OFFSHORE MAJOR ACCIDENT REGULATOR

Offshore Petroleum Regulator
for Environment & Decommissioning

The Offshore Wells Personnel Competency Management System Inspection Guide

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Fully Open

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Date	Changes
19/01/21	Issue 4 - Minor changes – transition to new IG format.
24/02/22	Issue 5 – Rebranding from OSDR to OMAR.

Target Audience

OMAR Inspectors / ED Offshore Inspectors / ED Specialist Inspectors

Contents

Summary

This inspection guide (IG) outlines an approach to the inspection of dutyholder's arrangements with respect to the management of competency of wells personnel engaged in oil or gas well operations either offshore on the UK Continental Shelf (UKCS) or onshore in Great Britain, and the key areas that inspectors should consider when inspecting this topic. It also sets out the criteria for satisfactory and unsatisfactory performance factors against which dutyholder performance will be rated. References are made to technical standards and guidance that inspectors will use to form an opinion of legal compliance.

The Offshore Installations and Wells (Design and Construction, etc) Regulations 1996 (DCR) Regulation 21 requires well operators to have all personnel working on a well suitably informed, instructed, trained, and supervised so that risks associated with the well operation are reduced to as low as is reasonably practicable (ALARP).

The Borehole Sites and Operations Regulations 1995 (BSOR) Regulation 9 Schedule 2(2) requires the borehole site operator to have a competent person appointed to be in charge of every borehole site where employees are present, also there shall be sufficient competent persons appointed by the operator to exercise immediate supervision of borehole operations with a view to ensuring the health and safety of the persons at work at the site. BSOR Regulation 9 Schedule 2(3) requires that where borehole operations are being carried out, then a sufficient number of competent persons shall be provided with a view to enabling those operations to be carried on safely.

Introduction

The purpose of this IG is to provide information and guidance to ED / OMAR Inspectors to support the delivery of consistent and effective inspection of dutyholder arrangements to comply with The Offshore Installations and Wells (Design and Construction, etc) Regulations 1996 (DCR) and The Borehole Sites and Operations Regulations 1995 (BSOR).

This IG highlights key areas for inspection and provides a framework against which inspectors can judge compliance, assign performance ratings, and determine what enforcement action should be taken with respect to legislative breaches that may be found.

Competence is a very broad subject area that may span the length and breadth of an organisation, and the competency requirements for personnel involved in well engineering and operations activities will be different dependent upon the organisation's activities, the job position, the tasks to be undertaken and the associated risks. The work activities and tasks carried out by different organisations will be different dependent upon their roles as mobile and fixed installation drilling rig dutyholders, or as well operators, or as third-party service providers.

Major hazard organisations require competent staff that have the necessary skills, knowledge, and experience to undertake critical tasks in such a way as to prevent a major accident or minimise the consequences to people and the environment, should one occur.

'Competence' means the ability to undertake responsibilities and perform activities to a recognised standard on a regular basis. Competency is a combination of practical and thinking skills, experience, and knowledge, and may include a willingness to undertake work activities in accordance with agreed standards, rules, and procedures. Competency depends on the context and the environment in which the activity is performed, and on the working culture of the organisation.

'Competence Management' means the arrangements to control, in a logical and integrated manner, a cycle of activities within the organisation that will assure, and develop, competent performance. The aim is to ensure that individuals are clear about the performance that is expected of them, that they have received appropriate training, development, and assessment, and that they maintain, or develop, their competence over time.

Relevant Legislation

There is a general duty under DCR Regulation 13 for the well operator to:

ensure that a well is so designed, modified, commissioned, constructed, equipped, operated, maintained, suspended and abandoned that:

a) so far as is reasonably practicable, there can be no unplanned escape of fluids from the well; and

b) risks to the health and safety of persons from it or anything in it, or in strata, to which it is connected, are as low as reasonably practicable.

This general duty is supplemented by further Regulations, including Regulation 21, Information, instruction, training, and supervision which requires:

In the case of a drilling, well intervention or workover operation to be carried out on a well:

a) from an installation. The duty holder, and
b) otherwise than from an installation, the well operator,

shall ensure that the operation is not carried out, unless it is carried on in circumstances where the persons carrying out the operation:

a) have received such information, instruction and training; and
b) are being so supervised, that the risk to health and safety from such operation is reduced to the lowest level that is reasonably practicable.

The regulation seeks to promote competence in those carrying out well operations by ensuring that they receive appropriate training (including on-the-job training), initial and refresher, information, and appropriate supervision. It requires the installation duty holder or well operator (when the well is being worked on other than from an installation) to ensure all staff are capable of carrying out the tasks allocated to them.

Dutyholders can discharge their duties for personnel and third parties, other than their own by checking that specialist contractors carrying out operations have suitable policies, procedures, and management controls for the operations foreseen.

BSOR Regulation 9 Schedule 2(2) requires the borehole site operator to have a competent person appointed to be in charge of every borehole site where employees are present, also there shall be sufficient competent persons appointed by the operator to exercise immediate supervision of borehole operations with a view to ensuring the health and safety of the persons at work at the site. BSOR Regulation 9 Schedule 2(3) requires that where borehole operations are being carried out, then a sufficient number of competent persons shall be provided with a view to enabling those operations to be carried on safely

Action

Inspectors should review relevant documentation (see Appendix 1 Pre-visit Information Request) prior to the installation visit and test compliance during the installation visit against the "success criteria" given in Appendices 3 and 4.

