

Invitation to Tender Specification

Development of Technical Tests in a range of Engineering Construction disciplines

(Ref: RR 01-17)

The Engineering Construction Industry Training Board (ECITB) is pleased to invite you to tender for the above. Full details are included in these documents, which describe the services which are required, the basis of tendering and the processes to be followed in the submission of tender offers.

**1. Background**

The ECITB has an established technical testing system that utilises both multiple choice Questions and practical assessments for a range of occupation related activities.

As a result of recent changes to the national qualifications and apprenticeships scene the industry has asked ECITB to extend the use of the technical test system to include testing the achievement of individuals training for the revised ECITB qualifications, and to measure the progress of individuals on the new apprentice standards as ‘phase tests’ at 3 months, 12 months, 24 months and on completion of their on-programme training and assessment (final Gateway review) if no mandated qualification is included in the Apprentice standard.

**Apprenticeships**

The 12, 24 and if required the final Gateway review phase test scope will align with the units of assessment within the new ECITB qualifications and the under development qualification units and will allow the ECITB to accurately assess the Apprentice in terms of technical skills, knowledge and, to certain extent behaviours.

**Note:** The Apprentice 12 and 24 month tests are intended to be used as a progression check for someone that has received the required level 3 occupational skills and knowledge training but is still developing.  As such, whilst meeting the scope statements in Annex A, the 12 and 24 month point tests should increase in complexity year on year but not be indicative of someone that has reached full occupational competence.

As such, whilst meeting the scope statements in Annex A the tests should be relatively non-complex in nature.

ECITB recognises that a level of complexity relative to the apprentices expected level of development is hard to determine for the Phase Tests. It is essential the consultant be able to write the knowledge Questions and practical assessments to reflect the appropriate stage of the Apprentice’s development.

**2. Definitions**

In this specification the following terms shall have the following meanings:

**“Apprentice Standard”** means currently available Apprentice Standards published on the Institute for Apprenticeships website at:

<https://www.gov.uk/government/collections/apprenticeship-standards>

**“Assessment Criteria”** means the standard a candidate is expected to meet to demonstrate that the learning outcomes have been achieved in order to be deemed competent.

**“Discipline”** means an Engineering Construction occupation as listed in Appendix 1.

**“Learning Outcomes”** means what a candidate is expected to know, understand or be able to do as the result of a process of learning

**“Guidance Document”** means a description of a practical test presented in a standard ECITB format which includes:

* + Assessment overview
  + Examiner instructions
  + Candidate instructions
  + Drawings if relevant
  + Specialist documents if needed – e.g. Lifting Plan, Equipment Specs.
  + Examiner Results Sheet (marking guide for the practical test)

(List of plant, systems, materials, tools and equipment for the development of guidance documents is listed in the qualifications units)

**“Phase Tests”** means the use of the technical test system to measure the progress of apprentices during their training. The tests will be administered at the 3, 12, 24 and for the final Gateway Review at the 36 month point where no qualification is mandated in the Apprentice standard. The final Gate Way Review test must meet the content of the relevant ECITB Qualification. All Apprentices regardless of discipline will receive the 3 Month Test, the 12 month and beyond tests will be delivered according to occupational discipline/pathway.

All tests must satisfy the context of assessment statements at Annex A.

**“3 Month Test”** means a test comprising of knowledge Questions and a separate practical assessment used for all qualifications developed against 5 general engineering specifications, outlined in Annex A:

1. Engineering Drawings and Practice,

2. Engineering Materials,

3. Use of Basic Hand Tools and Portable Power Tools to Cut and Shape Materials,

4. Abrasive Wheels,

5. Advanced Measurements.

**“Qualification”** means in the context of this document, ‘ECITB qualifications or Apprenticeships’

In the context of this tender only the Level 2 & 3 Qualifications in the Disciplines are to be considered.

**‘‘Qualification Unit’’** means a document that details the learning outcomes of the specific element of a qualification. The qualification unit is a standard ECITB format and contains:

* Learning outcomes to be met
* Assessment Criteria to underpin and add detail to the learning outcomes

Qualification Units are detailed under the scope of assessment as listed in column B of Annex A

“**Question**” means: a multiple choice question with several potential answers presented to the candidate, the preferred number of answers is 4, but other numbers of answers are acceptable if required by the question.

