



Resources Safety & Health
Queensland

DISCUSSION PAPER



Competency requirements for Queensland's
drilling and well servicing workers

Petroleum and Gas Inspectorate

21 July 2023

Is Queensland's competency framework for drilling and well servicing fit for purpose?



Have your say

The Petroleum and Gas Inspectorate invites industry participants to have their say. Rig workers, drilling and well servicing contractors, tenure holders, and related training service providers have until 23 August 2023 to make a submission about competency requirements for drilling and well servicing workers.

To provide your feedback email: gasSafe@rshq.qld.gov.au

Executive summary

Resources Safety and Health Queensland (RSHQ) is the independent regulator for safety and health in Queensland's resources sector. The Petroleum and Gas Inspectorate (the Inspectorate) administers safety provisions of the *Petroleum and Gas (Production and Safety) Act 2004* (PG Act). RSHQ uses a risk-based and data-driven approach to pursue its vision of zero serious harm for resource sector workers.

The Inspectorate is conducting a review of the [Competency standard for petroleum and gas well drilling and well servicing](#) (the Competency Standard). The competency standard is called up as a safety requirement for drilling operating plant in section 21 of the Petroleum and Gas (Safety) Regulation 2018 (PG Safety Reg). The Inspectorate's review objectives are to ensure:

- the competency framework for drilling and well servicing workers is contemporary
- resource industry workers and supervisors are competent to manage and control hazards and
- regulated entities are able to demonstrate worker competency.

This Discussion Paper is a first step in RSHQ's engagement with industry participants about opportunities to revise the competency framework for drilling and well servicing workers so that it is fit for purpose. While there has been significant changes in industry practices since the introduction of the Competency Standard, drilling and well servicing industries continue to be high risk hazardous activities and the Scott Karajic coronial recommendations to establish a competency framework remain valid.

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Background

The Competency Standard was introduced to implement coronial recommendations resulting from the inquest into the death of **Mr Scott Karajic** at Berwyndale South in 2003. The recommendation for a mandated education package was aimed at ensuring competency of rig workers, supervisors and senior drilling company personnel.

Since the commencement of the Competency Standard, there have been two fatalities in drilling and well servicing operations in Queensland. **Cameron Cole**, a driller, was 24 years of age when he died on 14 August 2009. Mr Cole was a member of a drilling crew in the process of establishing a new well site. **Gareth Dodunski**, a floorhand, was 21 years of age and was killed on 23 June 2013 while working on the drill floor.

There have been minor revisions to the Competency Standard since it was first published in 2007 (transitional until 1 January 2009). The minor revisions included changes to competencies referenced in the standard in 2012 and the addition of well servicing competencies in 2015. In contrast, there has been significant change to industry practice for drilling and well servicing operations since 2009.

Training should ensure workers have competency in risk management and how it should be applied throughout the life cycle of a well and the specific activity each worker undertakes when drilling or working on a well. Training should provide individuals with an appropriate ability to undertake risk assessment, manage processes and apply hazard control methods specific to their area of responsibility. Supervisors need to be competent in understanding the impact of decisions on the work of each activity conducted by the worker they are supervising.

Drilling and well servicing operations are high risk and hazardous activities involving heavy and mobile machinery, high levels of exposure to dust and explosive substances, significant physical activity, and remote locations requiring long shifts and off-site accommodation. These operations are not subject to the same level of process safety engineering controls compared to other components of petroleum and gas extraction (pipelines and facilities). Competency, training and supervision are critical in ensuring worker safety in high-risk operations¹.

¹ Refer to recommendations 3 and 4 and supporting information in Brady (2019). Review of all fatal accidents in Queensland mines and quarries from 2000 to 2019. Accessed from <https://www.parliament.qld.gov.au/documents/tableOffice/TabledPapers/2020/5620T197.pdf>

Issues

A contemporary framework?

Inspections and audits by the Inspectorate have indicated the Competency Standard may not be contemporary in setting minimum standards for all workers associated with drilling and well-servicing operations. A contemporary regulatory framework that sets the competency standards for drilling and well servicing workers aligns with RSHQ’s strategic objective² “to be an exemplar expert regulator”.