Inspectors undertaking a wells competency management system inspection will need to be familiar with the Oil and Gas UK Guidelines on Competency for Wells Personnel.

The questions contained in Appendix 3 were developed from the EI Research Report: Human Factors Performance Indicators for the Energy and Related Process Industries, and the survey questionnaire commissioned by the OSPRAG Technical Review Group.

By the conclusion of the inspection, it should be possible to

- determine if the competency management system for well engineering and operations personnel is suitable and sufficient

When carrying out inspections covered by this IG inspectors should

- assess dutyholder responses against the success criteria in Appendices 3 and 4
- use the performance descriptors in Appendix 5 to
    - determine the appropriate performance rating
    - the initial enforcement expectation
    - consider how and when the issues raised during an inspection are to be closed out

Background

The Oil Spill Prevention & Response Advisory Group (OSPRAG) was set up in the UK in response to the Macondo incident in the Gulf of Mexico in April 2010. The recommendations by OSPRAG's Technical Review Group were accepted by Oil and Gas UK and led to the publication of Guidelines on Competency for Wells Personnel by Oil and Gas UK.

The OSPRAG Technical Review Group published the following recommendations on competence assessment:

There is a high degree of variation in how Competency Management Systems (CMS) are structured across all organisations and their focus on safety critical well integrity issues. We

recommend that all CMS ensure that they effectively address the following minimum criteria within their systems:

- *Leadership and Supervisory Competencies should be established and assessed for a minimum of the following positions:*

Location	***Position***	
Offshore	OIM	Well Service Supervisor
	Company Man	Well Test Supervisor
	Toolpusher	Coil Tubing Supervisor
	Drilling Supervisor	E-line Supervisor
	Driller	Slick Line Supervisor
	Assistant Driller	Completions Supervisor
	Derrickman	Subsea Engineer
	Mud Logger	BOP/LMRP Engineer
	Drilling Fluids Engineer	Well Integrity Engineer
	Cementer	Production Supervisor
Onshore	Drilling Manager	Senior Completion Engineer
	Drilling Superintendent	Completions Engineer
	Senior Drilling Engineer	Petroleum Engineer
	Drilling Engineer	Rig Manager
Geology and Geophysics	Operations Geologist	Reservoir Engineer
	Development Geologist	Subsurface Lead/Manager
*** Position or Role titles will vary across organisations*		

- *It should be recognised that appraisal systems alone do not constitute an effective competency assessment and CMS should clearly demonstrate competency is assessed.*
- *Competency assessments for all positions listed above should demonstrate a level of independence for the role.*
- *CMS should have a detailed audit at least every 3 years.*
- *Additional competencies should be developed and assessed for all positions listed above when working on challenging or high-risk wells.*
- *CMS should detail how competencies for all contract staff used for positions listed above are selected and assessed.*

Oil and Gas UK Guidance

The Well Life Cycle Practices Forum (now called the Wells Forum) produced guidance on competency for wells personnel for Oil and Gas UK. They were written by the Competency, Behaviours and Human Factors workgroup which included representatives from operator companies, well management companies, OPITO and RGU.

The guidance is relevant to

- all UKCS offshore installation dutyholders, and
- all employers of personnel working on wells and well operations in GB

The work-group has also produced example competency profiles for selected well personnel roles. They established key risk areas and skill elements defined as generic skills that are applicable throughout the well life cycle, and key risk areas of the well life cycle where other more specific skills are applicable.

Different roles are involved in these risk areas at different stages of the life cycle, and also depending on the nature of the well.

IADC Competence Assurance Accreditation Programme

The International Association of Drilling Contractors (IADC) runs an accreditation system for drilling and service companies, which provides accreditation of companies Competence Assurance Program to assure these programs meet accepted practices to develop and ensure the skills of their personnel. Accreditation focuses on policy and procedures documentation, identification of job positions and definition of competencies, the assessment system, records system and quality assurance system.

IADC has developed with industry a series of Knowledge, Skills and Abilities (KSA) competency templates for rig-based personnel to provide a means by which workers can demonstrate their capabilities.

The IADC has also developed, at the request of HSE, guidance on the management of third-party competence for safety critical positions offshore. This guidance is targeted at any personnel who are not direct employees of the drilling contractor; such as agency personnel provided by the drilling contractor, operator personnel and their sub-contractors providing drilling support and other associated services to the operator.

The guidance on the management of third party competence for safety critical positions offshore can be found at the following link http://www.iadc.org/wp-content/uploads/2016/03/IADC-NSC-Guidance-Rev-1.pdf.

In addition to drilling contractors, some major service companies eg Baker Hughes Inc., Halliburton Energy Services Inc. have obtained IADC accreditation for their Competency Assurance Programmes.

Team Competence

Well operations are usually team-based activities rather than individuals working in isolation. Assuring an appropriate mix of competencies at an individual level may be used to assess the competency of the team. A risk and task-based approach will facilitate efficient gap analysis for team competency assessment.

Oil and Gas UK competency guidelines require all roles with a supervisory or project management element should be assessed for leadership and supervisory competency.

