

Senior Pipeline Inspection Engineer

S10 and S15

The following should be read and used in conjunction with the information pack 'Competence Assurance & Assessment: Introduction for Experienced Freelance Personnel'.

Evidence Required

- Competence appraisal:** ♦ at Senior Pipeline Inspection Engineer level
- Work records:**
- ♦ copy of a report written by the candidate that has been submitted to onshore management or the client.
 - ♦ copy of risk assessment documentation where the candidate has participated in risk assessment process
 - ♦ copy of quality control check sheet
 - ♦ copy of anomaly report produced by candidate during pipeline inspection
- Witness testimonies:**
- ♦ one example of the candidate leading by example and demonstrating general safety awareness
 - ♦ one example of the candidate coaching junior personnel in a technical area
 - ♦ one example of the candidate's ability to log significant events online during the pipeline survey and produce anomaly report after reviewing events offline
- Essential knowledge:** ♦ written answers to Senior Pipeline Inspection Engineer questions
- Curriculum Vitae** ♦ Detailing offshore trips, work scope, clients, regions etc.

IMCA Framework Requirements

The competence assurance and assessment framework developed by IMCA (the International Marine Contractors Association) sets out a number of elements for each safety-critical position. The following table shows how competence can be demonstrated against each element.

Code	Demonstration	Covered by
S/S10/000/01 Safety Awareness	Demonstrate in-depth knowledge of company health, safety, environmental and quality procedures Ability to plan and perform risk assessments for all safety critical areas in a work environment Ability to perform "toolbox talk" meetings/briefings immediately prior to specific to specific survey operations Demonstrate a commitment to safety by setting an example on safety issues and demonstrating safety leadership to subordinates and work colleagues	CA (a), Q1-5,14 R, CA (b), Q1,4 CA (b), WT, Q3 CA (a), WT, Q2
S/S10/000/02 Emergency Procedures	Ability to take appropriate action in the event of an emergency situation Ability to produce coherent and concise reports on emergency situations	CA (a), WT WT
S/S10/000/03 Behavioural Factors	Ability to explain and instruct subordinates in the use of equipment and systems Ability to take charge and show leadership qualities Ability to communicate effectively with client and company management, other team members and supervisor	CA (b), WT CA (c) CA (c)
S/S10/000/04 IT Skills	Ability to accurately report and software faults and the context in which they are found to the appropriate support staff	R, CA (c), (g), WT
S/S10/000/05 Seamanship	Ability to instruct personnel in the correct use of safety and survival equipment and aids Demonstrate a practical knowledge of vessel operations	CA (a) WT
S/S10/000/06 Prepare	Ability to prepare project specific procedures in accordance with client specification and project requirements	CA (f)

Code	Demonstration	Covered by
Project Procedures and Plans	Ability to understand and gather the necessary background information and data (work pack) to undertake the specified work, e.g. existing data, drawings and charts	WT
S/SI5/000/07 Software	Demonstrate a detailed knowledge of operation of technical software for the recording and processing of pipeline event data	CA (g), WT, Q13
S/SI4/000/08 Preparation	Ability to prepare work plans from client supplied work scope with due respect to operational constraints and requirements, maximising efficiency and resource utilisation	CA (f), WT
S/SI4/000/09 Data Acquisition	Ability to quality control check both video and audio formats Ability to quality control check event data being logged Demonstrate a detailed understanding of events which fall outwith supplied criteria of non-conformance (anomalies) so that guidance can be given to online personnel Ability to quality control check paper and/or electronic data sheets for the recording of data during inspections of wellheads, SSIV's and other subsea structures	R, CA (j), Q14 R, CA (j), Q14 CA (h), Q14 WT, Q14
S/SI4/000/10 Data Processing	Ability to carry out advanced quality review of pipeline video, events, charts and electronic data Ability to quality control check raw and processed pipeline data Ability to carry out quality review of completed data sheets, video logs, video indexes and photo logs	CA (j), WT, Q14 CA (j), WT, Q14 CA (j), WT, Q14
S/SI4/000/11 Data Management	Demonstrate a detailed knowledge of organisations data management procedures Ability to carryout quality review of progress logs	CA (i), (m) WT
S/SI4/000/12 Technical Knowledge	Demonstrate a detailed knowledge of standard structural features of subsea pipelines, flowlines, umbilicals, wellheads and other subsea structures Demonstrate a detailed knowledge of inspection techniques appropriate to ROV inspection	WT WT

Q Question (written answer required)

CA Competence Appraisal Form

R Record of work; document or product

WT Witness Testimony

Sample Achievement Record

Candidate name:

First assessor name:

	Assessment Decision	Approval of Internal Verifier/ Competence Focal Point
Safety		
Emergency Procedures		
Behavioural Factors		
IT Skills		
Seamanship		
Prepare Project Procedures and Plans		
Software		
Preparation		
Data Acquisition		
Data Processing		
Data Management		
Technical Knowledge		

Comments:

First assessor signature: Date:

Verifier signature: Date:

Sample Competence Appraisal

The appraiser must have observed the appraisee completing the task before completing the relevant section. Where necessary a number of different appraisers may be used to complete the form fully.

