

Questions asked in withdrawn Plant simulator tender (which may apply in this ITT)

It is not clear to us whether we have to reflect the 1) CPCS Assessment Criteria/Learning Outcomes only; OR 2) Specific Practical Tests; OR both?

And if the Practical Tests must be duplicated for all machine types, are both Standard and Advanced tests required?

Answer - Should be Standard practical test only

Question regarding the installation of the simulators, could you tell us if they all have to be installed in one single place or they need to be delivered to different locations in the UK.

Answer – They are all to be delivered and installed at our headquarters –

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On page 59, *Construction Equipment Simulators*, the tender specifies 360 Hydraulic excavator, approx. 13Ton capacity type. Given that excavators are generally operated in the same way regardless of capacity, is a 30T capacity excavator acceptable to meet training requirements? If not, what specific training requirements are covered by a 13T excavator that are not covered by learning to operate a 30T?

Answer - CITB would accept a 30 ton excavator

In Part C – Technical Specification, in section titled “*General Requirements Regarding Equipment Simulation*”, page 59, there is a requirement that “dynamics simulation must be of engineering grade”. How will CITB assess if the dynamics simulation is *engineering grade*? Would this imply that the dynamics software is identified and actually used by engineers to design equipment and thereby of *engineering grade*? What method will be used to substantiate any vendor claims of engineering fidelity in the simulation?

Answer - Please ignore the terms “engineering grade” CITB wish to obtain simulators that provide as realistic as possible replication to the real machines.

In Part C – Technical Specification, in sections titled “*Driving and Vehicle Dynamics*” and “*Soil Dynamics / Dynamic terrain*” on page 60 there are several requirements for accuracy. For example, “Accurate simulation of tyre/track and terrain interaction for different terrain

materials and profiles” and “Simulate the terrain cutting operations performed by various earth-moving tools, such as blades and excavator buckets”. How will CITB assess the accuracy of the core dynamics engine to simulate cable, vehicle and soil dynamics? What method will be used to substantiate any vendor claims of accuracy in the simulation?

Answer – When CITB have mention the soil dynamics we are not talking about the core dynamics engine, we will assess how realistic the soil dynamics are when we try them during the evaluation process and evaluate which simulators offer the best replication of how soil behaves and moves etc. CITB require suppliers to demonstrate how realistic their simulator is during the demonstration.

Under *General Requirements Regarding Equipment Simulation*, on page 59, the tender states “CITB does not want to risk negative training as a result of poor fidelity in the simulation of the equipment and shall replicate CPCS assessment criteria.” Can you elaborate on the requirement on the replication of CPCS assessment criteria for each equipment type or provide specific requirements?

Answer – Please see CPCS test on CPCS's website for full details and criteria.

The link for the Practical test specification is
<http://www.citb.co.uk/cards-testing/construction-plant-competence-scheme-cpcs/cpcs-downloads/#category> specific documents

Under *Operator's Station*, on page 61, the tender states “controls must be of similar type found in actual equipment (actual Original Manufacturers Equipment controls).” Do you require the use of actual equipment controls for each machine, or is it acceptable to utilize a generic control set that can accommodate more than one type of machine? For example, a bulldozer has different joystick control sets than a crane. Do you require a specific control set per machine type?

Answer – CITB would accept a supplier's suggestion to utilize a generic control set that can accommodate more than one type of machine.

Is there an estimated target budget/value for this tender or not to exceed budget amount?

Answer – CITB do not wish to divulge a budget at this time

On page 56 of the document “Construction Equipment Simulators CITB TECHNICAL SPECIFICATION” in the section Types of Equipment a Tower Crane, Saddle/Luffer type crane is required. Is a saddle jib crane or a Luffer jib crane required? Are either acceptable or both are required?

Is a flat-top or hammerhead tower crane an acceptable substitute for a saddle-jib crane as saddle slewing systems are not as common on construction sites today.

Answer - Flat top or hammer head is an acceptable substitute, we require both types saddle and Luffer.

In CITB's recent response to questions CITB responded that it would accept "generic control set". To further clarify, can you state if game controls acceptable? For example, is it acceptable to propose solutions that utilize all or parts of Logitech game controls such as Logitech Extreme 3D Pro Joystick or Logitech G27 Racing Game Steering Wheel?

Answer - All operator controls should be similar to those found in the actual equipment. It is not required to use any single manufacturer's controls, however, controls of similar quality and durability must be used. Game controls and joysticks are not acceptable

In CITB's recent response to questions, CITB stated the simulation should be "realistic as possible" and that the term "engineering grade" should be removed. It is unclear how vendor compliance will be measured for the section titled "General Requirements Regarding Equipment Simulation". Should the entire section be ignored or do some parts of these requirements still apply?

Answer - It is important that the simulation of the equipment, load dynamics and collisions with other objects in the virtual environment be of high fidelity. CITB does not want to risk negative training as a result of poor fidelity in the simulation of the equipment and shall replicate CPCS assessment criteria.

In CITB's recent response to questions, CITB states that the criteria for the simulation fidelity is based on CITB's assessment at the demonstration as per Q6 above, that is "how realistic their simulator is during the demonstration". In addition, in the technical specifications there are specific requirements for simulation and fidelity in all the sections on pages 59-61. Will the vendor's performance be measured with respect to these specific criteria or will the only measurement be based on a demonstration?

Answer - Both

CITB has stated: CITB require suppliers to demonstrate how realistic their simulator is during the demonstration. In the ITT, there is no mention of a demonstration. Can you provide details regarding where and when this can potentially occur?

Answer - A full week will be scheduled at Bircham Newton with reasonable notice given for all to demonstrate their equipment. Please accept our apologies as this was not included in the ITT, CITB would like to evaluate the simulators here at Bircham Newton