Contract and Third-Party Contract Personnel

Oil and Gas UK competency guidelines require the competency of contract staff in the team to be assured. Contract staff should be assessed prior to hiring, at the start of the contract and during operations. This can be done by

- including contract staff in the employer's or well operator's CMS on a temporary basis; or
- the company supplying the personnel operating its own CMS; or
- individuals demonstrating their personal competency.

In addition, the main dutyholders (offshore installation owners, operators, and well operators), need to assure themselves that all personnel, including third party contractor personnel involved in well operations, are competent for the proposed work. Oil and Gas UK guidelines require an audit prior to the start of operations to assure themselves that the contractors have suitable policies, procedures, and management controls (including competency assurance for their employees) in place.

Installation dutyholders are required to ensure that no well operation is started unless personnel have received appropriate information, instruction and training prior to the commencement of well operations. This requires cooperation between well operators and installation dutyholders to ensure that all personnel including 3rd parties are properly assessed, and competence is demonstrated prior to their joining a well operation.

Human and Organisational Factors in Well Control

The North Sea Offshore Authorities Forum (NSOAF) have carried out a multi-national audit during 2013 to look at how offshore operators and drilling contractors in the North Sea are incorporating the wide range of necessary human and organisational factors into their well control systems.

The audit results supported the view that industry was providing key well control personnel with clear and comprehensive ranges of relevant information, and with adequate designs of displays, control panels, alarm and data systems. Although there were some rigs where practices needed improvement, overall the control panel and associated engineering system aspects from the audit were good.

Similarly, those aspects linked to how drilling personnel would be able to make the right judgement and the decisions on well control issues were good. Encouragingly, the audit received strong assurance on the driller's authority to shut in wells when necessary. However, there was a broader range of performance here, and hence the need for those at the lower end to emulate the more advanced operators and drilling contractors, particularly in the wider use of scenario-based training.

The audit, however, identified a particular issue caused by the general shortage of experienced drilling personnel and although drilling activity has slowed since the audit, the prevalence of drillers with less experience that was historically the case remain and industry wide skills shortages continue.

To ensure that the drilling operation is safe and successful, the drilling crew must continuously monitor displays and other information and make decisions on how they perceive and interpret that information. This 'situation awareness' of how circumstances are at the time and how they might develop in the future is a crucial element. Such activities take place within a complex relationship of client and contractors, both onshore and offshore, and with an intermeshing of different procedures, objectives, and technical monitoring arrangements. The relationship between

all the people and organisations involved must be clear so that everyone knows and understands their role and can deliver their contribution competently.

The human factors findings of the audit included all personnel involved in the drilling process reported to be trained to International Well Control Forum (IWCF) standards and in possession of a Well Control Certificate (at least to supervisor level). Well control drills were undertaken and documented.

The drilling contractors reported having training and competency matrices in place, including job descriptions with continuous evaluation and competency assurance and on-the-job (OJT) training books for selected drilling activities. *One drilling contractor had a bespoke competency assurance system (CMS) in place where personnel were assessed on actual performance by competent assessors. However, because of the general shortage of experienced drilling personnel, it was acknowledged that personnel were often being promoted into positions early on in their training and development. This caused some organisations difficulties in keeping planned competency assurance programmes for drill crews fully effective.*

There was some variation in the type of drill training undertaken, ranging from task and IWCF-focused to scenario-based training. The audit identified a welcome improvement from solely ‘routine’ training towards the latter approach, which is designed to prepare crew for the range of information and decisions they will face. The wider involvement of third-parties in that learning approach was also acknowledged as an improvement.

‘Drill Well on Paper’ (DWOP) exercises were considered an excellent way for identifying unfamiliar elements in the well programme and hence exploring the offshore crew competence. Any gaps could be addressed, for example by bespoke onshore courses or adding experienced supervisors to the offshore crew to support learning offshore until it was clear that the crew had the required competence. It was acknowledged though, that there was a need to extend scenarios to later phases and further handling of a loss of well control situation.

Organisational factors addressed the safety management systems within the drilling contractor where issues were highlighted. Drilling operations and well interventions were usually under the direct control of the drilling contractor but there was close involvement with the client who often maintained overall responsibility for installation safety. Although all audited companies had bridging documents in place, the content and quality of these documents varied.

There was often a lack of GAP analysis of the systems / standards used by the drilling contractor and client / operator, and this reflected a lack of attention at the contract stage to manuals and compliance. It was notable in some examples, that training (and presumably competence) was not included in these arrangements.

Other relevant Inspection Guides

Well Control www.hse.gov.uk/offshore/ed-well-control.pdf, as there requires to be competent personnel involved in well control activities.

Specialist Advice

Specialist advice should be sought from ED 6.3 Well Engineering and Operations in the following circumstances: the inspection guide should only be used in conjunction with a member of the ED 6.3 Well Engineering and Operations team.

Organisation

Targeting

Inspections should be carried-out in accordance with ED / OMAR dutyholder intervention plans.

Timing

Inspectors should undertake wells competence inspections as part of the agreed ED / OMAR Offshore Intervention Plan; when intelligence indicates intervention is necessary, or as part of an investigation following an incident.

Resources

Resource for the undertaking of wells competence interventions will be agreed as part of the ED / OMAR Offshore Work Plan or by agreement between discipline specialist team-leaders and inspection management team-leaders, as appropriate.