Acceptable format for the Questions are as follows:

* Multiple answers with 1 correct answer
* Multiple answers with multiple correct answers
* Images in the question (file size will be specified upon contract award)
* Selection of a correct area of an image
* Reading a value from an image
* Selection of multiple correct areas of an image

In general, the answers should be structured as detailed in a guide provided by the ECITB

Question banks will be delivered to the ECITB in a format specified and provided by the ECITB

Questions must be unique: that is, not the same as any other question in the Question Bank. (Including the existing Questions that must be analysed in order to avoid duplication)

Unacceptable question include:

* Identical Questions with identical answers
* Identical Questions with different answers

Acceptable Questions may include:

* Generic Questions such as ‘what is this’ when referring to an image
* Questions of a similar nature, but structured differently (for example multiple Questions on the removal of a pump)

The Questions must also be developed in line with Training Standards which will be supplied by the ECITB upon successful award of the contract.

All materials developed should be verified as correct and relevant to the engineering construction industry.

**“Question Banks”** means groups of Questions, which may be organised by Unit, Discipline or Qualification, from which the ECITB test system selects Questions at random. The same question may be used in multiple Question Banks.

**“Test”** means an ECITB Technical Test delivered through the ECITB online web portal which contains 2 parts:

* Part 1- an online multiple-choice Questions
* Part 2- a practical assessment, described in a Guidance Document which is printed by the online system and used by an ECITB approved examiner to deliver and observe a candidate completing a piece of practical work.

ECITB currently has 61 technical tests related to the occupations in this tender, which will be made available to the successful tenderer upon contract award.

**“Test Uses”** means the variety of ways in which Tests are to be used, namely:

Tests specific to each Qualification which take a ‘holistic’ view of an individual’s competence and may cover individual units or several Units or Contexts

These may be used for:

* 1. Determining if a candidate has successfully achieved LOs & AC in an ECITB qualification
  2. Determining apprentice progress “Phase Tests”
     1. at 3 months (See 3 Month Test below)
     2. after 12 months (to the requirements of Annex A)
     3. after 24 months (to the requirements of Annex A but more complex than 1.2.2 recognising additional learning)
     4. at the final stage of an apprenticeship as part of the Gateway Review (nominally 36 months) to demonstrate their readiness to undertake the End Point Assessment (most complex; may be similar to 1.1 above)

**“Training Standard”** means a document which details the knowledge, skills and behaviours necessary to satisfy a specific subject matter area. This detail is presented though the use of descriptive statements referred to as Learning Outcomes (LO), Enabling Objectives (EO) and Key Learning Points (KLP).

**3. Scope**

For all the scope of assessment defined in Annex A, column B, the Consultant will provide:

* Questions
* Guidance Documents
* To check the apprentice’s progress through the apprenticeship (phase tests)
* To assess vocational competence as specified in the qualifications.

Where a tenderer is unable to satisfy the full technical range of this specification they are welcome to form alliances with other consultants; however only one consultant can lead the bid and hold the contract with ECITB.

ECITB will determine the acceptability of any supplied materials.

**4. The Services**

The Consultant will develop tests for each qualification and apprentice phase tests. The Consultant will review the existing ECITB technical tests and may include questions and guidance documents from those tests where appropriate (to avoid duplication and/or redevelopment of materials which are already suitable).

Qualifications

1. For each qualification;
   1. Question bank for each qualification unit (this is an estimated 3040 Questions across all disciplines)
   2. A sufficient number of guidance documents to cover all of the learning outcomes (please see **note** below)

**Apprentice Standards**

1. For the **3** Month test(s);
   1. 430 Questions (Estimated)
   2. Guidance document(s) to cover the 5 specifications.(see Annex A)
2. For the 12, 24 and final Gateway Review tests:
   1. Identify the Questions from No.1 (above) which can be used to measure the achievement of apprentices
   2. Develop additional Questions as required
   3. Develop Guidance Documents for each discipline
3. The Questions must be provided in MS Excel in a format provided by ECITB and must:

* identify the Discipline
* identify Qualification/Qualification Unit
* the Level (2 or 3)
* the **Test Uses** it is recommended for.

1. All Guidance Documents and Questions must comply with current UK regulations, legislation, and approved codes of practise or standards as appropriate.
2. The consultant must produce a document to show where the Apprentice Phase tests may be used as contributory evidence against the relevant learning outcomes and assessment criteria in the Qualification units of assessment.
3. Ensure that all materials are independently proof read to ensure correct grammar, spelling, punctuation and occupational context prior to delivery to the ECITB. *Tenders should identify how this requirement is to be achieved.*
4. The tenderer should allow for meetings with the ECITB Project Manager on a monthly basis as well as frequent contact via telephone /Webex to include a review of the proposed test recommendations for each discipline to agree the development with ECITB.

