

Raising standards

As the focus on site safety and reducing crane accidents increases, the call for a global standard in training and certification is louder than ever. LAURA HATTON reports



Training and the subsequent certification is vital in helping to improve work site safety, and proper training and certification dramatically reduces the risk of having an accident on the job site. Jim Headley, Crane Institute of America president and Crane Institute Certification CEO, explains how, "Attending a good training programme ensures that operators, riggers, inspectors and other applicable personnel have at least the minimum amount of knowledge and skill required to perform their jobs safely and correctly."

Since training was first introduced in the USA, the Occupational Safety and Health Administration (OSHA) fatality and injury rate for operators and ground personnel has dropped, Brian Hough, Crawford Custom Consulting, adds. In addition, further studies in Canada show that training dramatically lowers the number of fatalities. Graham Brent, National Commission for the Certification

of Crane Operators (NCCCO) chief executive officer, says, "Studies conducted by the Province of Ontario and Cal-OSHA have proven beyond a shadow of a doubt that professionally developed and internationally accredited certification works. Construction Safety Association of Ontario and the government of Ontario, Canada, have kept data over a 40 year period. Between 1969 and 1978, 85 deaths were reported. While the province of Ontario had a licensing requirement, comprehensive training was not a required component until 1979. Training was implemented in 1979 and between 1979 and 1992, 43 deaths were recorded, a 50 % reduction."

Training and certification is, however, only the first step on the ladder to becoming a competent operator. Alan Johnson, Association of Lorry Loader Manufacturers (ALLMI) technical director, points out that other activities, such as product- and task-specific training in

the workplace, product familiarisation, in-house periodic monitoring and periodic refresher re-training and re-assessment, must also take place.

This approach to regular re-assessment and training is welcomed by many training providers and operators. When asked about the attitude towards training, Brian Hough told *IC* that even operators with many years of experience have said that they were surprised at just how much they can need training.

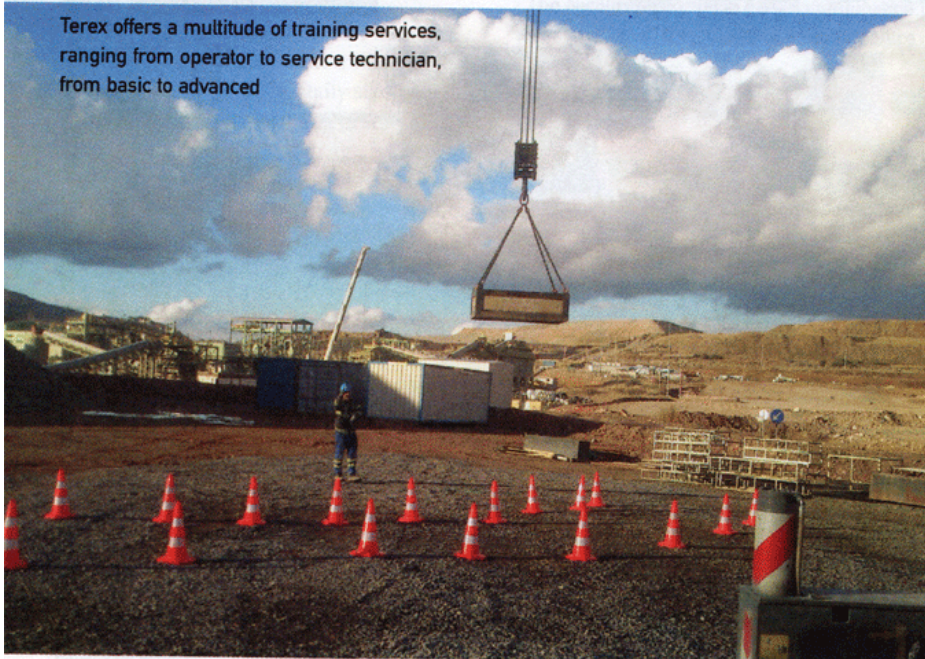
Manufacturers, such as Terex, also feel strongly about the subject. A spokesperson from Terex explains, "Training has always been beneficial and impacts safety directly. We are aiming to bring the awareness of the positive impact that training can have and offer a number of training services, including theory and practical learning. The more operators and technicians understand our models, technologies, and systems, the safer they will be in all crane aspects."