Recording and Reporting

The dutyholder performance ratings should be entered on the Inspection Rating (IRF) Tab of the relevant installation Intervention Plan Service Order. Findings should be recorded in the post inspection report and letter.

Appendix 1 Pre-visit information request

This appendix details the typical information that should be requested prior to a well competency scheme inspection. The inspection will enable benchmarking of the system and provide inspectors with clear examples which can inform their questionnaires:

1. A current copy of the Wells Personnel Competency System, where this sits within different business groups ie drilling and subsurface both should be provided.
2. Details of the custodians (ie the person(s) responsible for the competency of wells personnel within the organisation).
3. A definitive list of positions covered by the arrangements.

This documentation may take some time to collate and notification of an inspection and requests for information should be made in a timely manner. Where the inspection is done on a reactionary basis then as much notice as possible should be given.

Appendix 2 Sample Inspection Agenda

Typically, one of each of the following roles within organisation should be interviewed

- wells user staff
- wells user contract
- administrator of the system

Example time table:

Start Time: 9.00 am

a.	Introductions and scene setting; HSE presentation on requirements of HSWA 1974 and DCR Regulation 21 (optional)	09:00-09:30 hrs
b.	Individual interviews with scheme custodian and onshore users of the scheme	09:30-11:00 hrs
c.	Sampling of competence information, including testing evidence requirements and assessment records with system administrator	11:00-12:30 hrs

Offshore interviews with system users and sampling of their records should be conducted where appropriate. A sample of onshore personnel such as drilling engineers should be added to (b) in the above onshore inspection schedule if appropriate.

Appendix 3 Inspection Questions and Success Criteria

Personnel to be interviewed should include at least the custodian of the CMS, an onshore user such as the rig manager, and an offshore user such as the driller.

The inspection will be carried out using the question sets below.

Inspectors undertaking a Wells Competency Management System inspection will need to be familiar with the Oil and Gas UK Guidelines on Competency for Wells Personnel.

CUSTODIANS OF ARRANGEMENTS

Name:
Job Title:

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
1. CMS Cycle			

1.	Describe your system, processes and procedures for the management of workforce competence.	There should be
		• a clearly identified process owner and clear accountabilities for well technical authorities and line management
		• the process and responsibilities for defining and maintaining competency standards for well activities should be described
		• the process and responsibilities should be clearly set out for assessment of wells personnel and their individual competencies
		• the process and responsibilities should be clearly set out for assessment of wells teams and their collective competency
		• the process and responsibilities should be clearly set out for the management of assessed shortfalls in competency and for
		  ○ competency development of individuals and teams and
		  ○ the process and responsibilities should be specifically set out for the management of contract staff	