**Note:** Guidance Documents must be sufficient to cover all the Qualification Units and Learning Outcomes within the Qualification Units; these may take the form of a holistic test or several standalone practical tests to ensure achievement of **all** Learning Outcomes. The developed Guidance Documents must be contextualised to the Engineering Construction Industry, this means following Industry Standard Practices, such as shut down, Isolations, gaining authorisations etc. (please see industry standard practices listed in Appendix 1) Training Standards will be supplied where the new Qualifications are not yet available or as an additional resource to help inform the development process.

Practical tests for Qualifications are to take a holistic approach, assessing individual performance around a full job from getting the job request to carrying out the work, completing documentation and closing out the work.

Additional requirements may be identified within the qualifications.

**Priorities for the development of the specified services are listed below:**

|  |  |  |
| --- | --- | --- |
| **Priority** |  | **Completion date** |
| 1 | * Maintenance Technician Qualification. * Rigging/Erecting Qualification. * Installation Plating, Pipefitting, Electrical, Mechanical fitting Qualification. * L2 SECA Qualification. | 01/01/2018 |
| 2 | * Apprentice 3 month Phase tests. * Apprentice 12 month Phase Tests. * Apprentice 24 month Phase Tests and final Gateway Review (where necessary). | 01/09/2018 |

**Tenders should include a fixed price for the work listed under paragraph 4.0. This price should be broken down into a series of appropriate milestones against which progress can be measured and payments made**.

**5. Additional Services**

ECITB may request Additional Services (as defined in the Form of Contract) from the Consultant.

Annual updates for 3 years (to December 2020) as required (such as changes in legislation and any user feedback).

Develop tests for additional ECI occupations.

Attend additional meetings with ECITB.

**Tenders should include Day Rates for the provision of Additional Services.  Where appropriate identify different rates, e.g. rates for attending meetings,   development of additional technical tests, or Support activities.**

**6. Expenses**

Any expenses incurred by the Consultant in the performance of the contract, such as hotel costs, pilot costs and air/rail travel, will only be reimbursed by ECITB if:

* they are reasonable
* they are agreed in advance with the Project Manager
* claims for such expenses are accompanied by valid receipts.

Agreed exceptional expenses must be inclusive of VAT.

It is the ECITB’s policy to agree exceptional expenses on the following basis:

* Rail journeys - Standard Class
* Car mileage - Not to exceed 45p per mile, all inclusive
* Airfares - economy class
* Taxis/Hire Cars should only be used if other forms of public transport are not available. (Hire cars, if used, must not be retained unless retention is a cheaper option than any necessary use of taxis)
* Hotels - Up to 3 star.

**Agreed expenses will be reimbursed on an ‘as incurred’ basis and should not be included in any tender costings.**

**Appendix 1**

**Industry Standard Practices**

The consultant will include as appropriate in the Guidance Documents the requirement for the candidate to complete and adhere to Industry Standard Practices, to include but not limited to the following:

1. Permit and authorisation processes and procedures
2. Adherence to shut down and isolation procedures, such as test for dead, lock off tag out etc.
3. Depressurisation processes and procedures
4. Initial and during the assessment testing for contamination, residues and gases
5. Complete pre-work risk assessment processes & setting to work process including positive identification of plant and equipment
6. Adhere to procedures and complete documentation as appropriate
7. Reporting of problems/defects etc.
8. Handover processes and procedures
9. Completing of relevant documentation to include quality, permits and completion reporting

**Assessment context and complexity**

The consultant will also include in the Guidance Documents the requirement for the assessor to provide additional complexity to the assessment, if appropriate/relevant thus helping to provide a realistic simulation of the working environment. Dependant on the type of guidance document the consultant may wish to consider including 1 or more of the following complexities in the activities;

1. Confined space
2. Contaminated environment
3. Requirements for continual air sampling
4. Access structures
5. Working at height
6. DSEAR conditions
7. Problem solving which may include fault diagnosis

It is anticipated that additional documentation may be required to help simulate these complexities such as additional permits, equipment/safe guards and recording documentation.

**Discipline:**

* Engineering Construction Pipefitter
* Engineering Construction Plater
* Engineering Construction Mechanical Fitter
* Engineering Construction Electrical Fitter
* Engineering Construction Rigger
* Engineering Construction Erector
* Engineering Construction Mechanical Maintenance Technician
* Engineering Construction Electrical Maintenance Technician
* Engineering Construction Instrument and Control Maintenance Technician.

and also

* Supporting Engineering Construction Level 2 Qualifications – (new titles to be confirmed include)
  + General Operative
  + Welding Assistant
  + Welding
  + Mechanical
  + Pipefitting
  + Plating
  + Erecting
  + Rigging