



AUSTRALIAN OIL AND GAS INDUSTRY HEALTH, SAFETY, ENVIRONMENT  
AND WELL INTEGRITY — CRITICAL ROLES AND COMPETENCIES

**GUIDE TO COMPETENCY MANAGEMENT SYSTEMS**  
BEHAVIOUR AND HUMAN FACTORS



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# 1 INTRODUCTION

**Safe and environmentally sustainable production of oil and gas is the Australian petroleum industry's highest priority. Protecting our people and the environment is a core value and central to our operations, including well operations.**

Well operations—including drilling, completion, work overs and intervention—are potentially high-risk activities carried out in often difficult and complex environments. They involve a wide variety of personnel—title holders, operators, contractors, technical services and suppliers—who must all work effectively and safely together at the well site. It is vital that the industry has a consistent and systematic approach to ensuring these operations are planned and executed by competent personnel.

## 1.1 Objective and scope of guide

This guide has been designed to assist title holders, operators and service providers in developing and reviewing fit-for-purpose competency management systems. The focus is on health, safety and environment (HSE), with specific attention to well integrity critical roles. The guide is intended to cover all aspects and elements of the drilling industry (e.g. operators and contractors), and can apply to all activities undertaken, including training and assessment functions.

Identifying the HSE and well integrity critical roles within an operation is the first step to establishing an effective competency management system for an organisation. A document produced by UK Oil & Gas—*Guidelines on competency for wells personnel* (2012)<sup>1</sup> is a useful guide on how to develop, implement, maintain and assure competence management systems. Its recommendations have been adapted to the Australian context for the purposes of this guide.

This guide can be used by organisations as a reference when developing formal competency management systems or as a 'self-audit' tool for reviewing the structure and performance of existing systems. **It does not specify well competencies, provide any training course content, make recommendations or set any technical standards.**

The guide provides some background information on key aspects of the Australian Vocational Education and Training (VET) Quality Framework and the Australian Qualifications Framework. It also reflects competency management systems already being used by various companies.

A range of statutory requirements applies to title holders, operators and contractors across the Australian jurisdictions (states, territories and the Commonwealth) covering information, instruction, training and supervision for all personnel in workplaces. This guide provides a brief summary of some of the Australian legislative requirements. It is recommended that organisations assess, document and review the competence of all workers engaged in functions relating to well integrity, and be able to demonstrate to an independent auditor, such as a regulator, that appropriate systems and processes are in place to meet their obligations under the relevant legislation.

## 1.2 Australian statutory requirements for training – work health and safety and petroleum

### a Work health and safety

In Australia, work health and safety, including for major hazard facilities, is regulated by the states and territories (but excludes most mining and petroleum activity which is regulated under specific industry-based legislation). Some activities undertaken in the oil and gas sector fall under the general work health and safety or major hazard legislation (for example, Barrow Island, the Longford and Karratha gas plants). All work health and safety legislation in Australia is based on a general duty of care approach or 'Robens-style'<sup>2</sup> legislation.

Work health and safety legislation (including the National Model Work Health and Safety Act currently being implemented by states and territories under a nationally agreed harmonisation process) places a duty of care on various parties in workplaces in regard to training and competence. These duty of care requirements generally demand that employers and other duty holders provide appropriate 'information, instruction, training and supervision' for employees and others.

1 The UK Oil & Gas guideline may be obtained from [www.oilandgasuk.co.uk/publications/viewpub.cfm?frmPubID=426](http://www.oilandgasuk.co.uk/publications/viewpub.cfm?frmPubID=426).

2 The recommendations of the Robens report introduced a broad goal setting, non-prescriptive approach to health and safety legislation, based on the view that 'those that create risk are best placed to manage it'. Lord Robens, Chairman (1972). *Safety and Health at Work: Report of the Committee 1970-72*. London, HMSO.