2.	Is this system integrated with other management systems and, if so how?	The CMS is an integral part of any management system and can be demonstrated to be specifically tailored to manage the competencies of that organisation's work activities and associated safety risks.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
3.	What industry guidelines for competence management systems are being used?	References: • Oil and Gas UK Guidelines on competency for wells personnel and example competency profiles for well personnel • IADC Competence Assurance Accreditation Program and Knowledge, Skill and Abilities (KSA) competency guidelines • IADC Guidance on the Management of Third-Party Competence for Safety Critical positions offshore.	
4.	Describe the processes in place for recruitment, selection, training, and assessment of staff, including the selection criteria used, training methods used, and how competence is assessed (where and by who)?	The CMS should link into other sections of the management system and link to the recruitment process, ie job descriptions, the selection criteria and process of selection and training requirements.	
5.	Who is included in the competency system, how frequently are they assessed?	A minimum list of positions to be included in the wells competency management system is provided for both onshore and offshore positions in the OSPRAG recommendations and the Oil and Gas UK Guidelines on competency for wells personnel (see Background). • the CMS should cover all new employees and contract staff who start after the system is in place • existing staff and employees should be assessed as soon as practicable and competency and training for individuals started after assessment • a maximum period between the formal competency assessments conducted between an individual and their assessor and should be defined	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
6.	How much time and resource are being used to administer the competency system, per person, per year?	The organisation should demonstrate that the CMS is continuously reviewed to determine the efficiency of the system, accuracy of decisions being made, employees, contract staff, supervisors, have sufficient time to carry out the requirements of the system, and the CMS is not distracting people from their primary responsibilities.	
7.	How is the system administered?	Formal training and assessment records should be maintained. Usually an electronic system of tracking and maintaining individual performance against an approved list of job or task related competencies are maintained.	
2. CMS Cycle Phase 1 & 2: Establish Requirements and Design CMS			
8.	Who has the authority to establish and approve performance standards within the system?	Accountabilities for implementing and managing the CMS should be assigned. The process and responsibilities for defining and maintaining competency standards for wells activities by the organisation should be described. This may be a role for the wells technical authorities for a well operator.	
9.	How are these standards measured for effectiveness and how are the results managed?	An approved list of job or task based approved competency standards, and a process for reviewing and revising competencies should be available with assigned responsibilities for each element of the process. Competency standards should be reviewed at periodic intervals or whenever there is a change in the wells activities.	
10.	If there are changes to the performance standards, how are they communicated and measured for effectiveness?	Competence standards should be available to staff such that they are able to refer to them and understand how they relate to their activities.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
3. CMS Cycle Phase 1 & 2: Establish Requirements and Design CMS			
11.	Have safety critical roles been defined and have safety critical competence requirements been mapped against these safety critical roles?	Oil and Gas UK Guidelines Table 1 provides a table of the minimum positions within offshore and onshore well's organisations for competency assessment and states leadership and supervisory competencies should be established and assessed for all these positions. The training and development needs of recruits must be established, and different levels of competence identified and clearly defined for different parts of the job. Additional competencies should be developed or assessed for all positions listed when working on challenging or high-risk wells.	
12.	Please identify any additional roles that have been added to the Oil and Gas UK list of minimum recommended positions. Please confirm, which of these additional roles are considered safety critical.	Note; The list will vary depending upon the various companies eg drilling contractor – MODUs or drilling contractor – platform well operators etc.	
13.	Are attitudes, behaviours and leadership performance standards applied to all staff assigned to well control, planning, design, examination, verification and operational activities? If so, how is it accomplished?	Critical competencies should be identified for all positions and have been described in key risk areas and skill elements in Oil and Gas UK and IADC Guidelines. • these cover the lifecycle of the well including well design, operations planning, operations execution, workover and intervention planning and execution, production well integrity and long-term integrity. Reference: Oil and Gas UK Guidelines Table 2. Critical competencies have been identified as 'technical' and 'leadership and supervisory' • typical examples of leadership and supervision skill elements have been provided in Oil and Gas UK guidance providing example competency profiles for well personnel • this should include operator third parties who are undertaking safety critical roles on a MODU	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
4. CMS Cycle Phase 3: Implement CMS			
14.	Is team competence evaluated to ensure the right people are in the right place at the right time to conduct both routine tasks and safety critical activities?	<u>Phase 3</u> Well operations are usually team-based activities rather than individuals working alone. • a gap analysis for team competence is a good starting point for assessment of the competency of a team • offshore installation owners or operators, and well operators need to assure themselves that all personnel in well operations are competent for the proposed work. They should ensure themselves, by audit prior to the start of operations, that the contractors have suitable policies, procedures and management controls in place <u>Phase 4</u> Assessment of wells teams and their collective competency and the process for assessment should be clearly set out plus the process and management responsibilities for the assessed shortfalls in competency and the competency development of individuals within the team. • Gap analysis techniques based on a risk and task-based approach may be used. • Crew Resource Management (CRM) has been used to cover non-technical aspects of competency by some drilling contractors.	
15.	What training methods are used?	Various training methods may include PC based desk top training; computer-based training techniques, on the job training, the use of simulators etc. In-house and external training modules may be used.	
16.	What learning objectives are in place, and are they supported by suitable modes of training e.g. simulators?	The most effective CMS are specifically tailored to manage the competencies required for that particular organisation's work activities and associated safety risks and provide a comprehensive picture of job requirements allowing a training needs analysis to provide targeted and effective training interventions and a framework for on-going coaching and feedback.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
17.	What methods are used to assess trainees and how is it ensured these methods are suitable?	Assessment techniques can vary from • direct methods of observation, products of work and questioning • indirect methods of witness testimony, professional discussions, candidate statements and simulation • trade tests It is important to establish if trainees are assessed by suitable means and whether structured refresher training is conducted for recognised safety critical or infrequent safety related tasks in well operations. Team exercises and simulations may be used for developing team competency, ranging from desk top exercises to the use of simulators.	
18.	How is it ensured the assessment is carried out by an individual competent to evaluate the trainee?	Assessors must have a good understanding of the concepts and principles of competency-based assessment. Assessors may be qualified through various schemes, eg OPITO's competency assessor award or NVQs, however some organisations may prefer in-house training. The assessor should be technically competent in the area being assessed. Some companies use supervisors or line managers while others use dedicated assessors.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
19.	How is the competency of contract staff assessed?	<u>Phase 3</u> The competency of contract staff within the organisation must be assured. Contract staff should be assessed prior to hiring, at the start of the contract and during operations. This may be done by • including contract staff in a well operators or employers CMS on a temporary basis • the company supplying the personnel having a competency assurance system, or • individuals demonstrating their personal competency <u>Phase 4</u> Contract staff should continue to be assessed during operations. For contract or employee personnel arrangements should be in place to monitor performance and, if necessary, have arrangements in place to restore competence or when found to be necessary removal from the workplace.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
20.	How is the competency of third-party services staff assessed?	<u>Phase 3</u> The main dutyholders, offshore installation owners or operators, and well operators, need to assure themselves that all personnel involved in well operations are competent for the proposed work • they should do this by checking that the contractors have suitable policies, procedures and management controls (including competency assurance for their employees) in place. This should be audited prior to start of operations • this includes, in particular, offshore positions such as: Mud logger, drilling fluids engineer, cementer, well service supervisor, well test supervisor, coiled tubing supervisor, E-line and slickline supervisors <u>Phase 4</u> Arrangements should be in place with the third-party service provider to ensure competence of third-party services staff is maintained by the service provider. Where necessary, arrangements should be in place to restore competence, or, if necessary, removal of persons from the work place.	
5. CMS Cycle Phase 4: Maintain and Develop Competence			
21.	How is training validated?	The dutyholder or employer must be able to demonstrate that activities to be carried out and the training and development requirements have been defined eg by training needs analysis, and that arrangements are in place to be able to develop and train each individual and assess their competence via defined methods. There should be a system in place for ongoing monitoring of competency by suitably competent supervisors, and internal mentors and coaches to assist in the competency process. Some key roles eg the well examiner or drilling manager may rely on some form of external / internal review.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
22.	How is it determined whether the training has delivered what it was supposed to deliver?	There should be in place a system of ongoing monitoring for competency including assessors and supervisors. The CMS should define the maximum period between the formal competency assessments between an individual and their assessor.	
23.	Are suitable training records maintained and how are they used?	A suitable system of maintaining training records for internal and external training, on the job training and computer-based training modules must be in place. These records must be available for the ongoing development and training of personnel to ensure personnel progress from a status of 'not yet competent' to fully competent.	
24.	How do you ensure that only workers who are deemed as 'competent' are assigned to safety critical tasks?	The dutyholder / employer must be able to demonstrate that arrangements are in place to ensure personnel (including contractor personnel) only carry out activities for which they have been assessed competent. This must ensure that people 'not yet competent' cannot be 'jumped' into senior roles due to a lack of experienced or competent personnel. The dutyholder / employer must be able to demonstrate that managers are aware of the range of activities their personnel and contractors are currently competent to carry out.	
25.	What triggers are in place to ensure that competence requirements are re-evaluated, and any necessary training provided following changes to process, procedures, and conditions, eg HPHT well conditions?	This is a part of the management of change process and the dutyholder / employer should demonstrate that there is guidance in place which includes reassessment of competencies with installation of new equipment, higher risk well conditions, etc.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
26.	Is structured refresher training conducted for safety critical and infrequent safety related tasks?	Competence criteria should be relevant to the specific job or task and clearly linked to the major accident hazard on site and reflect on site risks. Major accident hazard for well operations relate to loss of containment, hydrocarbon release, blow out and explosion. Refresher training in well control, and well control techniques is standard in the industry. It is normal practice when drilling HPHT wells to provide additional training using simulation techniques, desktop exercises etc.	
27.	How are 'not yet competent' assessments managed and how many have been made in the last 12 months?	The dutyholder / employer must demonstrate that they have the ability to manage those 'not yet competent', and to make a decision on the suitability of the person for further training and development and, if so, to provide further training / development to gain sufficient experience prior to another assessment. A record of competence should be kept and the dutyholder / employee able to demonstrate sufficient opportunity for the person to consolidate any training given.	
28.	What systems are in place to establish and maintain 'trainer' and 'assessor' competency?	The dutyholder / employee must be able to demonstrate that those involved in the operation of the competency system (including recruiters, trainers and assessors) have the combination of professional competencies (related to their role) and occupational competencies (related to knowledge, skill, experience, etc.) which are clearly identified.	
29.	What systems are in place to establish and maintain managers' competencies?	Management responsibilities for those operating the CMS should be clearly defined and allocated and the training and development needs of the managers established. Managers required to carry out competency assessment should be suitably trained and periodically reassessed as part of the CMS procedures.	