Appraisee name:

Task	Feedback to Appraisee	Appraiser (Print name, sign and date)
<p>a) Lead by example and coach other personnel in general safety awareness.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>b) Lead risk assessment teams and chair toolbox talks for operational tasks.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>c) Maintain effective teamwork and communication, including the supervision of a shift.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>d) Mobilise and fully test an offline events data processing system, including networking PC's and video review suite.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>e) Mobilise and fully test an online inspection data logging system including video recorders and PC's.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>f) Demonstrate the ability to prepare job specific procedures, datasheets and dive plans.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		

Task	Feedback to Appraisee	Appraiser (Print name, sign and date)
<p>g) Demonstrate a detailed working knowledge of software packages used for pipeline inspection programmes.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>h) Understand in detail inspection data which falls out with client supplied criteria of non conformance (anomalies).</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>i) Interpret client and industry electronic data formats specifications and produce files in such formats.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>j) Carry out advanced QC of video, events, charts, logs & electronic data collected during pipeline inspection programme.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>k) Co-ordinate the production of material for inclusion in final reports, plus understand company report formats.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>l) Write / produce inspection reports, including, anomaly reports, field reports and final reports.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		
<p>m) Set up and run data management system for both electronic & hard copy data, plus data back-up and archiving.</p> <p>Performance is exceptional <input type="checkbox"/></p> <p>Performance is competent and dependable <input type="checkbox"/></p> <p>Additional skills or experience required <input type="checkbox"/></p>		

Task	Feedback to Appraisee	Appraiser <i>(Print name, sign and date)</i>
<p>n) Demonstrate a detailed knowledge of ROV sensor and equipment used during inspection and the data they gather.</p> <p>Performance is exceptional Performance is competent and dependable Additional skills or experience required</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>		
<p>Projects</p> <p>Indicate which Projects you have participated in during the last 12 months. Specify project workscope</p>		
<p>Projects</p> <p>Performance is exceptional Performance is competent and dependable Additional skills or experience required</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>N.B. Feedback should be based on projects detailed above</p>	
<p>Hardware/Software</p> <p>Indicate which Hardware/Software you have used during the last 12 months</p>		
<p>Hardware/Software</p> <p>Performance is exceptional Performance is competent and dependable Additional skills or experience required</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>N.B. Feedback should be based on software / hardware detailed above</p>	

Appraisee comments:

Appraisee signature: Date:

Essential Knowledge – Sample Questionnaire

- 1 What criteria must be considered before deciding to conduct a formal risk assessment?
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- 2 If a shift team member approached you with a safety concern how would you respond and follow-up?
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- 3 What are the objectives/aims of a toolbox talk and how as the chairman of the talk can you ensure that the objectives / aims have been met?
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- 4 What are the definitions of hazard and risk? What steps are required to be taken to complete a risk assessment and how are risks evaluated?
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- 5 If a member of your shift team is feeling physically un-well what actions would you take?
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- 6 If a member of your shift team is acting out of character or is un-communicative what actions would you take?
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- 7 How can you best discover the limitations and abilities of a trainee on your shift?
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- 8 What is the need for a common reference point on a vessel or vehicle?
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- 9 What is the standard sign convention used in the offshore industry for measuring offsets?
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10 What are the fundamental calibrations to be conducted prior to any offshore survey work commencing and explain the methodology for each and derived corrections?

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11 Explain the difference between using predicted and observed tides and how these affect data acquisition, processing speeds and quality of data.

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12 If there is a 1km section in a 20km data base where the transverse profiles had not been edited properly, what is the best way to proceed in order to correct the problem?

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13 How would a weather forecast be used in dive planning?

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14 What is the purpose of the quality control (QC) process, which is applied to all data and reports?

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15 What minimum separation distance would you specify for divers and ROV's?

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16 What is the importance of knowing the final report requirements prior to commencing the work?

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17 Typically, what 'systems' can be set up at the onset of the offshore phase to aid the final reporting process?

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