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Best Practice Introduction of Anti Crushing device on Mobile Elevated work Platforms (MEWP's)

Following a number of incidents involving MEWP's at Skanska we undertook a review of the use of MEWP's on our projects and in the wider construction industry. We found that there was an industry wide issue with MEWP's and there had been 13 fatalities and numerous serious accidents and near misses which involving MEWPS in the period from 2003 to 2009.

Skanska set about raising the standard of training, competency and equipment and worked with the UKCG, CPA, HSE, IPAF and equipment manufacturers to develop information, instruction and training to reduce the likelihood of crushing.

Our first success was the implementation of the MEWP for managers training to make available trained managers on every one of our sites to support the selection and management of MEWP's. We have **trained in excess of 310 Managers**. We then raised the issue of MEWP safety at the UKCG and initiated the development of the MEWP Best Practice guide published by CPA together with Industry bodies and the HSE.

It was however evident that these measures alone would not solve the problem of entrapment as booms are required to be manoeuvred close to structures in order to enable the users to undertake their work. Skanska collaborated with manufacturers and hirers to trial additional safety devices specifically designed to eliminate / reduce crush type injuries to operators. This has resulted in a number of devices specifically designed to guard against crush type injuries and raise the alarm in the event of entrapment become commercially available in the UK .

The development work which Skanska supported has resulted in emerging technology being accelerated and we were the first organisation to implement a company wide MEWP policy requiring additional protection. The policy came into force for all Skanska supplied MEWP's as of the **3rd January** and from the **2nd April 2012** for all supply chain plant.

As part of the engagement process for introducing our policy we have presented at the Working at heights forum together with the HSE and at the UK's largest Health and Safety Exhibition at the NEC in Birmingham.

We are confident that our lead in the management, training and development of design of MEWP's has made them safer and have prevented serious injuries.



The poster features the title 'Skanska MEWP standard 2012' at the top. Below the title are three images: a worker on a MEWP boom, a worker on a scissor lift, and a worker on a scissor lift with a red safety device. The poster lists two key dates: '3rd January' and '2nd April'. It states that all Skanska hired category 3b MEWP's must have additional protective devices, and that all category 3b MEWP's provided on Skanska sites must have additional protective devices. A section titled 'Are you ready to meet the standard?' includes a small IFAF logo and text stating that Skanska has led the industry in making attachments and MEWP's safer, and that from the 2nd April 2012 all boom-type MEWP's (IPAF Category 3b) must have additional protection fitted. The Skanska logo and website URL are at the bottom.


Key

IPAF – International Powered Access Federation


CPA – Construction plant Association

UKCG – UK Construction Group


HSE – Health and Safety Executive



Best Practice Guidance for MEWPs
Avoiding Trapping / Crushing Injuries to People in the Platform



Strategic Forum for Construction
 Plant Safety Group



Specification for additional safety devices to guard against entrapment:

The following outlines the basic requirement for safety devices which are acceptable on Skanska UK sites from **April 2nd 2012**. These requirements apply to all Skanska hired MEWPS as of **January 3rd 2012**.

A safety device fitted to the basket of the machine to guard against serious operator injury from entrapment. Wherever possible the device or design of the MEWP shall prevent crushing. Where this is not possible then a device shall be attached which minimises injury and raises the alarm. Where this device is deemed a major modification under EN280⁽³⁾ then the device must be approved by the manufacturer of the MEWP. This additional safety device shall be supplied in addition to any cowl, footswitch or stand off bar already fitted by the Manufacturer / MEWP supplier as of 30/06/2011, and must:

- Be fit for purpose
- Reduce the overall risk of entrapment
- Have undergone structured & documented field trials
- Be CE marked
- Have a technical file available outlining the above

Or

A safety device fitted to the basket of the machine to guard against serious injury from entrapment which is deemed a minor modification under EN 280⁽³⁾ by the machine supplier / hirer. This additional safety device shall be supplied in addition to any cowl, footswitch or stand off bar already fitted by the Manufacturer / MEWP supplier as of 30/06/2011, and must:

- Be fit for purpose
- Reduce the overall risk of entrapment
- Have undergone structured & documented field trials lasting no less than 12 weeks
- Be CE marked
- Have the required warranties & insurances
- Be approved by the owner / hirer for use on site for the machine it is fitted
- Have a technical file available outlining the above

Functionality of protection devices		
1	Stop the MEWP	Where the device operates when a person becomes trapped any device fitted must automatically stop the movement of the MEWP immediately that a potential entrapment/crushing situation have been detected and not rely on the operator to take action.
2	Stability of MEWP	Any device fitted should not create additional stability issues for the MEWP when the device operates.
3	Effectiveness should impact occur	The device must be able to withstand the impact which causes it to operate and continues to function until a rescue has been affected.
4	Audible and visual warning	When the device operates an alarm which is easily audible and visual to those on the ground who need to affect a rescue shall operate.
5	Operator interface	Any device fitted to the machine must be easily re-set from within the basket.
6	Risk transfer	Any device fitted must not introduce any significant additional risks to the operator during the normal operation of the machine.
6	Working envelope of the MEWP	Any device fitted should not reduce the operator's working envelope to an extent that they would be unable to undertake their normal works without significant improvisation.
7	Protection to the MEWP operator	Any device fitted should afford protection to the operator in all significant entrapment situations
8	Circumvention of the additional safety device	Any additional safety device must be designed & fitted to guard against potential misuse or removal by the operator.
Quality and Safety Standards		
9	CE Marked	All devices shall meet all relevant European and UK design standards. Any device fitted must be CE marked and supported by the requisite certification and Technical Files
10	Thorough Examination	Any device fitted must be thoroughly inspected before each hire by the supplier, and evidence of such a check provided at the time of hire.
11	EN280:	Any device fitted must not impinge on the Machinery Regulations / PUWER ⁽⁴⁾ or EN:280 ⁽³⁾ . A device that extends the physical structure of a MEWP beyond its current design limits is likely to require the approval of the MEWP manufacturer.
12	Insurance	Any device fitted should be indemnified by the supplier / hirer for its intended use.
13	Instructions	Additional instructions on the safe operation of the device must be provided by the hirer at the point of delivery.

Note:

(1) Skanska Procedure for Mobile Elevated Platforms (enclosed)

(2) Best Practice Guidance for MEWPs – Avoiding Trapping / Crushing Injuries to People in the Platform.; available at: www.cpa.uk.net/p/MEWPS-and-Overhead-Crushing/

(3) EN 280 Mobile Elevated Work Platforms: Design Calculations, Stability Criteria, Construction, Examination & Test.

(4) Supply of Machinery (Safety) Regulations 2008 & the Provision & use of Work Equipment Regulations 1998.

(5) Examples of machines fitted with suitable additional safety devices include **but are not limited to:**

- Niftylift machines fitted with SiOPS (manufacturer fitted device)



- Sky Siren device