The Competency Standard remains largely unchanged since 2009 even though there has been significant changes in drilling and well servicing. Table 1 provides an indicative list of changes across the industry. Feedback of other relevant changes is encouraged.

Table 1		Drilling and well servicing changes in Queensland’s oil and gas sector	
OPERATION	2009 +	2023	
Rig			
<ul style="list-style-type: none"> Technology 	<ul style="list-style-type: none"> Heavy reliance on manual labour Much slower 	<ul style="list-style-type: none"> AI technologies and capabilities Remote-control function Move faster with less effort 	
<ul style="list-style-type: none"> Site to site movement 	<ul style="list-style-type: none"> Slow - crane lifting & suck trucks 	<ul style="list-style-type: none"> Faster – predominant use of trailers and wheels 	
<ul style="list-style-type: none"> Site preparation 	<ul style="list-style-type: none"> Heavy construction Multiple sumps 	<ul style="list-style-type: none"> Minimal disturbance applications Sumplless operations 	
Drilling practice			
<ul style="list-style-type: none"> Rate of penetration 	<ul style="list-style-type: none"> Slow and controlled methods 	<ul style="list-style-type: none"> Increased rates from engineered improvements (e.g., drill bits, total flow area, bottom hole design) has optimised drill times Well control guided by extensive geological mapping 	
<ul style="list-style-type: none"> Drilling fluid management and cuttings disposal 	<ul style="list-style-type: none"> Left to evaporate in sumps 	<ul style="list-style-type: none"> Increased fluid management by CSG drilling contractors Specialised service by trucking companies for processing 	
<ul style="list-style-type: none"> Coil tubing 	<ul style="list-style-type: none"> Not generally practiced 	<ul style="list-style-type: none"> Routinely used in operations 	
<ul style="list-style-type: none"> Snubbing 	<ul style="list-style-type: none"> Not generally practiced 	<ul style="list-style-type: none"> Emerging use in operations 	

² Resources Safety and Health Queensland (2021). Strategic Plan. FY2021-2025. Accessed from <https://www.rshq.qld.gov.au/resources/documents/corporate/strategic-plan.pdf>

Table 1		Drilling and well servicing changes in Queensland's oil and gas sector	
OPERATION	2009 +	2023	
Training & competency of workers			
<ul style="list-style-type: none"> Onboarding of workers 	<ul style="list-style-type: none"> Minimal induction & training processes Minimal enforcement by regulator 	<ul style="list-style-type: none"> Comprehensive training provided Contractual requirements exceed minimum competency standards 	
<ul style="list-style-type: none"> Well control training 	<ul style="list-style-type: none"> Determined by operating company, Not a core requirement of the RII competencies 	<ul style="list-style-type: none"> Well barrier / control training required by operators and contractors. Not a core requirement of the RII competencies Industry applies revised API standards 53 & 59 	
<ul style="list-style-type: none"> Coil tubing 	<ul style="list-style-type: none"> No regulatory competency requirements 	<ul style="list-style-type: none"> No regulatory competency requirements 	
<ul style="list-style-type: none"> Fracking 	<ul style="list-style-type: none"> No regulatory competency requirements 	<ul style="list-style-type: none"> No regulatory competency requirements 	
<ul style="list-style-type: none"> Snubbing 	<ul style="list-style-type: none"> Not relevant 	<ul style="list-style-type: none"> No regulatory competency requirements 	
<ul style="list-style-type: none"> Supervision 	<ul style="list-style-type: none"> No regulatory competency requirement for operating company representative 	<ul style="list-style-type: none"> No regulatory competency requirements for operating company representative 	

Section 21 of the PG Safety Reg mandates the Competency Standard as a safety requirement for the operator of drilling operating plant for workers drilling or servicing a petroleum well or bore. The PG Regulation defines drilling operating plant as:

an operating plant used for any of the following—

- (a) to drill a petroleum well;*
- (b) to complete, maintain or work on a petroleum well for the production of petroleum;*
- (c) to plug and abandon a petroleum well.*

There are categories of operating plant that fall within the scope of the section 21 of the PG Safety Reg, however, the Competency Standard makes no provision for the workers of these operating plant. The scope of the Competency Standard only applies to workers of drilling and well servicing rigs. Other potential high-risk operations for which workers are not required to attain competency include flushby units, coring, coil tubing, fracking, snubbing, wireline and cementing operations. There are also operators using drilling rigs to complete wells. Well completion operations are included in the definition of well servicing in section 21 of the PG Safety Reg. This requires workers for these operators to have attained both drilling and well servicing competencies.

