

By post and by fax at 2157 9250

14 June 2016

Mr Fenton WAN Chi Ping
Convenor of the Working Group
Labour Department
Room 1315, 13/F, Harbour Building
38 Pier Road, Central, Hong Kong

Dear Mr WAN

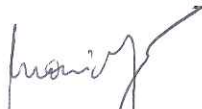
Additional Views on Draft Guidance Notes on Thorough Examination and Testing of Lorry-Mounted Cranes

Further to our enclosed letter dated 7 June 2016 for the Institution's views on the captioned subject, we would like to provide herewith our additional views and suggestions for your consideration as follows:

- It is suggested to specify that the crane must be suspended from use during any test and examination, including non-destructive test.
- It is suggested that the Guidance Notes may specify that the lorry tire pressure should comply with the OEM manual recommendation/ specification to ensure that crane is safe and stable during the test.
- The lorry crane owners should comply with the COP standard and requirement, as well as to follow R.P.E.'s recommendation on site, in case of any non-conformance being encountered.

Thank you for your kind attention.

Yours sincerely



Monica YUEN (Mrs)
Chief Executive and Secretary
The Hong Kong Institution of Engineers

Enc.

MY/WC

By post and by fax at 2157 9250

7 June 2016

Mr Fenton WAN Chi Ping
Convenor of the Working Group
Labour Department
Room 1315, 13/F, Harbour Building
38 Pier Road, Central, Hong Kong

Dear Mr WAN


Draft Guidance Notes on Thorough Examination and Testing of Lorry-Mounted Cranes

Thank you for your email dated 25 May 2016 inviting the Institution to put forth our views on the captioned subject.

In response to the subject, the Hong Kong Institution of Engineers is pleased to provide herewith our views and suggestions for your consideration.

Thank you for your kind attention.

Yours sincerely



Monica YUEN (Mrs)
Chief Executive and Secretary
The Hong Kong Institution of Engineers

Enc.

MY/WC

Enclosure

Views from The Hong Kong Institution of Engineers on the Draft Guidance Notes on Thorough Examinations and Testing of Lorry-Mounted Cranes

The Hong Kong Institution of Engineers (HKIE) in general supports the concerned draft Guidance Notes, so that the safety and reliability of lorry-mounted cranes, as well as the safety of persons working nearby, can be ensured. To better facilitate the operation and effectiveness of such examination and testing system, the HKIE provides herewith further suggestions for consideration:

Section 1 Introduction

“Owner”

Clause 1.5 While noting that the definition of “owner” is broad, it is suggested to reconsider if “contractor responsible for the construction site”, who may not be directly involved with the lifting appliance, is appropriate to be included within the definition.

Section 2 Legal Requirements

Clause 2.6 It is suggested that the meaning of “certain repairs” is to be defined more clearly.

Section 3 Guiding Principles and Important Notes of Thorough Examinations and Testing

3.1 Guiding Principles of Thorough Examination and Testing

Clause 3.1.4 In addition to that “unless otherwise specified by the manufacturer”, it is suggested that stability design check for other outrigger’s configurations (besides full extension) by professional engineer can also be acceptable as an alternative condition.

Clause 3.1.5 From the content of this paragraph, please consider whether it is correct to interpret that ONLY one set of ASLI is to be installed in the lorry crane, and that when the outrigger configuration changes, the setting of the ASLI shall be commensurate with the new configuration each time.

Clause 3.1.6 It is concerned that whether the lorry crane is to be derated to meet the stated requirement of “...safe working loads of the crane are the same as the settings on the ASLI...”, as it is noted that the lorry crane has a

characteristic that it can lift in one quadrant but not as much in another quadrant due to stability.

3.2 Important Notes on Thorough Examination and Testing

Clause 3.2.7 With regard to the statement that “*In case of a lorry-mounted crane which was manufactured to the standard conforming EN 12999:2011 (or latest equivalent standard)...*”, please clarify whether “*in case of*” means that lorry-mounted crane is NOT mandatory to be installed with ASLI conforming to EN 12999: 2011.