In addition, specific training provisions in the onshore State and Territory work health and safety legislation (in Regulations and Codes of Practice) cover issues such as high-risk activities (scaffolding, rigging, crane operations, boilers and pressure equipment, loadshifting), asbestos removal, demolition, noise, and hazardous substances. For more information see the State and Territory safety authorities' websites – links to these are provided at Safe Work Australia's website at [www.safeworkaustralia.gov.au/sites/SWA/AboutSafeWorkAustralia/WhoWeWorkWith/StateAndTerritoryAuthorities/Pages/StateAndTerritoryAuthorities.aspx](http://www.safeworkaustralia.gov.au/sites/SWA/AboutSafeWorkAustralia/WhoWeWorkWith/StateAndTerritoryAuthorities/Pages/StateAndTerritoryAuthorities.aspx)

## **b Petroleum Legislation**

In general, legislation applying to the petroleum industry in Australia, both offshore and onshore, does not provide specific commentary on competency requirements. The requirement is for various duty holders (titleholders, operators and contractors) to ensure that personnel have access to information, instruction, induction, training and supervision to enable them to operate safely and effectively and to protect the environment by following sound operating practices and procedures.

Regulatory requirements applying to onshore oil and gas activities generally require an operator and any contractor to minimise the risk to health, safety, the environment and system integrity in respect to an operation, by providing workers with the information, instruction and training needed to ensure that they are safe from injury or risks to health. This requirement is supported in some cases by specific requirements relating to the competency of staff, such as 'a person carrying out an operation shall have any certificate of competence, authorization or qualification required by law'. For more information see the state and territory governments' petroleum resources sector websites for more information.

The state/territory-based regulatory requirements applying to the unconventional gas sector (ie. coal seam gas, tight gas and shale) are still being developed and finalised. Queensland's requirements are fairly detailed and are covered below. In 2013 NSW will develop specific regulatory requirements for driller certification and training standards/competencies (see the NSW Department of Trade & Investment Resources & Energy Division website at [www.resources.nsw.gov.au](http://www.resources.nsw.gov.au) for codes of practice applying to that state's CSG sector).

### ***Queensland (Petroleum and Gas (Production and Safety) Act 2004)***

In Queensland, safety management plan obligations under s674/675 of the Petroleum and Gas (Production and Safety) Act 2004 cover overarching obligations to ensure all workers are competent to undertake all required tasks. Recently, however, specific legislative provisions relating to competency standards for the oil and gas drilling industry (including for the CSG sector) were introduced.

From 1 January 2012, any new training in the oil and gas drilling sector must comply with the Standard—Competency Standard for the Petroleum and Gas Drilling industry (2011 – Version 1). The standard provides a path to gaining full operational competency in the oil and gas drilling industry. The standard is intended to ensure each worker meets the defined minimum competency standard for each level of operation, or is being appropriately trained for their particular role and position description.

The standard has three vital elements:

- Acceptance of the national drilling industry competencies and qualifications
- Identifying mechanisms by which these competencies may be achieved
- Showing how compliance can be achieved.

## **1.3 Australian statutory requirements for training—offshore petroleum activities**

The *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGSA 2006) provides the legislative framework for offshore oil and gas activities in Australia. The listed OHS laws for the purposes of this Act include:

- *Offshore Petroleum and Greenhouse Gas (Safety) Regulations 2009*
- Part 5 of the Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011—covering well operation
- Schedule 3 to the Act.

Schedule 3 to the OPGGSA 2006 imposes occupational health and safety obligations on several parties. Under the regime, the operator of a facility bears the principal duty. The operator must take all reasonably practicable steps to ensure that HSE hazards and effects inherent in the facility's operations have been systematically identified and addressed in work practices and must provide a mechanism for keeping risks to personnel to as low as reasonably practicable (ALARP) over the life of the facility.

