

February 1999

# Presentation on "Working Safely at Heights".

Barney introduced himself by mentioning his extensive experience on international standards committees dealing with working at heights. He said that the need for alternatives to fall arrest harnesses for protection had been seen in Alpine falls where climbers had undergone long 'hang times' before being rescued. Afterwards, it was noticed that some victims had died unexpectedly and this had been put down to the creation of toxins, in blood trapped by the harnesses, and their subsequent release into the circulation. Barney also mentioned risk assessments for working at heights very rarely addressed the need for rescue systems to retrieve a person experiencing a fall and this aggravated the secondary risk of septicaemia.

In considering the need for protection, Barney first of all addressed the nature of the hazard, where the majority of construction deaths and serious injuries were caused by falls. There was also a threat of falling objects which should be considered when setting out the sequence of the job. He concluded that "traditional" methods of work were not safe and could also be costly and slow.

Anyone doubting this was invited to think about fitters having to lean into voids to repair roofs or to move staging. Nowadays, more problems were introduced by lighter materials, less able to support weights and posing a greater wind risk. On top of all these, contracts were tighter, being ruled by price and deadlines.

The Alternative is - The Safety Net which spreads the load for the worker and the structure by absorbing the energy of a fall. It also requires less clearance than a fall arrest system where lanyards have built-in shock absorbers which extend to achieve their effect. Nets have to comply with standards of manufacture, testing and Maintenance (BS EN 1263-1) and Rigging clearances (BS EN 1263-2). HS(G) 33, Health and Safety in Roofwork is also now available and a BSI Code of Practice is due to be published in about 18 months to cover the use and selection of nets and requirements for Competent Persons.

Safety Nets offer **Collective, Passive Safety** and provide a **Safe Place**, with obvious advantages over the use of PPE which relies more on the **Person** to apply it. They offered good protection for ridges (Should be rigged for 3m beyond the edge) where fitters have been known to approach the edge backwards! Barney emphasised that it was essential that safety nets were only used for protection and that workers should not jump onto them for any other reason. After use for fall arrest, there should be written off.

He also stressed the importance of keeping the rigging of nets off the "Critical Path" of the job programme. It was important to rig **after purlins and edge protection** had been positioned so that no part of the net system could be trapped by the

structure, or have its clearance reduced by any of the construction. Barney mentioned that his experience in the Midlands had shown that other trades interfere with nets for various reasons and, so, it is important to check their security throughout the job. Equally as important, it is a good idea to give other trades an induction training document on the use of safety nets.

Barney then described the "**Three Pillars**" of any Safety Net System as:-

- A Compliant Product                      it must have been tested and shown to meet the standard.
- Competent Riggers                        They must be able to demonstrate their competence.
- Comprehensive Maintenance        There must be an on-going, regular maintenance system to indicate fitness for purpose.

**The Golden Rule is - Always Ask for Proof!**

Before use it is vital to obtain a handover certificate to cover every phase of the work and to inspect the system on site every seven days.

On the subject of competency, Barney indicated that Higher Safety offered CITB backed training for Competent Riggers, lasting one month, with a full day's practical assessment and written test. The training for a competent inspection was two hours, was covered by 'handover records' and included a large dose of 'common sense'. Competent Examination training was authorised by the manufacturer and offered to purchasers of the equipment.

Experience to date showed that Roofers rates for working over nets were some 10% lower than traditional methods.

When used for Roof Refurbishment, safety nets offered these advantages:-

- They cost less than close boarding.
- They are safer and softer to land on.
- There is less internal intrusion.

BUT,

- Beware of purlin-hung services and suspended ceilings!
- There may be floor level access restrictions
- It might be difficult to get access to structural members.
- There could be dust problems when striking.

For contract works, the vital written documents are:-

- Riggers Certificates.
- A Method Statement.
- Handover Certificates.

In terms of dealing with common site problems, it is important to make full use of the legal support given by the Health and Safety at Work Act, Section 7, which covers:-

**Tampering with,  
Unauthorised adjustment of,  
Damage to (whether wilful or otherwise),  
A safety system (in place for your own or others  
protection) is a prosecutable offence.**

Some practical “Do’s and Don’t’s” are as follows:-

**Do:**

- Report all Falls.
- Keep the SafeNet clear of debris’
- Report loose or disconnected cords.
- Report large gaps (> 300mm, 1 foot)
- Report SafeNet damage to the Rigging Contractors or Principal Contractor.
- In the event of a fall, follow the recovery procedure.

**Don’t**

- Jump into, or “test” a rigged net.
- Throw rubbish into a net.
- Tamper with a net or adjust it.
- Spill substances into a net.
- Trap or tie the net in.
- Erect structures within the clearance distance. (approx. 3m)

## *Members' Questions*

**David Simkin** asked how monitoring for ultra-violet light was carried out. Barney replied that each net had a unique serial number and attached to each net were several samples of the material with the same serial number. Each year a sample was tested to see what the threshold braking strain was. If it was below the minimum, then there was less than 12 months life left.

**Peter Evans of CGU Insurance** asked how safety nets coped with “Headfirst Divers”. Barney said that the clearances were too close to allow diving or, inverting’ in an accidental fall.

**Richard Porter** asked about the cost of SafeNet Systems. Barney replied that there were a small number of contractors and in general the prices were:

- < 1000 m<sup>2</sup>      £2,500 - £3,000 for erection and dismantling.      The use of a cherrypicker is costly and a client can reduce costs if access is made easy.
- 3000 m<sup>2</sup>      Approximately £1.50 /m<sup>2</sup> .      It is recommended to split the total job into stages of 60%:40%.

Barney said that he preferred to work directly for sub-contractors in order to get better control. He did not like them to add margins in the price to the clients.

As there were no more questions Charles Johnson thanked Barney for an excellent presentation and asked the meeting to show their appreciation in the usual way.

There was then a stampede as the members rushed to the Higher Safety display stand where there were handouts available and a collection of photographs showing typical installations.