Ghislaine Journay, Manitowoc Crane Care EMEA, Potain tower crane training centre manager, adds, "An adequate training course helps to improve proficiency, jobsite awareness and best practices, because the crane operator learns the appropriate procedure to complete the job from start to finish with the crane. It is also important to keep experienced operators up to date with the latest technologies and provide them with the required information at least every 10 years."

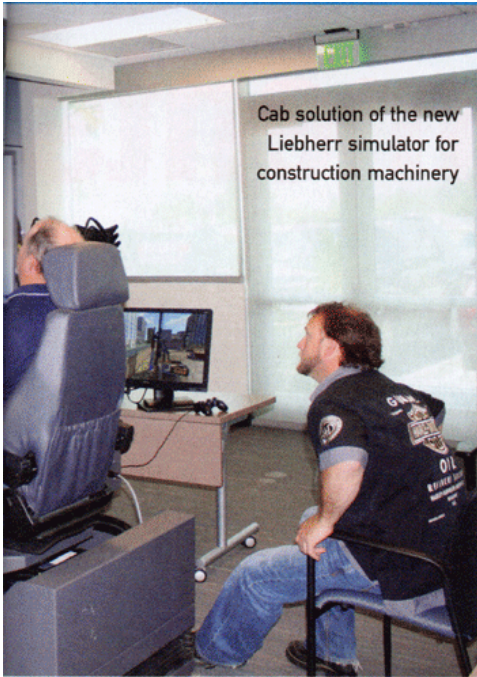
National standards

Levels of training and certification vary throughout the world. In the USA, OSHA enforces state and federal regulations that cover cranes, rigging, and other material handling equipment. Some cities, however,

Terex offers a multitude of training services, ranging from operator to service technician, from basic to advanced



OPERATOR TRAINING AND CERTIFICATION



Cab solution of the new Liebherr simulator for construction machinery

can have requirements that are even more stringent than state and federal OSHA.

Varying standards are also seen in Europe, where at present there is no standardised qualification for training and qualification, and companies tailor training to suit individual country requirements. Mini crane specialist GGR Group, for example, worked with the Construction Plant Competence Scheme (CPCS) and the Construction Plant-hire Association (CPA) to develop the A66 training category. The company also offers various training courses depending on country requirements.

"Our German Unic dealer, Mini & Mobile Cranes Korner, for example, currently offers two types of training to its German customers: a one day mini

crane operating course and a three day Mini Crane Driving Licence that includes one day of classroom based theory and two days of practical training," a spokesperson from GGR Group says. "Our Italian Unic dealer, Levo, is in the process of developing and launching training courses for crane operators."

The general issue is that there is not one certification to cover every crane model, tonnage, attachments, LMIs and operating systems, and as a spokesperson from Terex points out, this is an essential topic that needs to be addressed.

Brent adds, "Without a national standard for crane operator skills an employer cannot be sure of the qualifications of crane operators."

Harmonising standards around the world is a complex and time consuming task; however, associations have begun taking the first vital steps into making a national standard a reality. In Europe, for example, there have been discussions regarding the introduction of the European Crane Operators Licence. Further developments are also happening in Italy, where from March 2015, it will be compulsory for operators to hold a valid crane licence. In addition, a new crane operator certification is being developed in France by the French health and safety institute INRS, which is due to be implemented in 2017.

In the USA, the Accredited Crane Operator Certification ruling, which came

into force in August 2010, has also been relooked at, and under the new OSHA regulation, all crane operators involved in construction must be certified by an accredited organisation by 10 November 2017.

"The new OSHA regulation requires operators to be certified by type and capacity, rather than just type," Headley adds. "This is a vital ruling as it prevents an operator from being placed on a crane of a capacity higher than they are trained to operate."

The ruling has been welcomed by many institutes and training providers, as Hough points out, "There is a difference in operating a 50 tonne crane and a 500 tonne crane. Potential operators should have to obtain certification in all of the lower capacity cranes in order to qualify to operate the larger capacity cranes."

Training programmes

With a number of training requirements now needed to be met, training providers offer a variety of programmes. Crawford Custom Consulting, for example, offers



To help train personnel in lift planning, Crane Institute of America offers a lift director and lift planner course

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Students taking part in the Crane Institute of America rigging programme

training for mobile cranes, articulating cranes, service truck cranes, digger derricks and overhead cranes. The courses also include rigger and signal person training. Certification is carried out by the NCCCO. Testing services include mobile cranes, rigger level I & II, lift director, and inspectors complete with onsite practical testing.