This is a performance-based regime typical of all modern OHS regimes, whether applying offshore or at other workplaces. Such regimes impose general duties on parties to the regime, especially operators and employers. The principle underlying these performance-based, general duties regimes is that the primary responsibility for ensuring health and safety should lie with those who create risks and those who work with them.

This legislative framework requires that members of the workforce on offshore oil and gas facilities in Australia must be competent.

**Regulation 2.9 — Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009**

The safety case for a facility must describe the means by which the operator will ensure that each member of the workforce at the facility has the necessary skills, training and ability:

- a to undertake routine and non-routine tasks that might reasonably be given to him or her:
  - i in normal operating conditions
  - ii in abnormal or emergency conditions
  - iii during any changes to the facility
- b to respond and react appropriately, and at the level that might be reasonably required of him or her, during an emergency.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is a Commonwealth Statutory Agency regulating health and safety, structural integrity and environmental management at all offshore oil and gas facilities in Commonwealth waters, and in coastal waters where state powers have been conferred. NOPSEMA administers and enforces the OPGGSA and supporting regulations.

NOPSEMA's Assessment Policy requires the following:

*Assessments will generally include a review of the commitments in relation to competency; including (for safety cases) the requirement to meet the requirements of OPGGS(S) regulation 2.9. Members of the workforce must be competent. Where relevant nationally endorsed competencies are reasonably available, NOPSEMA expects operators to adopt those competency schemes, unless they can clearly demonstrate that they have more effective systems, based on other recognised standards, in place.*

In NOPSEMA's Guidance Note [N-04300-GN010G – Rev 4 December 2011] — Safety Case Content and Level of Detail, NOPSEMA provides the following guide:

*The description of the Safety Management System (SMS) should provide descriptions of actual planned arrangements (policies, procedures, etc) for workforce competency. The content and level of detail needs to be adequate to gain an appreciation of workforce competency processes. The information must be appropriate to the facility and the activities to be conducted at the facility and may address, but is not necessarily limited to, the following:*

- Recruitment and retention
- Training and competency
- Links with emergency response plans
- Links with drill and exercises
- Compliance monitoring
- Training and competency management software
- Example records of:
  - job descriptions
  - training and competency requirements

## 1.4 Montara inquiry recommendations

In August 2009, a well blowout from the Montara platform in the Timor Sea resulted in loss of containment that took more than 10 weeks to bring under control. Fortunately no one was injured during the event, which resulted in all personnel on board being safely evacuated from the rig. In April 2010, an explosion on the drilling rig Deepwater Horizon killed 11 workers and caused significant loss of containment and asset damage at the Macondo Prospect in the Gulf of Mexico. Lessons learned from these events highlighted the importance of ensuring the competency of all people working in the petroleum industry, including competencies relating to well safety and integrity.

The subsequent Montara Inquiry Report made several recommendations that were accepted by the Australian Government in regard to competencies for well control.

### Report of the Montara Commission of Inquiry—well control

- |    |  |
|----|--|
| 59 | A specific focus on well control training should be mandatory for key personnel involved in well control operations (including both on-rig personnel and onshore personnel in supervisory capacities).   |
| 60 | Licensees and rig operators (and third party contractors involved in well control operations) should specifically assess, and document, the nature and extent of knowledge/skills of relevant personnel in relation to well control (including familiarity of personnel with agency-specific requirements and procedures). Training needs and opportunities should be identified. This process should take place on engagement and at appropriate intervals. |
| 61 | Licensees, rig operators, and relevant third party contractors should develop well control competency standards for their key personnel. Wherever possible, the competencies of key personnel should be benchmarked against their roles and responsibilities.  |
| 62 | Licensees, rig operators and relevant third party contractors should develop well control competency standards for key personnel in other entities involved in well control operations.  |
| 63 | Achievement and maintenance of well control should be written into the job responsibilities of key personnel, at every level. That is, a functional line of accountability for well control must exist up to, and including, CEO level.  |

These recommendations focused on well control training rather than well integrity. The industry already meets, and in many cases exceeds, the requirements of the above well control recommendations.