All workers that are within the scope of the regulatory provision undertake high risk, hazardous activities. Their training should support them to learn what is relevant to the specific tasks they conduct to ensure they safely achieve these tasks, this may include but is not limited to entering an existing wellbore for remedial, suspension and/or abandonment purposes. Examples of these

activities includes the following operations: wireline, coiled tubing, snubbing, well maintenance and completion, suspension and abandonment.

Matters for consideration

- *Considering Table 1, what other changes in industry practice are relevant to worker competency?*
- *What changes in industry practice need to be considered in revising the competency framework? Why are they important?*
- *Is there a need to broaden the scope of the competency framework to include all well servicing activities? If so, which ones?*
- *What options are there for the competency framework to better reflect contemporary industry practices?*
- *What is the impact for operators in meeting competency requirements for workers on a drilling rig that also conducts well completion operations?*

Setting of competency requirements

The Competency Standard lists the minimum level of qualification that a person must attain, or be enrolled in, to work on a petroleum and gas drilling or well servicing rig in Queensland. The Competency Standard requirements apply in addition to overarching obligations³ under the PG Act to ensure workers are competent to undertake each task required of them.

The Competency Standard specifies the qualification level to be attained for each identified position on a typical drilling and well servicing operation (e.g., Certificate II Oil and gas drilling (onshore) for floorman/motorman, Certificate III Well Servicing for lead floorman/motorman hand). Units of competencies for each qualification (core and elective) are set out in the national [Resources and Infrastructure Industry \(RII\) training package](#) and establish minimum competency requirements for workers at drilling operating plant. The qualifications (certificates) to be attained are packaged to meet workplace roles and are aligned to vocational qualification levels in the [Australian Qualifications Framework](#).

The contents of the RII framework were developed by PwC as a skills service organisation in consultation with an industry reference committee. PwC's Skills for Australia no longer operates as a skills service organisation. Jobs and skills councils were established by the Australian Government in 2023 and the [Mining and Automotive Skills Alliance](#) (AUSMASA) is the job skills council with responsibility for the RII training package.

The national vocational educational and training (VET) framework allows for course material to be tailored for unique industry settings by RTO's. This allows course material to keep pace with changes in industry practice and technology. Referencing the RII qualifications in the Competency Standard has enabled revisions to core and elective units to automatically apply without needing to amend the Competency Standard. In this way the Competency Standard has kept pace with some changes in industry practice where these changes have been included in revisions to core and elective units.

The Competency Standard prescribes two options for achieving compliance. The first option requires a person to have attained the relevant RII qualification for their position. The second option requires a person to be undergoing training for the competencies, and to be acting under the direct supervision of a competent person. Suitable evidence for meeting these conditions are quoted from the Competency Standard as:

³ Acceptable level of risk (section 699) and safety management system (sections 674 and 675).

a) Training

Evidence from a Registered Training Organisation (RTO) or certified assessor (for Certificate IV Training and Assessment) that confirms the person is enrolled in a course or is being assessed in training.

b) Direct supervision

The person conducting the work has been clearly instructed by a qualified competent person on their work site. The competent person must be able to provide face-to-face supervision every shift and must be capable of discharging their obligations to each person under their supervision.

c) Competent person

A competent person for the purpose of this Standard has the same meaning as the Work Health and Safety Regulation 2011. A competent person has acquired through training, qualification or experience the knowledge and skills to carry out the task.

The Competency Standard does not provide for achieving competence through a training program other than RII implemented by a certified RTO and assessed against this program by either an RTO or certified assessor. The Competency Standard notes that while the PG Safety Reg allows a person to work on a rig if they are in the process of undergoing training and under the direct supervision of a competent person, this has only been provided to allow for the practical aspects of the competency-based training and assessment to take place. It is not a means of routine compliance for day-to-day operations. A person directly supervising a trainee is considered competent if they hold the RII qualification for the tasks they are providing instructions for.

