

IQA COMPETENCY FRAMEWORK

A competent workforce is essential for safe and effective quarrying operations. From senior management to plant operators, each member of the workforce requires a specific set of skills, aligned to the requirements of their role.

The Institute of Quarrying Australia (IQA) has developed a framework which identifies five essential competency areas, relevant to all levels of the quarrying industry:

- Safety and Risk Management
- Leadership and Management
- Emergency Management
- Operations
- Personal Effectiveness.





Why have a competency framework?

Training and development pathways for all staff should be planned to cover a range of skill and knowledge areas relevant to their role and function. This should include both technical and soft skills.

A competency framework provides a holistic view of the key skills and knowledge required across the industry. These broad areas of competency can then be broken down into levels of skill and knowledge which align with various job roles.

This framework facilitates development planning and ensures that all required competency areas are addressed for each individual.

Why these five areas?

The IQA has considered the approaches and systems from various local and international industry bodies, and the structure of the Australian Qualifications Framework, as well as feedback from a range of industry stakeholders, in the development of its framework.

The IQA drew from work undertaken by the Institute of Quarrying UK in development of the IQ Skills Wheel, as well as internal research and work to develop the IQA Quarry Manager Certification System.

Key considerations were:

- A framework which is flexible and broad enough to align with current and future state regulations pertaining to required competencies, noting that these differ between states/territories.
- Competency areas that are broad enough to be aligned to internal competency frameworks / policies / operations of individual organisations or sites.
- Competency areas that reflect and are relevant to the various levels, roles and positions which exist across the industry.
- Competency areas that are flexible enough to have broad appeal to associated industries.
- A framework which facilitates pathways through levels of skill and knowledge, aligned to the requirements of industry roles and benchmarked against the standards outlined in the Australian Qualifications Framework.



The five key areas

Safety and Risk Management:

Safe work is critical for any industry, and everyone has a responsibility for safety. Maintaining a safe working environment requires all levels of the workforce to understand the risks associated with operations, and the measures required to control those risks. It is important that sites are able to develop and implement Safety and Health Management Systems aligned to the state / territory legislation under which they operate.

Leadership and Management:

A workforce requires structure, and at all levels leadership and management skills are needed. Workers must have skills to manage their own tasks, time and priorities, while those with supervisory or managerial roles must be able to lead and manage people, operations and strategy.

Emergency Management:

Quick and efficient response to an emergency situation is vital to minimise injury and damage. From planning emergency systems, to carrying out response and rescue operations, everyone must understand their role in emergency management and have the skills required.

Operations:

The day to day operations of a quarry require a range of technical skills across all levels of the organisation to ensure efficiency and continuity. Skills include operational planning, quality control, environmental management, and plant and equipment operation.

Personal effectiveness:

Effectiveness in the workplace is not just dependent on technical or role-specific skills. Each individual must take responsibility for their personal and professional growth. Personal attributes such as interpersonal communication, resilience and respect for diversity contribute to an effective and productive workforce.



The five key areas for a Quarry Manager

	SAFETY & RISK MANAGEMENT	LEADERSHIP & MANAGEMENT	EMERGENCY MANAGEMENT	OPERATIONS	PERSONAL EFFECTIVENESS
QUARRY MANAGER	Comprehensive understanding of hazards and risks associated with whole operation, and ability to develop and implement systems for risk assessment and control.	Leadership and communication skills to structure and manage the workforce. The ability to lead and mentor staff and work with teams, consult with stakeholders at all levels of the organisation, and effectively manage change.	Comprehensive knowledge of emergency management principles, and ability to develop and document systems and procedures for emergency response.	Ability to develop and document systems for operations, including environmental management and quality control. Understanding of all business functions, such as financial and human resource management.	Interpersonal communication skills to establish and maintain professional relationships. Ability to establish and maintain workplace culture which promotes diversity and inclusion. Ability to recognise and address areas for personal growth and development.