## 1.5 International resources—Oil & Gas UK Guidelines on competency for wells personnel

Published in 2012, the UK oil and gas industry's Well Life Cycle Practices Forum's *Guidelines on competency for wells personnel* provides a competency management system guideline and some sample competency profiles for wells personnel.

The guidelines were developed to help UK-based companies understand and implement the recommendations made by the Oil Spill Prevention and Response Advisory Group on competency training and human factors following a range of post Macondo reviews. The contents also provide guidance on how to comply with UK safety and health legislation information, instruction, training and supervision requirements .

While the guidelines are specific to UK legislation its recommendations are fit for purpose and directly applicable to the Australian industry when used in conjunction with relevant Australian legislation.

The *Guidelines on competency for wells personnel* document provides a useful guide on how to develop, implement, maintain and assure competence management systems.

The guidelines can be obtained at [www.oilandgasuk.co.uk/publications/viewpub.cfm?frmPubID=426](http://www.oilandgasuk.co.uk/publications/viewpub.cfm?frmPubID=426).

For more detail on the work behind the development of the Oil & Gas UK *Guidelines on competency for wells personnel* and the history of the Well Life Cycle Practices Forum see Appendix 1.

## 2 GUIDE TO FORMAL COMPETENCY MANAGEMENT SYSTEMS FOR WELL OPERATIONS

### 2.1 Definitions and explanations

#### a Definition of competence

Competence means the ability to perform activities and to undertake work functions in accordance with agreed standards, rules and procedures, and to demonstrate defined behaviours on a regular and consistent basis over time. Competency is a combination of practical and thinking skills, experience and knowledge. Acceptable competency depends on the context and the environment in which the activity is performed, and also on the organisation's working culture. Generally, competency is the outcome of training both off-the-job and on-the-job.

#### b The assessment process

Assessing competency requires collecting evidence and making independent judgements on whether competency (demonstrated ability and behaviours) has been achieved consistently, overtime and in a variety of situations/operational conditions. Assessment should confirm whether or not an individual can perform to the standard expected in a workplace.

Assessment is generally carried out on-the-job by an appropriate assessor, and/or through a formal skills recognition process involving the preparation and assessment of a portfolio outlining the participant's experience.

#### c Organisational competence

Organisational competency is the combined individual competencies within a well operations team that ensure all well activities can be successfully executed to the standard of performance required. The scope of the competencies required will be determined by the scope and complexity of the projects to be executed.

#### d Well operations—projects, contractors and competencies

Competencies for well operations should accommodate both employees and contract personnel. Many well operations teams are put together on a project-by-project basis, with some (or all) personnel being contracted for specific roles and with no intent to provide a career path. In this case, a competency management system (CMS) should ensure that any recruited personnel already have the required competencies to fill their designated position. If an individual does not have all required competencies, the gaps must be balanced by those of another team member, by the contracting of specialist third party service providers or through the provision of project specific 'gap' training.

## 2.2 HSE and well integrity critical roles

Each organisation must assess the risks associated with their operations to identify the critical HSE and well integrity roles in their organisation or operation. These should provide for the full well life cycle, including production. A competency management system should be in place for the roles identified, although companies will need to consider tasks and competencies in terms of associated risks, rather than purely job roles and titles. The following list is based on critical roles identified by the UK Oil and Gas Oil Spill Prevention and Response Advisory Group (OSPRAG) *minimum* recommended positions that require formal competencies and assessment. This list provides a guide to, but does not restrict in any way, the types of roles that an organisation might include in its CMS:

### Critical well integrity roles

RIG SITE	OFFICE	
	Well Construction & Intervention	Geological & Geophysical
Assistant Driller	Drilling Manager	Development Geologist
BOP/LMRP Engineer	Drilling Fluids Engineer	Operations Geologist
Cementer	Drilling Manager	Reservoir Engineer
Coil Tubing Supervisor	Drilling Superintendent	Sub-surface Lead/Manager
Company Man	Drilling Engineer	
Completions Supervisor	Petroleum Engineer	
Derrickman	Rig Manager	
Driller	Well Test Engineer	
Drilling Fluids Engineer	Cementing Engineer	
Drilling Supervisor	Completions Engineer	
E-Line Supervisor	Drilling Fluids Engineer	
Mud Logger		
Offshore Installation Manager		
Production Supervisor		
Slickline Supervisor		
Subsea Engineer		
Toolpusher		
Well Integrity Engineer		
Well Service Supervisor		
Well Test Supervisor		



## 3 SELF-AUDIT TOOL

This section provides a self-audit tool to assist organisations in objectively reviewing their CMS to ensure organisational competency for well operations. For organisations without a CMS in place, it provides a guide to the areas that should be addressed when developing and implementing a system for managing competence.

### 3.1 Success factors for competency management systems

- a Is the CMS an integral part of your organisation's management system?
- b Does your CMS identify all statutory (legal) requirements placed on title holders, operators and contractors in the Australian oil and gas industry for providing information, induction, instruction, training and supervision?
- c Is your organisation's CMS cycle clearly defined?
- d Is competence assurance a component of your organisational policy?
- e Is the responsible party or parties for ensuring the competence of individuals and for your organisation clearly defined?
- f Are the requirements of the CMS tailored to suit the operating environment (e.g. staff or project based) and is it appropriately balanced against the criticality of the roles (e.g. technical assistant versus senior engineer) to ensure that the system is fit for purpose.
- g Are personnel required to take some degree of responsibility for demonstrating and maintaining their competence?
- h Does the CMS clearly define the processes and responsibilities for the management of contractors?
- i Was the CMS designed with input from the key stakeholders?
- j Is there a clearly defined CMS process owner?
- k Are the accountabilities for implementation of the CMS clearly defined?
- l Does your organisation's induction system provide information on your CMS?
- m Does your organisation have a system for verifying the competency of self-employed/independent consultants?
- n Have suitable competency assessors been defined/identified within your CMS?

### 3.2 Establishing and maintaining a competency management system

The CMS should be designed to assure line managers of well activities that the collective competence of the assigned well team is appropriate to the planned activities. The CMS should recognise that an individual's competencies will change over time and skill sets that are not regularly used will be lost.

- a Have well integrity critical roles associated with the organisation's activities been identified?
- b Have competence profiles been established for well integrity critical roles?
- c Have the major risk areas relevant to the organisation's well life cycles been identified?
- d Does the CMS take account of the full range and scope of activities associated with managing the life cycles of the organisation's wells?
- e Is the process of implementing and maintaining the CMS within the organisation clearly described?
- f Are the processes and responsibilities for defining and maintaining competency standards for well integrity critical roles clearly defined and are the competency standards regularly reviewed against project requirements?
- g Are the processes and responsibilities for assessing personnel and their competencies clearly described?
- h Are the processes and responsibilities for assessing the organisation and its collective competence clearly defined?

- i Are the processes and responsibilities clearly identified to enable management to assess competency gaps, to define maximum allowable competency gaps, and to identify competency development needs for individuals and the organisation?
- j Does the CMS provide assurance that all personnel (including self-employed personnel / independent consultants) involved in well operations are competent for the proposed work?
- k Is there a process for confirming that contractors have suitable policies, procedures and management controls, including competence assurance on safety and well integrity critical roles for their employees and sub-contractors, to ensure that they can meet the responsibilities associated with safety-critical tasks?
- l Does the organisation have a process to ensure that new personnel are aware of the requirements of their position and what their responsibilities are with respect to safety-critical tasks, and to indoctrinate them into the organisation's management systems, including the CMS?