Matters for consideration

- *Is the Competency Standard clear in setting out requirements for industry in relation to competencies needed by workers conducting drilling and well servicing operations? If not, how could these requirements be articulated more clearly?*
- *Is the national RII framework fit for purpose?*
- *The regulator considers supervisors must hold the RII qualifications they are supervising, are there alternative means of demonstrating a person is competent to supervise and instruct trainees?*
- 🔍 *Do the mandated competencies adequately reflect contemporary practice for ensuring competent workers? If not, what matters should be included in a revised competency framework?*
- 🔍 *For drilling and rig workers new to industry is there a need to allow for initial exposure to the work environment prior to enrolment into formalised training? How would this maintain or improve competency?*

Well control

Well control is a key aspect of maintaining a safe operational environment within drilling operating plant. Well control is not a core competency requirement within the RII framework. As set out in Table 2, it is not mandatory for workers to undertake specific well control related competencies in the RII qualification prescribed by the Competency Standard.

RII Qualification	Elective
Certificate II in Oil and Gas Drilling (onshore) and Well Servicing	RIIOGD205E - Support blow out prevention operations RIIOGD206E - Assist and monitor well control operations
Certificate III in Oil and Gas Drilling (onshore) and Well Servicing	RIIOGD305E - Apply blow out prevention operational procedures
Certificate IV in Oil and Gas Drilling (onshore) and Well Servicing	RIIOGD405E - Carry out well control and blow out prevention operations

Source: Resources and Infrastructure Industry Training Package (Release 9.0) accessible at: training.gov.au - RII - Resources and Infrastructure Industry Training Package

A 2016 International Association of Oil and Gas Producers (IOGP) Report (Report 476) recommended “enhancements to well control training, examination and certification for personnel involved with all oil and gas well operations throughout the world”.⁴ The Report highlighted that the exploration and production industry has a focus on process safety and for well operations involving drilling, completion and well intervention, process safety means well control.⁵

Recommendations of the Report included an emphasis on:

- extending well control competency to support services,
- risk awareness and risk management training to specifically cover maintaining well control,
- well control training being tailored specifically to roles and responsibilities.

Matter for consideration

- *Should well control be a mandatory component of competency requirements for drilling and well servicing workers?*

⁴ International Association of Oil and Gas Producers (2016). Recommendations for enhancements to well control training, examination and certification. Report 476. August 2016. 2nd ed. p.6 Accessed from <https://www.iogp.org/pubs/476.pdf>

⁵ International Association of Oil and Gas Producers (2016). p.6

Contractual arrangements

Section 21 of the PG Safety Reg mandates the Competency Standard and applies this obligation to the operator of drilling operating plant. This has the impact of limiting the application of the Competency Standard to operators of drilling and well servicing plant. In practice, tenure holders generally contract drilling and well servicing crews. Contractual arrangements between the well operators and the drilling and well servicing operators can provide for the operating company representative (OCR) to have a supervisory role in drilling and well servicing operations.

The Competency Standard does not mandate competency requirements for the OCR role. The Inspectorate has observed OCR's performing responsibilities at well sites that require understanding of how the various operating plant interact. In some instances, the OCR operates as the approval authority on location. The general requirements for training and supervision outlined in section 22 of the PG Safety Reg are the only competency requirements for OCR's, there are not specific competency requirements, despite the fact that a person holding an OCR position is able to make decisions about how drilling and well servicing operations are conducted.

Matter for consideration

- *Should OCR's have specific competency requirements? If yes, what options should be considered?*

Recognition of prior learning

Section 5 of the Competency Standard prescribes four acceptable methods for training and assessment of competencies. The fourth method describes how recognition of prior learning may be assessed:

“A person may be considered to have met the required competencies if it can be demonstrated that they have completed an equivalent competency (e.g., international competencies). For rig workers who have undertaken other oil and gas drilling training it will be necessary for the operators to map the workers competency to the equivalent RII training package qualifications in this Standard and arrange gap training if necessary.”