	QUESTION	EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
30.	What systems are in place to enable workforce involvement in the continuous improvement of the system?	Refresher training and personnel briefings should be in place with feedback sessions to help identify the need for and be able to deliver additional and refresher training and check for use of appropriate performance standards, methods of assessment and consistent use of procedures and work instructions developed for the CMS.	
31.	Is the competence management system subject to continuous top-level management review? Who is involved, how is the review conducted and how often?	Oil and Gas UK guidelines state the CMS should be under continuous internal quality assurance. It is important that senior management endorse and drive the CMS. A sense of ownership of the system is important, particularly for those carrying out key roles within the system. Quality assurance of assessment decisions is the key to the integrity of a competency management system and may include the sampling of assessor's judgments to determine whether a decision is valid by a designated internal verifier; conducting exercises with assessors for consistency in assessors' decisions. Check for how well the system works under stressed conditions, eg shortage of skilled, competent personnel to fill safety critical roles.	
32.	Does a credible third party audit the competence management system? If so, provide details of the third party and how frequently they audit the system.	Oil and Gas UK guidelines recommend the CMS be audited every 3 years. Competent personnel should carry out the audit. They may be company personnel, but they should not be part of the well operations team nor personnel responsible for management of the CMS. HSE guidance would recommend the audit be undertaken by an auditor external to the company, but familiar with systems for competence assurance. Audit of the CMS should look at the system as a whole, sampling and checking performance and compliance over the entire scope of the CMS against the procedures and the latest regulatory guidance.	

SAMPLING RECORD – SCHEME ADMINISTATOR

Name:
Job Title:

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
1.	Describe your system, processes and procedures for the management of workforce competence.	There should be • a clearly identified process owner and clear accountabilities for well technical authorities and line management • the process and responsibilities for defining and maintaining competency standards for well activities should be described • the process and responsibilities should be clearly set out for assessment of wells personnel and their individual competencies • the process and responsibilities should be clearly set out for assessment of wells teams and their collective competency • the process and responsibilities should be clearly set out for the management of assessed shortfalls in competency and for competency development of individuals and teams, and • the process and responsibilities should be specifically set out for the management of contract staff	
2.	How much time and resource are being used to administer the competency system, per person, per year?	The organisation should demonstrate that the CMS is continuously reviewed to determine the efficiency of the system, accuracy of decisions being made, employees, contract staff, supervisors, have sufficient time to carry out the requirements of the system, and the CMS is not distracting people from their primary responsibilities. A well-managed system will be demonstrated through correlation between the administrator's experience and the figures given by the custodian.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
3.	How are changes to the performance standards, how are they communicated and measured for effectiveness?	Competence standards should be available to staff such that they are able to refer to them and understand how they relate to their activities. They can demonstrate how this would occur within the system.	
4.	Demonstrate how safety critical tasks have been identified within the scheme.	They can demonstrate that safety critical tasks are highlighted within competence elements and should be able to demonstrate that safety critical competencies are tracked, and deficiencies actioned.	
5.	Are team competence assessments recorded within the CMS?	Team competence may be an output of the CMS system viewed on a dashboard or run as a report on team competence assessments by department heads, or project managers, It should not be informal, but should be captured and be auditable.	
6.	How are internal and external training records maintained?	Evidence of attendance should be available as should copies of external certification obtained and expiry dates of certificates managed. Some external training may be validated such as checking certificate authenticity.	
7.	Do you maintain records of qualified competence assessors?	Each assessor should have received training in assessment techniques and on the CMS itself.	
8.	Provide a walkthrough of the competence record of a staff member.	The administrator should be able to pull up the training and competence record and identify the various competence requirements, show how evidence of each competence area is recorded and explain how non-conformance with the system is escalated to management. They should also be able to show how the system interacts with other parts of the management system via reports, dashboards links etc.	

QUESTION		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
9.	Provide a walkthrough of the competence record of a contract team member.	The administrator should be able to pull up the training and competence record and identify the various competence requirements, show how evidence of each competence area is recorded and explain how non-conformance with the system is escalated to management. They should also be able to show how the system interacts with other parts of the management system via reports, dashboards links etc.	
10.	Present details of the audit schedule that covers the CMS.	Audit of the effectiveness of CMS should be performed as part of the wider business management system.	
11.	Provide details of the last CMS audit.	Review details to ensure that non-conformances have resulted in measurable actions.	

USER INTERVIEW

Name:
Position:
Staff/Contract/Agency:
Date:

TOPIC		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
1.	Describe your system, processes and procedures for the management of workforce competence.	There should be • a clearly identified process owner and clear accountabilities for well technical authorities and line management • the process and responsibilities for defining and maintaining competency standards for well activities should be described • the process and responsibilities should be clearly set out for assessment of wells personnel and their individual competencies • the process and responsibilities should be clearly set out for assessment of wells teams and their collective competency • the process and responsibilities should be clearly set out for the management of assessed shortfalls in competency and for competency development of individuals and teams, and • the process and responsibilities should be specifically set out for the management of contract staff	
2.	Explain your involvement in maintaining your competence.	Individuals should be aware of what is required for continued competence and should be attending training courses, forwarding copies of certification etc. Contractors who move around regularly with projects may have a competence portfolio to provide evidence as required to well operators. Individuals may drive the training needs or may simply aim to maintain the minimum company standards.	

TOPIC		EXAMPLE ANSWERS	SATISFACTORY RESPONSE? / COMMENT
3.	How do you maintain your own competence?	Individuals should be empowered to take control of their own competence, being involved in training needs analysis and should be responsible for maintaining some records or informing administration of their competence arrangements.	
4.	Does the competence scheme integrate into the performance management arrangements of your company?	Linking performance management systems to the performance management scheme can motivate individuals to keep records up to date, further requiring competence in one position before promotion to the next can motivate individuals to participate in training and maintain records.	
5.	Are contactors and staff subject to similar levels of competence demonstration?	An advantage of staff positions includes additional training opportunities however if staff are more regularly monitored for competence through internal systems than contractor's poor contractor performance can go unnoticed.	
6.	Does the scheme cover non-technical aspects such as behaviours?	Users should be aware of the importance of non-technical aspects and how these are measured by the company.	
7.	Does the scheme address team competence?	The users are likely to be able to give examples of exercises or activities they were involved in as a team that can be cross referenced against competence records.	
8.	How do you keep up to date with new technology? And how does the scheme reflect that?	Users may talk of CPD requirement for Chartered Engineer status or internal training. They may be able to talk of times that performance standards have been updated and the additional demonstrations that they had to provide.	

Appendix 4 System Review

Following review of the supplied documentation, subsequent interviews and onshore and offshore sampling, the system review can be populated. The system review should enable the inspector to assign a performance score and form a record of such.

SYSTEM REVIEW of INSPECTIONS of WELLS PERSONNEL COMPETENCE SCHEMES

Company:
Date:

TOPIC		EVIDENCE	INSPECTORS REMARKS
1.	What CMS cycle phase do you determine the scheme to be in? The further through the CMS cycle the more mature the scheme is; be aware of dutyholders that go from one ineffective scheme to another and never develop the competence scheme beyond cycle 2.		
2.	Is this system integrated with other management systems and, if so, how?		
3.	Are all relevant positions identified in the Oil and Gas UK guidelines covered appropriately by the scheme?		

TOPIC		EVIDENCE	INSPECTORS REMARKS
4.	Are contactors and staff subject to similar levels of competence demonstration?		
5.	Have audit cycles been developed and is there a history of auditing resulting in improvement action?		
6.	Do users understand their responsibilities in relation to competence and take ownership of competence management?		
7.	Does the scheme cover non-technical aspects such as behaviours?		
8.	Does the scheme address team competence?		
9.	Does the scheme address new and emerging technology for staff and long-term contract staff alike?		
10.	Does the scheme contain sufficient verifiable evidence of competence – (beware of tick box type line manager sign-off)?		

