



OVERVIEW

Powered Access Certification Limited

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Issue 8

'Your user-friendly Notified Body'

January 2012

As we progress through the first month of 2012 which, if we believe all we hear, is going to be a difficult year in the commercial world, there are signs that our industry may be slightly better cushioned than some in times of recession. Powered access, in its many forms, is an essential element in so many industries and Public Services that, as an industry, it is likely to fair better when times are hard and maintenance takes preference over new construction.

Many of our clients have adjusted their staff levels and we feel it may be useful to our clients to be aware of the services provided by our wholly owned subsidiary company, Lifting Equipment Technology Ltd., which specialises in helping out, at short notice, with unforeseen technical problems throughout the lifting equipment industry. LET have launched a new, fully detailed, web site www.lettec.org which you may well find of interest if you should need outside technical back-up in the coming months.

Our team of Technical Officers at PAC have a huge amount of experience in the EC Type Examination certification process, which is our prime task. They also contribute to the success of our industry by our involvement in technical and safety related matters that will ensure ever increasing standards of safety within our industry. In doing this, we

endeavour to contribute to the ever-changing European Standards, which do need to address the evolution of machine design on a continuing basis. The increasing use of modern composite materials and the continuing dramatic advances in digital electronics, now playing a major role in the new generation of MEWPs, do raise the need for regular updating of the relevant legislation, thus ensuring that the CE certification process does reflect the ever-changing state of the art.

As PAC is represented on the United Kingdom Association of Notified Bodies for Machinery (UKANB), MHE12, VG9 and CEN/TC/98/WG1 Committees and attends regular meetings, this ensures a high level of input, particularly on matters relating to mobile elevating work platforms.

In this issue of OVERVIEW, we have sought to bring to your attention, through articles contributed by our Technical Officers', the latest state of play with the revision of EN280 and a number of specific matters which will be of particular interest to manufacturers. We very much hope you will find this information helpful and welcome any queries you may have on the contents.

PAUL A ADORIAN
Managing Director

LATEST UPDATE ON THE REVISION OF EN280

As reported in the last newsletter, what was expected to be the final comment resolution meeting of CEN Technical Committee 98, Working Group 1, was held in February 2011. The plan being that the completed final draft would be submitted to CEN by the end of June 2011 for scrutiny by the CEN Consultant, followed by Formal Vote by the EU Member States.

A vote by national standards bodies on the submission of the final draft to CEN gave rise to a significant number of comments from Italy, United Kingdom, Sweden and others. In the light of these the Convenor has called a fourth comment resolution meeting to resolve these issues. The meeting will take place in Mannheim at the end of February.

The issues to be discussed include:-

- Tilt indication;
- Trapping or crushing of hands;
- Protection of duplicate controls from unauthorised operation;
- Overriding of emergency stops;

- Electrical equipment;
- The revision of Clause 5.11 Table 4;
- Exchangeable work platforms;
- Load holding cylinders;

This is a significant number of issues to be resolved in a two day meeting and it may well be that a further meeting will be required before the final draft can be sent to CEN, which will further delay final publication of the revised standard. In addition to this, CEN TC98 has agreed that the current version of the standard, EN 280:2001 + A2:2009, will be withdrawn 18 months after the publication of the revised standard. The normal transition period is six months but an extended period has been granted to allow manufacturers sufficient time to amend their designs to meet the requirements of the revised standard.

Taken together, the delays in the Formal Vote and the extended transition period, mean that the current version of EN 280 will be with us for some time yet.

TIM WATSON
Technical Director

WHAT'S ALL THE NOISE ABOUT?



Amendment A2 to EN 280:2001 introduced several new requirements for instructions to be provided to the user of mobile elevating work platforms. One new requirement specifically stated that *sound pressure levels* at workstations must be indicated if above 70dB(A), or if below this level. A requirement already existed for aerial access platforms with a combustion engine to indicate, via marking on the machinery itself, the guaranteed *sound power level*. This requirement came from Directive 2000/14/EC *Noise emissions in the environment by equipment for use outdoors* (subsequently amended by Directive 2005/88/EC and Regulation (EC) No 219/2009).

So what exactly is the difference between ‘pressure’ and ‘power’ when applied to noise and how does the manufacturer comply with the requirements? A couple of definitions are probably called for prior to any further discussion.