The Competency Standard does not prescribe the units of competency that must be achieved only the qualification level that pertain to a working position on a drilling or well servicing rig. The result of this is a potential gap between Australian national content requirements against international content requirements. Some international drilling and well-servicing companies have indicated to the Inspectorate that training and experience undertaken by its workers in other countries has not been recognised by Australian RTO's when they have sought recognition of prior learning. The Inspectorate would like to understand more about this issue. It has been described by RTO's that the Australian framework of competencies for drilling and well servicing provides a high level of competency when compared with other global frameworks.

Matters for consideration

- *For drilling and well servicing operators that employ workers with international training and work experience, has there been any difficulty for these workers in receiving recognition of prior learning when seeking attainment of core electives and units under the RII package?*
- *For RII training service providers (RTOs and certified assessors):*
 - *Are you able to provide a summary of requests received and approvals granted for recognition of prior learning related to the RII package for drilling and well servicing?*
 - *What are the reasons given when recognition of prior learning has not been given?*

Appendix 1 – Feedback – Competency standard review

The following questions are provided to guide feedback without any intention to limit the raising of additional matters and options for improvement.

To provide your feedback email: gasSafe@rshq.qld.gov.au

Question	Response
<p>Considering Table 1, what other changes in industry practice are relevant to worker competency?</p>	<ul style="list-style-type: none"> ▪ The industry has lost incredible amounts of knowledge due to down turns and “town” jobs being a more stable & viable option. Leaving a lot of inexperienced people to run rigs and crews. ▪ Onboarding of employee’s and contract requirements vary greatly between operators. The basic rig ready training (Short courses) is not well defined within the industry. A standardized mandatory training outline would assist Drilling contractors with compliance requirements. ▪ Clear expectations for well control requirements for rig workers operating mud tanks i.e., IWCF level 2 vs RII components.
<p>What changes in industry practice need to be considered in revising the competency framework? Why are they important?</p>	<ul style="list-style-type: none"> ▪ The industry is seeing people progress through the levels at a greater speed, where it would take someone 3+ years to get to a Derrickhand or AD position we are seeing them do it in 2 or less – this causing a heavy reliance on a company’s internal processes. While SLR are comfortable with our internal requirements to ensure competence in a position we are not as confident in other operators. The only check for industry is the RII qualification which has basic tasks.
<p>Is there a need to broaden the scope of the competency framework to include all well servicing activities?</p>	<ul style="list-style-type: none"> ▪ Yes, a provision is required when Drilling employees are required to perform well servicing operations. Recommend allowance for a SME to oversee operations as drilling employees perform the tasks and undergo the training. Define a timeline for completion. ▪ Also, provision for exemption to have WS SME oversee operations for short term WS jobs run by drilling operators (eg similar process for water wells) provided crews hold appropriate Drilling competencies. This will save costs for operators, not requiring all personnel to upgrade qualification for a short term project but still ensure that there is an appropriate level of qualification and knowledge available. ▪ Define simple workover
<p>What options are there for the competency framework to better reflect contemporary industry practices?</p>	<ul style="list-style-type: none"> ▪ Standardised VOC’s for positions external to RII competencies which only provide very basic demonstrations of practical work required on site.