Appendix 5 Application of EMM and Dutyholder Performance Assessment

When inspecting the wells personnel competency management system dutyholder compliance is to be assessed against the relevant success criteria. The success criteria have been determined from specific regulatory requirements, defined standards, established standards or interpretative standards.

This assessment will determine the: EMM Risk Gap, the associated topic performance score together with the Initial Enforcement Expectation as shown in the table below.

The actual enforcement may differ from that consistent with the recorded topic score depending on dutyholder and strategic factors. However, should this occur then the relevant dutyholder and strategic factors should be identified in the inspection report. **The Topic Score recorded on COIN must be consistent with the Initial Enforcement Expectation**

Further guidance can be found at: http://www.hse.gov.uk/enforce/emm.pdf

EMM RISK GAP					
EXTREME	**SUBSTANTIAL**	**MODERATE**	**NOMINAL**	**NONE**	**NONE**
TOPIC PERFORMANCE SCORE					
60	**50**	**40**	**30**	**20**	**10**
Unacceptable	**Very Poor**	**Poor**	**Broadly Compliant**	**Fully Compliant**	**Exemplary**
Unacceptably far below relevant minimum legal requirements. Most success criteria are not met. Degree of non-compliance extreme and widespread. Failure to recognise issues, their significance, and to demonstrate adequate commitment to take remedial	Substantially below the relevant minimum legal requirements. Many success criteria are not fully met. Degree of non-compliance substantial. Failures not recognised, with limited commitment to take remedial action.	Significantly below the relevant minimum legal requirements. Several success criteria are not fully met. Degree of non-compliance significant. Limited recognition of the essential relevant components of effective health and safety management, but demonstrate	Meets most of the relevant minimum legal requirements. Most success criteria are fully met. Degree of non-compliance minor and easily remedied. Management recognise essential relevant components of effective health and safety management, and	Meets the relevant minimum legal requirements. All success criteria are fully met. Management competent and able to demonstrate adequate identification of the principal risks, implementation of the necessary control measures, confirmation that these are used effectively; and	Exceeds the relevant minimal legal requirements. All success criteria are fully met. Management competent, enthusiastic, and proactive in devising and implementing effective safety management system to 'good practice' or above standard. Actively seek to further improve standards.

action.		commitment to take remedial action	commitment to improve standards.	subject to review.	
EMM INITIAL ENFORCEMENT EXPECTATION					
Prosecution / Enforcement Notice.	Enforcement Notice / Letter.	Enforcement Notice / Letter.	Letter / Verbal warning.	None.	None.

It should be noted that:

- **the recorded score should reflect the most significant compliance gap identified** relevant to the inspection guide.

- the IG and hence the allocated scores may not cover all the matters that were considered during the intervention.

- the intervention may not necessarily have used every part of the IG – consequently the score only reflects what was inspected. **The inspection report should make it clear what aspects of the IG the dutyholder has been scored against** (or it is clearly identifiable by a letter item).

- where the score only relates to limited aspect of the IG then consideration should be given to consulting the IG owner before finalising the score.

- proposed inspection scores should be reviewed/discussed by the full inspection team before finalising.

- the allocated performance score only reflects regulatory judgements about a duty holder's degree of compliance at a particular point in time.

Use of performance scores

HSE uses the performance scores as one of the many inputs to prioritise and plan future regulatory interventions. Prioritising interventions is fundamental to ensuring HSE delivers its major hazards regulatory strategy while supporting businesses and the GB economy. HSE aims to ensure that regulatory activity is proportionate to the risk to people taking account a dutyholder's performance in controlling risks. In general, this means that HSE will inspect major hazard installations and dutyholders with relatively poorer risk management performance more frequently and in greater depth than lower hazard installations and dutyholders where there is evidence of higher risk management performance.

Appendix 6 References / Further Reading

- *Guidelines on Competency for Wells Personnel* Oil and Gas UK
- *Example of Competency Profiles for Wells Personnel* Oil and Gas UK
- The Offshore Installations and Wells (Design and Construction, etc.) Regulations 1996 Regulations 13 and 21, and guidance document L84 *A guide to the well aspects of the Offshore Installations (Design and Construction, etc) Regulations 1996* *www.hse.gov.uk/pubns/books/l84.htm*
- The Borehole Sites and Operations Regulations 1995 (BSOR) Regulation 9 Schedule 2, and guidance document L72 *A guide to the Borehole Sites and Operations Regulations 1995. Guidance on regulations* www.hse.gov.uk/pubns/books/l72.htm
- *Developing and Maintaining Staff Competence* Office of Rail Regulation www.orr.gov.uk/media/10885
- *Inspection of Competence Management Systems at COMAH Establishments* COMAH Competent Authority
- *North Sea Offshore Authorities Forum Multi-National Audit "Human and Organisational Factors in Well Control"* www.hse.gov.uk/offshore/auditreport-nsoaf.htm
- IADC *Guidance on the Management of Third-Party Competence for Safety Critical Positions Offshore* IADC-NSC-Guidance-Rev-1.pdf