NCCCO offers 12 separate certifications for crane operators; six within the mobile crane operator, three within the articulating crane operator, tower crane operator, overhead crane operator, and digger derrick operator. Knowledge and skills in these areas are addressed through separate written and practical exams. All operator programmes require that candidates take and pass both portions of the certification.

In the UK, ALLMI offers training accreditation for lorry loader cranes, including lorry loader operator, slinger, signaller and crane supervisor. In addition, ALLMI offers certification by capacity and size and also offers accredited courses, including appointed person, thorough examiner and instructor. "The only course on which there is a distinction between types is on the operator course, whereby training cards are categorised to reflect items such as the size of lorry

GGR Group has centres in the UK which offer both training and testing for the CPCS A66 category in Endorsements A, B, C and D



loader, attachment type and type of control system," Johnson adds. "Most ALLMI courses are available in at least two differing lengths to accommodate levels of previous experience and, or, refresher

training, compared to the time required for training novices."

ALLMI has also launched campaigns aimed at refreshing understanding of the safe use of remote controls and pre-use checks. "People become complacent or suffer from skills fade," Johnson says. "To reach out to operators in between refresher training we have a number of campaigns, which consist of a free web-based video, a ready-made toolbox talks template and then additional materials such as a leaflet or in the case of the pre-use checks campaign, the launch of an ALLMI pre-use checks pad."

To help train personnel in lift planning, Crane Institute of America offers the Crane Institute's Management Training Curriculum four-day lift director and lift >

VIRTUAL TRAINING

To help train operators in a safe environment, training companies are turning towards virtual technology. The Crane Institute of America, for example, has a Vortex Simulator that simulates the operation of mobile cranes (both telescoping boom and lattice boom), overhead cranes and tower cranes. AIDT, the workforce development division of the Alabama Department of Commerce, also uses a mobile crane simulator. The simulator, which was donated by Crane Institute of America, is installed at AIDT's Alabama Workforce Training Center in Birmingham, USA.

"It provides a similar experience that allows students to practice in a comfortable and safe environment with no danger to personnel or property," Jim Headley says. "The instructor can use a common video game controller to quickly zoom around the scenario on their own screen and view the student's LMI, allowing them a full view of every angle of the operation. The instructor can even change the weather, wind speed and direction, time of day, etc for heightened challenge."

From Liebherr is a new simulator for deep foundation machinery and crawler cranes up to 300 tonnes. The simulator offers users a realistic computerised construction site, complete with buildings, roads, fences and even obstacles such as uneven ground or rock. The simulators have full HD flat screens, surround speakers and moving platforms. They are available in three configurations, including classroom, cab or containerised solution. "Using the crawler crane simulator the operator learns easily and efficiently how to operate crawler cranes in a safe environment," a spokesperson from Liebherr says. "Above all, the various lifting tasks such as loading and unloading a semi-trailer represent a special challenge for the operator and can be fulfilled at different difficulty levels."

Heavy lift and transport specialist Mammoet has installed a new simulator at the Mammoet Training Center in the Netherlands to train operators on the Mammoet PTC 140/200 DS super heavy lift ring crane. "The simulator is an exact replica of the crane's operating system, and is fitted with an operator cabin, HD screens, server rack, crane control cabinet and instructor station," a spokesperson from Mammoet says. The simulator is a custom made design built exclusively for Mammoet and is able to replicate different height and weight modes, weather scenarios and even different seasons. The simulator provides a chance for operators to carry out risk assessments and practice lifts in a safe environment before jobs are carried out on site. In addition, the simulator can also be used to show clients a visual demonstration of how lifts will be carried out and how long a lift could take.

Simulator training is also being made available at seminars. The North American Crane Bureau, for example, is hosting a three-day Lifting and Load Handling Training Expo in Cincinnati, Ohio, USA, in April 2015. The event includes seminars on rigging, inspector training, load charts, lift planning, ground support and current regulations pertaining to mobile cranes, overhead cranes, hoist systems, aerial work platforms, lift trucks, and other assorted lift equipment and gear.