Question	Response
<p>What is the impact for operators in meeting competency requirements for workers on a drilling rig that also conducts well completion operations?</p>	<ul style="list-style-type: none"> ▪ Qualifying Drilling (DR) workers to Well Servicing (WS) certificate is time consuming and costly. Costs of qualification and SME to assess training and oversee. ▪ WS “upgrade” from DR qual requires operations to be in progress to adequately assess personnel – Requiring cost of SME to be onsite overseeing operations, and also assessing. ▪ The new competency framework requires back training of qualification meaning that a Drilling qualified RM would need to be assessed against all WS levels (as the majority will not hold RII21120) regardless of the length of project – recommend provision for short term contracts that no WS back training be required.
<p>Is the Competency Standard clear in setting out requirements for industry in relation to competencies needed by workers conducting drilling and well servicing operations? If not, how could these requirements be articulated more clearly?</p>	<ul style="list-style-type: none"> ▪ SLR believes the competency standard is clear and easy to understand.
<p>Is the national RII framework fit for purpose?</p>	<ul style="list-style-type: none"> ▪ Requires revision to better suit operations. Some electives hold greater value than current core unit requirements. In particular, the Cert IV and Diploma qualifications hold units in the cores that could be replaced with more effective UoC. Eg. RII0GD505E Manage drilling and well servicing induction and orientation could, better, be replaced with BSBWOR502 Lead and manage team effectiveness and/or RII0GD504E Manage drilling operations. ▪ Diplomas need greater emphasis on leadership and management of their people and clients. They are moving away from the physical operation of the rig and into the management of the rig – the diploma would be better focused to those areas.
<p>The regulator considers supervisors must hold the RII qualifications they are supervising, are there alternative means of demonstrating a person is competent to supervise and instruct trainees?</p>	<ul style="list-style-type: none"> ▪ Alternative means of competence needs to be identified since the conception of accelerated RII programs, run by RTO’s. Allowing a Cert II to be obtained in 7 days without attending a rig site or a simulated environment. Obtaining this qualification by these means does not make a person competent, yet they are holding the qualification that according to QLD Competency Standard allows them to work up to a Motorhand and supervise. ▪ There needs to be a standard of time in position as well as qualification, giving the supervisor a better knowledge of tasks and safety requirements surrounding the tasks – understanding gets better over time and practice, and therefore will make a better mentor/supervisor.
<p>Do the mandated competencies adequately reflect contemporary practice for ensuring competent workers? If not, what matters should be included in a revised competency framework?</p>	<ul style="list-style-type: none"> ▪ The RII certifications themselves do not ensure competency; we have deployed further means of training via internal VOC’s to further enhance knowledge.

Question	Response
<p>For drilling and rig workers new to industry is there a need to allow for initial exposure to the work environment prior to enrolment into formalised training? How would this maintain or improve competency?</p>	<ul style="list-style-type: none"> ▪ Yes. An initial exposure to a rig environment to give a person time to adjust to FIFO, camp life, rosters and the general duties of a rig would lessen the financial burden on operators and the administrative burden on RTO's. SLR's induction program is usually run by someone who has had a long term career in O&G on rigs, the difficulties (short change, 12 hours days, flies, dust etc) are not hidden, slides are shown of the environment but until someone gets to site they cannot comprehend the lifestyle that they have signed up to at that stage. A "Grace" period of 1-2 hitches would allow time to adjust and lessen the burden on stakeholders.
<p>Should well control be a mandatory component of competency requirements for drilling and well servicing workers?</p>	<ul style="list-style-type: none"> ▪ At a minimum cert III's need to have a core component of Well Control (RIIOGD304 & RIIOGD305) to provide well control to Motorhands & Derrickhands. IWCF certifications for Derrickhands are not usually included in contracts and left to the discretion of Operators. ▪ Well control for the cert IV & Diploma can stay as an elective as contracts mandate formal well control training for AD's and up and making those units cores in a RII package will not add any value.
<p>Should OCR's have specific competency requirements? If yes, what options should be considered?</p>	<ul style="list-style-type: none"> ▪ Yes. A diploma level of a mix of frontline management, HSE and Drilling operations would be an advantage to onsite operations.
<p>For drilling and well servicing operators that employ workers with international training and work experience, has there been any difficulty for these workers in receiving recognition of prior learning when seeking attainment of core electives and units under the RII package</p>	<ul style="list-style-type: none"> ▪ SLR employees coming internationally, or offshore operations have been sent through our labour hire contracting company to ensure streamlined RPL process – this process has required the employee to attend the rig as a "spare" to sign off on missing requirements to the RII standards. ▪ To our understanding this has not been a difficult process for the candidate or the RTO and 1 hitch has completed all additional requirements for the RPL process that evidence could not cover.
<p>For RII training professionals (RTOs and certified assessors):</p> <ul style="list-style-type: none"> • Are you able to provide a summary of requests received and approvals granted for recognition of prior learning related to the RII package for drilling and well servicing? • What are the reasons given when recognition of prior learning has not been given? 	

Question	Response
<p>What are your suggestions for an optimum, best practice competency framework?</p>	<ul style="list-style-type: none">▪ The consultation process for the RII package upgrade in 2019 was excellent however there were issues with these packages that were discussed that were not implemented. Well control units and permit to work units were some examples of the issues raised.▪ As discussed above, there are a lot of units listed as electives that should be required as cores. An evaluation of the core units in each package needs to be completed by industry.