The five key areas for a Quarry Supervisor

	SAFETY & RISK MANAGEMENT	LEADERSHIP & MANAGEMENT	EMERGENCY MANAGEMENT	OPERATIONS	PERSONAL EFFECTIVENESS
QUARRY SUPERVISOR	Detailed understanding of hazards and risks associated with work area, and skills and knowledge to implement and monitor controls.	Leadership and communication skills to supervise workers, manage day to day operations and resolve conflict. The ability to consult with stakeholders and liaise between workforce and senior management.	Detailed knowledge of, and ability to implement, emergency response procedures.	Ability to implement systems and procedures for safe and efficient operations, to meet organisational objectives. Ability to balance the priorities of safety and production.	Interpersonal skills to function as a role model in workplace interactions, and encourage respect for diversity. Ability to recognise and address areas for personal growth and development.



The five key areas for a Quarry Operator

	SAFETY & RISK MANAGEMENT	LEADERSHIP & MANAGEMENT	EMERGENCY MANAGEMENT	OPERATIONS	PERSONAL EFFECTIVENESS
OPERATOR	Working knowledge of hazards and risks associated with job role, and ability to implement risk controls.	Self-leadership and communication skills to function effectively within a team, and participate in conflict resolution and consultation processes.	Skills and knowledge to carry out specific emergency response tasks, and ability to follow established processes and instructions.	Technical skills and knowledge to operate plant and equipment safely and efficiently. Ability to follow operating procedures and report issues.	Self-awareness and interpersonal communication skills to maintain appropriate relationships with team members, and demonstrate respect for diversity. Willingness to participate in opportunities for personal growth and development.



Alignment to roles in the industry

Based on the state requirements for qualifications of quarry managers and supervisors, each role below is referenced against an Australian Qualifications Framework (AQF) level. These levels have been applied by the IQA in the consideration of topics appropriate for each role, across the five essential competency areas.

Quarry Manager – Diploma:

Specialised knowledge and skills for skilled/paraprofessional work, applying a broad range of cognitive, technical and communication skills to a range of activities. Initiative and judgement to plan, coordinate and evaluate the work of teams within broad parameters.

Examples of relevant IQA courses include:

Slope Stability, Emergency Management, Learning from Disasters and Incident Investigation

Supervisor – Certificate IV:

Theoretical and practical knowledge and skills for specialised or skilled work, applying a range of methods and information to complete routine and non-routine activities. Responsibility for the quantity and quality of team outputs, within limited parameters.

Examples of relevant IQA courses include:

Slope Stability, Quarry Roads and Onsite Vehicle Safety, Supervising for Safety, and Plant and Equipment: Safety, Compliance and Best Practice.

Operator – Certificate III:

Theoretical and practical knowledge and skills for a specific area of work, applying known methods and information to complete routine activities. Participation in teams with limited responsibility for the output of others.

Examples of relevant IQA courses include:

Slope Stability for Operators, Hazard Identification

While the framework overtly addresses these three key industry roles, the framework can be applied to other roles such as weighbridge operators, sales and technical/laboratory staff. Further work will be undertaken to provide detail around these, and other roles, and the framework is rolled out and new programs are developed.



What the framework is not

The IQA competency framework is designed to help organisations and individuals plan professional development. It takes into consideration the level of skill and knowledge required under each of the five competency areas for the common roles in a quarry.

The IQA's courses are aligned to the level of skill and knowledge required for different roles. For example, **Slope Stability** is aimed at Quarry Managers and Supervisors, focusing on high level processes for risk identification, assessment and control. The **Slope Stability for Operators** course equips plant operators with foundational knowledge of slope stability principles, and the skills to identify potential signs of slope failure and report issues to be addressed.

The framework does not articulate any specific key performance indicators (KPIs) or measurement of a person's competency. This should form part of the organisation's human resources policies and internal position descriptions.

Alignment to state maintenance of competency schemes

The IQA's competency framework is applied in conjunction with:

- NSW Resources Regulator's Maintenance of Competence Scheme for Practising Certificates (mandatory for Quarry Managers of Tier 1 and Tier 2 quarries);
- Resources Safety and Health Queensland Practising Certificate Scheme (PCS) for Certificate of Competency and Notice holders.



References

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