

# Pipeline Inspection Engineer Grade I

S20 and S25

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 Pipeline Inspection Engineer Grade I level
- Work records:**
- ♦ copy of one safety related document such as, risk assessment form, toolbox talk sheet or safety briefing which clearly shows that the candidates was involved in the process
  - ♦ copy of data sheet, video log, video indexes or photo logs completed by the candidate
  - ♦ copy of event summary or anomaly report/listing completed offline by the candidate
- Witness testimonies:**
- ♦ one example of the candidate maintaining a safe working environment for self and others
  - ♦ one example of candidate recording anomalies in real-time, identifying standard seabed structural features
  - ♦ one example of the candidate reviewing data offline
- Essential knowledge:** ♦ written answers to Pipeline Inspection Engineer Grade I 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/S20/000/01 <b>Safety</b>	Ability to adhere to offshore safety standards and maintain a safe working environment Ability to follow company safety procedures Ability to participate in risk assessment process Ability to recognise hazards in the work place Demonstrate a knowledge of how to react to safety critical situations and what immediate action can be taken to minimise/eliminate then	CA (a), WT CA (a), WT, Q5 R, CA (a), Q3 CA (a), Q2 WT
S/S20/000/02 <b>Emergency Procedures</b>	Ability to recognise a potential or actual emergency situation and report it appropriately	Q4
S/S20/000/03 <b>Behavioural Factors</b>	Ability to give and receive handovers at start and end of shift Ability to maintain clear and concise logbooks and records Ability to use concise and unambiguous writing skills and the ability to handle written language effectively Ability to communicate effectively with marine crew using correct descriptive terms for direction, vessel locations and relevant seamanship terms	CA (b), Q6 CA (b) R, CA (b) CA (b), Q6
S/S20/000/05 <b>Seamanship</b>	Demonstrate knowledge of practical seamanship and basic rigging skills Demonstrate knowledge of how weather conditions affect ship handling and its impact on the safe handling of survey systems	CA (e), WT CA (e), WT
S/S25/000/06 <b>Software</b>	Demonstrate an understanding of the operation of technical software for recording and processing of pipeline event data	CA (f)

Code	Demonstration	Covered by
S/S25/000/07 <b>Preparation</b>	Ability to prepare all materials necessary prior to dive task (e.g. video tapes, technical drawings, log sheets etc.) Ability to interpret structural drawings and charts	CA (d) WT
S/S25/000/08 <b>Data Acquisition</b>	Ability to operate event logging software where utilised and accurately record events Ability to monitor quality of video and adequacy of coverage, and determine whether it meets acceptable standards Ability to liaise with ROV crew so that speed of survey and quality of video is optimised Ability to recognise in real-time those events which fall outwith supplied criteria of non-conformance(anomalies)	CA (e), (f), WT CA (e), WT CA (b), WT, Q14 CA (e), WT
S/S25/000/09 <b>Data Processing</b>	Demonstrate an understanding of the company offline event processing software Ability to identify from video those events which fall outwith supplied criteria of non-conformance(anomalies) Demonstrate an understanding of the company data processing procedures Ability to produce listings utilising offline event processing software Ability to prepare and complete data sheets, video logs, video indexes and photo logs Ability to prepare summary reports and anomaly reports	CA (f), (g), WT CA (h), WT WT R, WT R,WT R, CA (i)
S/S25/000/10 <b>Data Management</b>	Demonstrate an understating of the company data management procedures Ability to maintain accurate and up to date progress and quality control logs	CA (c), WT R, WT
S/S25/000/11 <b>Technical Knowledge</b>	Ability to recognise standard structural features of subsea pipelines, flowlines and umbilicals	CA (e), WT

Q Question (written answer required) CA Competence Appraisal Form  
R Record of work; document or product WT Witness Testimony

## Sample Achievement Record

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Candidate name: .....

First assessor name: .....

	Assessment Decision	Approval of Internal Verifier/ Competence Focal Point
Safety		
Emergency Procedures		
Behavioural Factors		
Seamanship		
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 <i>(Print name, sign and date)</i>
<p><b>a) Demonstrate safety and emergency awareness, familiarisation with worksite and ability to identify hazards.</b></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>b) Maintain effective teamwork and communication.</b></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>c) Demonstrate IT skills including Office packages, data management and CAD skills for charting.</b></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>d) Carry out pre dive task preparations including calibrations, setting up materials and pre task briefing.</b></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>e) Conduct inspection in accordance with workscopes/dive plans, ensuring optimum survey speed and data quality.</b></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>f) Demonstrate a working knowledge of software packages used for pipeline inspection programmes.</b></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><b>g) Process events data as per standard and/or project specific procedures, recording progress in relevant logs.</b></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>h) QC/review raw and processed inspection data and report anomalies, recording progress in relevant logs</b></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>i) Present inspection data for inclusion in reports in accordance with standard and/or project specific procedures.</b></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>Projects</b></p> <p><b>Indicate which Projects you have participated in during the last 12 months. Specify project workscope.</b></p>		
<p><b>Projects</b></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>N.B. Feedback should be based on projects detailed above</p>	
<p><b>Hardware/Software</b></p> <p><b>Indicate which of Hardware/Software you have used during the last 12 months</b></p>		
<p><b>Hardware/Software</b></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>N.B. Feedback should be based on software / hardware detailed above</p>	

Appraisee comments:

Appraisee signature:

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Date:

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**Essential Knowledge – Sample Questionnaire**

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1 What is the definition of 'near miss' incident?

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2 List the most important hazards encountered when working offshore and the benefits of toolbox talks.

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3 What is the TRA process (task risk assessment) and how does it apply to typical tasks carried out in your work environment?

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4 For your worksite describe in detail how any safety incidents are reported.

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5 Where can you find the company emergency procedure documents for your worksite?

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6 Explain the importance of good communications.

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7 What is the difference between sea, swell and current and explain their effect on the deployed ROV/towed vehicle bearing in mind the safe working limits for the launch of ROV/towed vehicle?

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8 How would you QC event data against survey data?

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9 What types of inspection equipment can be fitted to an ROV for a pipeline inspection project?

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10 What sensory equipment is capable of tracking buried pipelines/umbilicals/telecoms cables?

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11 Why is it important to always carry out pre and post dive checks?

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12 What are the benefits of preparing good work-packs?

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13 What features require to be measured during a CVI and what equipment could you use to measure each?

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14 Briefly describe the interface between inspection, CP, survey, data processing and ROV?

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15 On a long route survey (e.g. 100nm) at what frequency would you calculate time difference and ratio given a standard port to work from?

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16 Why would a project have more than one standard port, and what QC checks can be carried out to ensure correct co-tidal data is applied to depth data?

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17 What effect would the height of the towed fish have on the records in respect of range and determining the height of features?

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