### 3.3 Identifying safety-critical tasks and gap analysis of competencies

- a Have your well operations been risk-assessed to identify safety-critical tasks, especially those related to maintaining well integrity throughout the well lifecycle?
- b Does the CMS loop back to the risk assessment processes to ensure changes in risk or responsibilities associated with safety-critical tasks are captured?
- c Does the CMS provide for the review of individual competence against safety-critical tasks on a regular basis?
- d Has a gap analysis been carried out to map existing organisational competencies against the responsibilities associated with identified safety-critical tasks and to ensure that there is an appropriate mix of competencies at an individual level within the organisation?
- e Where there are critical gaps identified, do you have a process to ensure those gaps are filled before well operations can continue?
- f Do you have systems in place to develop the team and the individual competencies to fill those gaps?
- g Are responsibilities associated with safety-critical tasks clearly stated in the organisation's job descriptions?
- h Is safety, health, environmental and well integrity management a line responsibility?
- i Are safety, health and environmental and well integrity skill sets an integral part of the organisation's training matrix?

### 3.4 Team competence and leadership

- a Do you have a process for assessing the competencies of your well operations team as a whole?
- b Has your organisation identified the supervisory and leadership roles required for the well operations team?

### 3.5 Assessment of competence

- a Do you have a process for verifying/confirming individual performance against an agreed and objective standard?
- b Are systems and training (on-the-job and/or off-the-job) in place to maintain and verify ongoing individual competency?
- c Does the person(s) who conduct(s) the assessment have the appropriate level of independence, and the level and currency of experience in the well operations and activities being assessed?
- d Does your assessment process ensure that the assessor is not the same person who has provided training (to ensure independent and objective assessment against an agreed standard)?
- e Are all skill elements that are applicable through the well life cycle recognised and tracked through the well life cycle?
- f Does your assessment process cover the full variety of tasks and situations that an individual may be required to operate in?

### **3.6 Assurance of a competency management system**

- a Is the performance and effectiveness of your CMS regularly reviewed?
- b Is the process of reviewing the performance and effectiveness of the CMS clearly described?
- c Are there performance standards against which the performance and effectiveness of the CMS can be measured?
- d Is auditing of the CMS included on the organisation's management system audit schedule?
- e Is the CMS independently audited on a regular basis?

# APPENDIX 1 AUSTRALIAN VOCATIONAL EDUCATION & TRAINING QUALITY ARRANGEMENTS

This appendix provides information about quality arrangements within Australia’s vocational education and training system. It does not prescribe how operators should manage training or competencies for their well operations.

The quality arrangements for Australia’s vocational education and training system are underpinned by standards that govern the registration of Registered Training Organisations (RTOs), the Australian Qualifications Framework and a number of administrative arrangements relating to financial viability, data provision and fit and proper person requirements for RTOs.

## a Training Packages and Qualifications

A Training Package is a set of nationally endorsed standards and qualifications used to meet the training needs of an industry or group of industries. Training Packages recognise and assess the skills and knowledge people need to perform effectively in the workplace, and consist of competency standards, assessment guidelines and qualifications for a specific industry, industry sector or enterprise.

Training Packages contain qualifications that form part of the Australian Qualifications Framework (AQF), the national policy for regulated qualifications in Australian education and training. The AQF incorporates qualifications from all education and training sectors into a single comprehensive national framework. The VET sector covers qualifications from Certificate I level through to Associate Degrees, and is an important component of the Australian Qualifications Framework.

Secondary schools	Vocational Education & Training	Higher Education
Senior Secondary Certificates of Education	Associate Degree Advanced Diploma Diploma (AQF 5) Certificate IV (AQF 4) Certificate III (AQF 3) Certificate II (AQF 2) Certificate I (AQF 1)	Doctoral Degree Master’s Degree Graduate Diploma Graduate Certificate Bachelor Degree Associate Degree Advanced Diploma Diploma

Under the VET Quality Arrangements, qualifications issued by Registered Training Organisations will be based on achieving a prescribed set of competency standards. A nationally recognised qualification will be issued to a person who has been formally assessed by an appropriately qualified assessor and deemed competent against the required National Industry Competency Standards.

