

Liebherr-Werk Biberach GmbH · Postfach 16 63 · D-88396 Biberach/Riss

The Crane Industry Council of Australia
Mr. John Gillespie / Mr. Jeff Brundell
P.O.Box 136
Mount Waverly Vic 3149

via e-mail to: admin@cica.com.au

**Liebherr-Werk
Biberach GmbH**

Turmdrehkrane
Tower Cranes

Komponenten
Components

Ihre Zeichen:

Ihre Nachricht vom:

Unser Zeichen:
STA-Schn

Datum:
12.05.2010

Bearbeitet von:
Mr. Christoph Schneider

Telefon + 49 73 51 41- -2540
Telefax + 49 73 51 41- -2249
christoph.schneider@liebherr.com

Access on Tower Cranes

Ladies and Gentlemen,

We were informed that there are discussions and intentions in Australia to replace the relevant clauses for access for tower cranes given in *AS 1418.4, Australian Standard: Cranes, hoists and winches, Part 4: Tower cranes* with *AS 1657 - 1992*. Moreover, it is our understanding that measures shall be taken to retrofit existing cranes accordingly.

We strongly have to oppose such intentions for following reasons.

1. The regulations for access on tower cranes in *AS 1418.4 - 2004* are the same or very similar to other international state of the art standards for tower cranes with regards to access, e.g. ISO, EN. All our cranes worldwide are designed accordingly.
2. Tower cranes are first of all temporary "buildings". They have to withstand among other things natural events like wind or storm. Therefore wind load areas are always an important issue on tower cranes. It is strictly forbidden to increase wind load areas of tower cranes because such a change could lead to an overstraining of the steel structure and/or reduce the safety of stability to an extend which is not anymore within the necessary limits.

3. Among other things and design problems access executions according AS 1657 - 1992 would increase the wind load area and consequently lead to a complete different design of tower cranes, mainly the "tower arrangements". Other hazards would be created and would have to be eliminated by means of different design.
4. Access executions according AS 1657 - 1992 would lead to Australian versions not only for the cranes' executions but also to the cranes' configurations, e.g. hook heights, corner forces, central ballast arrangements, foundation loading, etc. No single operation manual would be valid anymore. Overhang and tie-in forces of cranes tied the building will change as well as tower heights, clamping heights and belonging forces of internal climbing cranes. Jib positions of luffing jib cranes will change, etc. There might be also problems with the slewing gear and the belonging parts in the stress flow.
5. All existing tower cranes in Australia could not be used anymore as long as there is no re-calculation of the verification of the steel structure and stability of the cranes for each possible crane configuration, i.e. all executions, all radii and all possible hook heights. All existing operation manuals wouldn't be valid anymore with regards to the corner forces, central ballast arrangements, foundation loading, etc. Most of the cranes will probably not reach anymore the maximum hook height like now.
We, Liebherr-Werk Biberach GmbH, are not in the position to do such re-calculations for all the different tower crane types in Australia for time and capacity reasons. It would take years.

Yours faithfully

LIEBHERR-WERK BIBERACH GMBH

i.V.


Dr. Norbert Stanger
Managing Director


Christoph Schneider
Head of Project Dept.