function, such as:

- risks/hazards and controls
- life cycle management plans
- change management plans
- review of control measures.

2.2.1 Apply relevant effective controls for the safe operation of systems, plant and equipment relevant to mining operations in their work area.	2.2.2 Supervise the implementation of effective controls for the safe operation and maintenance of systems, plant and equipment relevant to the mining operations.	2.2.3 Apply working knowledge and technical understanding to the development and implementation of effective controls relevant to mining operations and/or the operation and maintenance of plant and equipment.
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Focus area 2.3: Mining/engineering design and planning through the development, implementation and/or application of technical knowledge

2.3.1 Apply mining design plans that comply with regulatory and technical requirements.	2.3.2 Supervise the implementation of mining/engineering design plans compliant with regulatory and technical requirements.	2.3.3 Develop, supervise monitor and review mining /engineering plans that comply with regulatory requirements and current technical knowledge.
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Focus area 2.4: Training and instructing workers

2.4.1 Provide training or ensure all team members, including contractors, have received instruction and are deemed competent in the conduct of safe and healthy mining operations in their work area.	2.4.2 Supervise the provision of training to ensure all workers, including contractors, receive instruction in the conduct of safe and healthy mining operations	2.4.3 Identify, develop, implement, monitor, and review systems for the provision of training, instruction and/or assessment of workers including contractors and supervisors to ensure that all personnel have the technical and other knowledge needed to maintain safe and healthy mining operations.
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## Domain 3: Situational awareness and risk management

**Definition: This domain concerns the practitioners' actions to identify, assess and minimise risks, hazards, emerging issues and changing work conditions that may affect the safe functioning of the mine**

Level 1	Level 2	Level 3
Focus area 3.1: Assess, inspect and monitor the workplace to identify and manage hazards, risks, emerging issues and changing work conditions through the application of a hierarchy of controls		
3.1.1 Demonstrated ability to apply the hierarchy of controls to the identification, assessment, inspection and monitoring of hazards and risks in the workplace.	3.1.2 Lead the development of or implement risk management systems utilising the hierarchy of controls.	3.1.3 Lead the development of risk management systems through the application of the hierarchy of controls
Focus area 3.2: Compile and review shift/engineering reports, information provided by others and other available objective evidence to inform risk assessment and mitigation		
3.2.1 Demonstrated knowledge and capacity to fulfil statutory and other reporting obligations involving the compilation, analysis and evaluation of information to inform the communication and implementation of risk controls.	3.2.2 Supervise the development of, compile and review statutory/operational/engineering reports, information provided by others and objective evidence to inform the development, communication, implementation, and review of risk controls.	3.2.3 Compile, review, analyse and evaluate statutory/operational/engineering reports, information provided by others, and other available objective evidence to inform the development, communication, and implementation of appropriate risk controls.
Focus area 3.3: Management of high-risk activities and high risk work		
3.3.1 Demonstrated capacity to identify and supervise high-risk work activities, to communicate mitigation actions to workers and monitor adherence to control actions.	3.3.2 Demonstrated capacity to identify and supervise the conduct of high-risk work and high risk activities consistent with regulatory requirements and specific control measures.	3.3.3 Demonstrate knowledge and understanding of regulatory requirements and controls for the planning of, and management of high-risk activities or high risk work.

## Domain 4: Supervising in the workplace

**Definition: This domain concerns the practitioner's capacity to act decisively to make operational decisions, to lead and effectively communicate, to plan and organise their work in a structured manner, and to initiate actions that manage and control hazardous situations**

Level 1	Level 2	Level 3
Focus area 4.1: Situational and operational leadership to ensure the health and safety of mining operations		
4.1.1 Demonstrate the capacity to continually monitor, review,	4.1.2 Demonstrate the capacity to conduct inspections, investigate	4.1.3 Demonstrate the capacity to use evidence and information, and

**Definition: This domain concerns the practitioner’s capacity to act decisively to make operational decisions, to lead and effectively communicate, to plan and organise their work in a structured manner, and to initiate actions that manage and control hazardous situations**

initiate action, and report workplace hazards and risks relevant to their function.	incidents, collect, compile and analyse objective evidence from workers, undertake corrective actions and report to managers.	analyse information provided by others to inform the investigation of incidents and events that deviate from safe work systems, and reassess and take actions prescribed under WHS laws.
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Focus area 4.2: Act decisively to manage emergency situations and to control hazardous situations

4.2.1 Apply emergency plans and take control of workers to ensure their safe withdrawal or escape if required.	4.2.2 Implement emergency plans and provide leadership in the management and control of emergencies.	4.2.3 Act decisively, to lead and manage emergency situations, including implementation of emergency plans and procedures to control emergencies.
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Focus area 4.3: Communicate actions and necessary information in a timely, clear and effective manner in response to risks

4.3.1 Effectively communicate with workers and management in the provision of information concerned with risks and controls that arise during mining operations.	4.3.2 Effectively communicate with workers, supervisors, and management to inform the control and mitigation of risk and the safety of mining operations.	4.3.3 Develop and implement effective communication, including the provision of necessary information that informs on the control of risk.
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Focus area 4.4: Carry out required consultation with others across the mine’s operations

4.4.1 Consult effectively with all workers including outgoing and incoming shift supervisors, contractors, and any other applicable external parties.	4.4.2 Consult effectively with other relevant stakeholders across the mine’s operations, including contractors and any other applicable external parties.	4.4.3 Consult and co-ordinate with internal and external stakeholders to ensure integrated and compatible standards and practices are implemented across technical disciplines and mining operations.
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Focus area 4.5: Systematic and structured approach to management and problem solving in the workplace

4.5.1 Demonstrate a systematic and organised approach to supervising and problem solving in the work area.	4.5.2 Demonstrate a systematic and organised approach to managing and problem solving across mining operations.	4.5.3 Demonstrate a systematic and organised approach in the application of technical knowledge and skills to manage and problem solve issues.
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