## b Drilling Qualifications

National qualifications for the Drilling industry are available in the Resources and Infrastructure Industry Training Package (RII09). These include the following developed specifically for the oil and gas industry:

- RII21009 Certificate II in Drilling Oil/Gas (Off Shore)
- RII31909 Certificate III in Drilling Oil/Gas (Off Shore)
- RII41009 Certificate IV in Drilling Oil/Gas (Off Shore)
- RII50709 Diploma of Drilling Oil/Gas (Off Shore)
- RII21109 Certificate II in Drilling Oil/Gas (On Shore)
- RII32009 Certificate III in Drilling Oil/Gas (On Shore)
- RII41109 Certificate IV in Drilling Oil/Gas (On Shore)
- RII50809 Diploma of Drilling Oil/Gas (On Shore)

### c Statement of Attainment

A person does not have to complete a full qualification or a full set of competencies. They can do whichever units of competence they want or need (be they individual units or a recognised skills set) and receive a Statement of Attainment. Training can continue at a later date if they decide they do want to complete the full qualification.

### d Industry Skills Set

Under current arrangements the oil and gas industry is not compelled in any way to use competency standards or to seek the award of qualifications as an outcome. There are, however, benefits from utilising a national, formal and portable system for recognising skills and competence across an industry.

While a formal qualification is one outcome, industry may choose to instead combine a set of job-specific competencies into a 'Skills Set' to provide a different outcome. A Skills Set is defined as 'single units or combinations of units of competency within Training Packages which are linked to a licence or regulatory requirement, or to a defined industry need'. An industry, company or individual may combine one or more units of competency to meet an identified training or occupational outcome and formally or informally create an appropriate skills set.

### e Australian Drilling Industry Training Committee (ADITC)

The Australian Drilling Industry Training Committee is a not-for-profit industry organisation that exists to improve the skills and professionalism of the drilling industry. It provides a useful source of information on established drilling industry qualifications and competency standards in Australia and how the AQF process applies to the drilling industry in Australia. The ADITC Board comprises representatives from organisations across the range of drilling sectors, including oil and gas, water, environmental and others. For more information see [aditc.com.au](http://aditc.com.au)

## Useful references

### National

- TGA—the National Register of information on Training Packages, Qualifications, Courses, Units of Competency and Registered Training Organisations (RTOs)—[training.gov.au](http://training.gov.au)
- Australian Drilling Industry Training Committee—[aditc.com.au](http://aditc.com.au)
- Australian Skills Quality Authority—[asqa.gov.au](http://asqa.gov.au)
- Australian Qualifications Framework—[aqf.edu.au/](http://aqf.edu.au/)
- National Skills Standards Council—[nssc.natese.gov.au](http://nssc.natese.gov.au)
- Australian Workforce and Productivity Authority—[awpa.gov.au](http://awpa.gov.au)
- SkillsDMC—[skillsdmc.com.au/](http://skillsdmc.com.au/)

### State and territory

- ACT Department of Education and Training—[det.act.gov.au](http://det.act.gov.au)
- NSW Department of Education and Training—[det.nsw.edu.au](http://det.nsw.edu.au)
- Queensland Department of Employment and Training—[trainandemploy.qld.gov.au](http://trainandemploy.qld.gov.au)
- Skills Queensland—[skills.qld.gov.au](http://skills.qld.gov.au)
- SA Department of Further Education, Employment, Science and Technology—[dfeest.sa.gov.au](http://dfeest.sa.gov.au)
- SA Training and Skills Commission—[tasc.sa.gov.au](http://tasc.sa.gov.au)
- WA Department of Training and Workforce Development—[dtwd.wa.gov.au](http://dtwd.wa.gov.au)
- Training Accreditation Council—[tac.wa.gov.au](http://tac.wa.gov.au)
- Skills Victoria—[skills.vic.gov.au](http://skills.vic.gov.au)
- Registration and Qualifications Authority—[vrqa.vic.gov.au](http://vrqa.vic.gov.au)
- Skills Tasmania—[skills.tas.gov.au](http://skills.tas.gov.au)
- NT Department of Education and Training—[det.nt.gov.au](http://det.nt.gov.au)