First, *sound pressure level* is the average ‘perceived’ noise level experienced by a person standing at a certain distance from the noise source. It is measured in decibels (dB) and usually indicated as being A-weighted, dB(A), to represent an average level of noise received by the human ear. Sound pressure is the value that is measured using noise level meters (e.g. microphones) usually at a specified distance from, and often at designated positions around, the source emitting the noise. The sound pressure level at workstations (e.g. for MEWPs, the upper and lower control positions) can be determined directly from measurements taken at these locations. These readings can then be used for inclusion in the operating instructions for that product. Clause 7.1.1.2 t) of EN 280:2001 + A2:2009 provides additional information and does indicate that, rather than actual measured values, measurements from comparable machines may be used.

Sound power level relates to the sound energy that is radiated by a source. It cannot be measured directly and must be calculated from the measured sound pressure level taken at a certain distance from the source. Sound power level is also expressed decibels, with the letters L_{WA} (L indicating ‘level’, W ‘watts’ and A ‘A-weighted’). For MEWPs with combustion engines the test code for determining noise measurements is described in Directive 2000/14/EC which refers to European standard EN ISO 3744:1995. This standard describes the method for calculating sound power level, taking into account the measurement positions and background noise.

Since the sound power level relates to the noise emitted by the machinery, and sound pressure level relates to that measured at a distance from the machinery, the sound power level will always be the higher figure. For example, an average MEWP may be fitted with a decal indicating a figure of 104 dB L_{WA} , whereas the operator’s manual may indicate that the sound pressure level at the upper workstation is 95 dB(A). These figures are important for users of this equipment, and their employers, in order to determine firstly how noisy it is compared to other equipment and also whether hearing protection must be used whilst operating the machines.

Standard EN ISO 3744:1995 also specifies the type of equipment that should be used when taking sound pressure measurements. Since the equipment required to achieve the necessary accuracy can be fairly expensive it often makes sense to either hire these or, preferably, to engage the services of a professional organisation to undertake the tests and calculations.

It should also be noted that if you are manufacturing machinery other than ‘aerial access platforms with a combustion engine’ that equipment may be subject to noise *limits* (rather than just marking) within the scope of Directive 2000/14/EC. Noise reduction methods may be required in order to comply with the sound power limits specified for equipment such as cranes, tele-handlers, etc. The Guide to application of the Machinery Directive 2006/42/EC (2nd Edition – 2010) also gives useful guidance on the requirements for airborne noise emissions.

PETER REED
Technical Officer

CHANGE TO OUR POSTAL ADDRESS

Please note the change to our address as detailed below. We no longer require a P O Box No so will you kindly ensure that your records are changed and that all postal correspondence

is, in future, addressed to Applethwaite Lodge as detailed below. We have also discarded our fax machine as most communications are now conducted by e-mail.

THE “PROVEN-IN-USE” ARGUMENT

When EN ISO 13849 or EN 62061 is applied to a safety-related controls system, the chances are that a detailed analysis will more than likely be required. Claiming that the safety function or a component of the safety function is “proven-in-use” could save hours of such analysis and documentation compilation. On the other hand, if there is insufficient analysis, it could mean that the safety function has not been thoroughly validated. There are criteria that must be met for this claim to have substance and applying the proven-in-use justification may not be as straightforward as it might seem.

Recording of Data

An important issue is the requirement for *adequate documentary evidence*. To simply claim that this “this component has been operating for many years without a dangerous failure” would not stand up as an adequate defence in Court without any suitable evidence to back up the claim. There should be sufficient statistical evidence that the system or component has an acceptable failure rate. To enable this to take place, a suitable management system must be in place so that there is a procedure for monitoring all failures, not just dangerous failures.

Human factors, such as reliability of data gathering, must be considered. After all, if the incorrect diagnosis is entered into the database, this could yield erroneous results.

Some Questions to Ask Yourself

Is the environment representative and has nothing changed significantly?

What is the population size? All equipment or a representative sample?

How long has this function or component been established? A minimum of one year is required.

Usage time: is it an estimation or actual time, e.g. recorded by hours-run meters?

Is there a confidence level of at least 70%?