Section 4 Safe Systems of Work for Thorough Examination and Testing

4.1 Elements of the Safe System of Work

Clause 4.1.1 It is suggested that the definition of “*employer*” in the first sentence is to be defined clearly. Also, it is suggested defining clearly the party responsible for the preparation of the “*safe system of work*”.

4.3 Site Conditions

Clause 4.3.2 While it is noted that “*...temporary structure or working platforms should not be used as a test site during the proof load test*”, please consider if the competent examiner can go ahead for the test if in the situation that a professional engineer (e.g. Registered Structural Engineer) has conducted design check to substantiate that a temporary working platform is strong enough to sustain the proof load test.

Section 5 Thorough Examination of Lorry-mounted Cranes

5.2 Coverage of Thorough Examination

5.2.4 Functional or Operational Test

Clause 5.2.4.6 The paragraph mentions that “*...the SWLs at minimum, intermediate and maximum radii should be at least selected for the SWL performance test...*”, but “*Section 2 of First Schedule of LALG – Item 2 (3)*” of **Appendix III** mentions only “*maximum radius and the minimum radius of the jib*”. Please therefore consider if there is possible discrepancy between these two parts. Also, it is suggested to elaborate further the selection criteria of “*intermediate*” radius.

Section 6 Test and Thorough Examination of Lorry-mounted Cranes

6.2 Coverage of Test and Thorough Examination

6.2.3 Test

Clause 6.2.3.6 Regarding the requirement “...to verify the stability of a lorry-mounted crane...”, it is suggested to clarify as to whether it can be interpreted as either the lorry crane be “derated” or the operation of it be limited in certain quadrants where SWLs specified by manufacturer can be applied.

Clause 6.2.3.7 Please consider whether there is any discrepancy between this Clause for the “maximum radius”, “minimum radius”, and “other radii as deemed appropriate by the competent examiner” as against the requirement stated in Clause 5.2.4.6 for “...the SWLs at minimum, intermediate and maximum radii”.

Clause 6.2.3.8 Regarding the requirement that “...proof load shall be then swung as far as is practicable first in one direction and then in the other”, please clarify whether it is correct to interpret that it is due to the characteristic of lorry crane that the crane can lift in one quadrant but not as much in another quadrant due to stability.

Section 7 Certification and Report by Competent Examiner

7.2 Report by Competent Examiner

Clause 7.2.2 It is suggested that the meaning of “certain repairs” is to be defined more clearly.

Appendix V Sample of a Completed Addendum Form

Section 4 It is noted that this Section shows that a front-mounted crane lorry is tested only half circle (lorry bed side) and not the cabin side (weak stability). Please consider whether it is correct to interpret that the competent examiner is to test the crane “as far as is practicable” first in one direction and then in the other, and that the competent examiner also limits the operation of this lorry crane only in the lorry bed side and not to the cabin side.

Other Comments

- While the competent examiner is required to certify the SWLs of a crane by making reference to its rated lifting capacities, it is worth noting that the rated lifting

capacities of a lorry-mounted crane might not be readily available as in the cases of other types of cranes. Considering that the crane manufacturer, the lorry chassis manufacturer, and the factory installing the crane onto the chassis can be different parties, it might not be appropriate to take the lifting capacity of the crane provided by the crane manufacturer as the rated lifting capacity of the assembled lorry-mounted crane. It is therefore suggested that stability test under a procedure similar to that in *SAE J765 – Crane Load Stability Test Code* is to be conducted to determine the rated lifting capacity of lorry-mounted cranes.

- Also, as for most lorry-mounted cranes, the SWLs at the same working radius could be different for different slew angles. Therefore, it is suggested that when specifying a SWL in the Form 3 of the Labour Department or the Addendum Form in the draft Guidance Notes, the competent examiner may also need to specify the applicable range of slew angles (or work quadrants) in addition to the applicable working radius.