## APPENDIX 2 INTERNATIONAL OIL AND GAS INDUSTRY RESOURCES ON COMPETENCY FOR WELLS PERSONNEL

### a Oil & Gas UK – *Well Competency, Training and Human Factors*

Oil & Gas UK established the Oil Spill Prevention and Response Advisory Group (OSPRAG) to provide a focal point for the sector's review of the industry's practices in the UK, in advance of the conclusion of investigations into the Gulf of Mexico incident.

Oil & Gas UK set up the Well Life Cycle Practices Forum (WLCPF) in December 2010 to:

- provide a forum for well-operators discuss well-related pan-industry issues
- help companies implement the OSPRAG Technical Review Group recommendations
- act as the interface of choice for Department of Energy and Climate Change ECC and the Health and Safety Executive on well-related matters.

The WLCPF set up a workgroup to look at well competency, behaviours, and human factors.

This workgroup produced a competency guideline and some example competency profiles for wells personnel. These documents can be obtained at [www.oilandgasuk.co.uk/publications/viewpub.cfm?frmPubID=426](http://www.oilandgasuk.co.uk/publications/viewpub.cfm?frmPubID=426).

The UK competency guidelines are intended to help companies understand and implement the recommendations of the OSPRAG Technical Review Group on competency training and human factors. They also help duty holders comply with the information, instruction, training and supervision requirements of the UK safety and health legislation.

The UK example profiles reflect the OSPRAG 'minimum recommended positions requiring formal competencies and assessment' list (set out below) and include:

- senior drilling engineer
- drilling supervisor
- operations geologist
- well-examiner.

The profiles are examples only, and demonstrate one potential way for duty holders to demonstrate competency and to record:

- the elements in each risk area
- the different attainment levels
- specific tasks or demonstrations required to show competency for that element/level
- supervisory/leadership qualities.

**b International Association of Oil and Gas Producers (OGP)—*Recommendations for Technical Enhancements to Well Control Training, Examination and Certification***

In 2011, the Wells Expert Committee (WEC) was created as a permanent entity within the structure and governance of OGP. This committee was established to identify areas for improvement to strengthen and assure the long-term health of the oil and gas industry across the life cycle of wells from design to abandonment.

The WEC set up a Human Factors—Training, Competence and Behaviour (HFTF) sub-group to identify improvements stemming from root cause findings of major oil and gas well incidents with an emphasis on addressing human factors that may have contributed to such incidents.

The HFTF sub-group aimed to provide a step-change improvement in competence assurance of well control knowledge and understanding, and in operations teams' behaviours throughout the oil and gas industry for all well operations. This was to be achieved through:

- enhancing well control training, examination and certification, and improving:
  - a what is taught (technical and behavioural) and
  - b how the material is learned (team learning techniques in addition to individual learning techniques)
- providing tools to assess and assure the competence of operations teams.

The report produced as an outcome from this work, *Recommendations for Technical Enhancements to Well Control Training, Examination and Certification*, can be sought from OGP at [www.ogp.org.uk/](http://www.ogp.org.uk/).

The OGP report structure includes:

- General Requirements for Well Control Training e.g. barrier management, operation type
- Role-Based Training Levels (5 levels from awareness to engineer well control)
- Additional Requirements for Existing Training e.g. fundamentals of pressure and fluid behaviour
- Assurance (competency demonstration and assurance).

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