Even though there may be a proven-in-use justification, the safety function must still meet the architecture requirements and the fault-detection requirements of the applicable standards so proven-in-use is only part of the validation claim.

A good management system for collating and analysing field data is arguably better than theoretical failure prediction and could be used in predicting the mean time to failure. A poor management system would present a weak defence if compliance of the safety function is questioned.

There is no direct reference for the proven-in-use claim for non-electrical safety systems. However, EN ISO 13849-1:2008 allows “well tried components” to be used to claim compliance up to Performance Level C. Where a higher performance level is required, a suitable safety case should be compiled to justify the proven-in-use claim.

Control functions such as PL-D, PL-E, SIL2 and SIL3 are implemented in higher risk circuits, the evidence and analysis should be more robust compared to the lower risk Safety functions.

DARREN GIBSON
Technical Officer

SAFETY RELATED CONTROLS OF MEWPS

The Standard for safety-related controls of machinery EN 954-1 became obsolete at the end of 2011 and has been replaced by EN ISO 13849-1:2008. These are type-B1 standards which means that they address a particular function and they apply to all types of machinery.

However, if a current product-specific type-C standard, such as EN 280, continues to refer to EN 954-1, as it does in Clause 5.11 Table 4, this standard may still be applied even if it has become obsolete.

This topic will be discussed next month (February) at the TC98 meeting (please see article “Latest Update on the Revision of EN280” on page 1). Many type-C standards now specify safety functions as *Performance Levels* in accordance with EN ISO 13849-1 instead of *Categories* in accordance with EN954-1. What this means in practice is that the mean time to dangerous failure would have to be evaluated (unless a simple circuit up to Performance Level-C is implemented) and dual channel circuits will require some monitoring.

DARREN GIBSON
Technical Officer

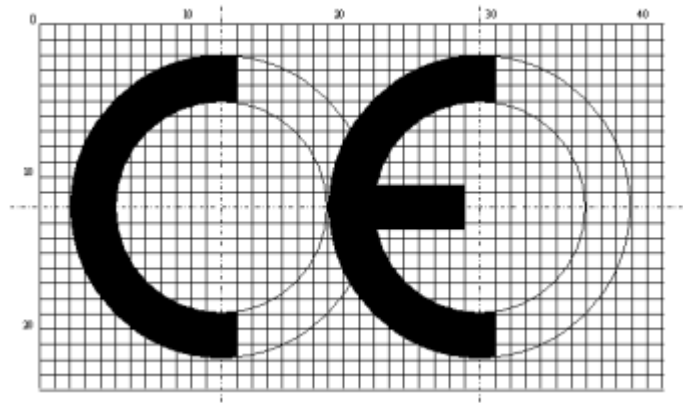
NOT SO MUCH A CE MARK, MORE A CHINA EXPORT

Manufacturers and some of their customers, not only in our industry but in a number of similar equipment related markets, will be aware of a number of instances where products produced in China have been found with the letters **CE** on the manufacturers plate, reproduced in a remarkably similar manner which, on casual examination, can be taken to be a genuine CE mark.

Would you believe it, it is claimed that these letters stand for “China Export” and not “Conformité Européenne” and we would advise our readers, contemplating purchasing

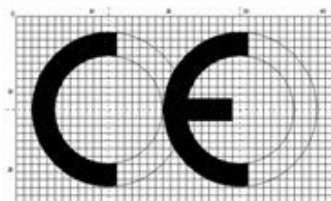
platforms from a manufacturer with whom they are unfamiliar, to check very carefully that the products have been properly CE certificated by a genuine European Notified Body. The following information on the correct format of the real CE mark will enable you to spot the “China Exports”.

The requirements for the actual CE mark placed on machinery are contained in Annex III of the Machinery Directive 2006/42/EC.



The CE mark must not be less than 5mm in its vertical height and the proportions maintained. It is generally shown on a grid in the guidance booklets, as above, (the grid does not form part of the marking and is for information only).

This mark looks the same as some previous marks but there are subtle changes and it should be studied closely. It should be noted, for example, that the C and E are not formed by perfect semi-circles, i.e. the top and bottom arms extend one square beyond the semi-circles and the middle arm of the E stops one square short.



Marquage CE officiel