

October 2003

**Presentation on “Construction Site Welfare Facilities” by Ray Cooke, HM Principal Inspector, West Midlands Counstruction Group**

Ray started by saying that site welfare facilities were often neglected and that one of the commonest reasons for poor welfare facilities was lack of planning to connect electricity water and drainage services. There is no excuse for this, because it is well known that the utility companies can be slow so you need to sort things out well in advance! In any case, alternatives such as mobile units like the on outside and similar with integral power, are readily available!

Proper facilities are a basic human right, supported by moral as well as legal obligations. The HSE experience is that workers often appreciate site welfare being sorted out more than any other issue. If there are decent facilities then employees are more likely to feel valued and respond by working better. These issues featured prominently in “**HIGH 1, THE BASICS**” in the new HSE Leaflet “**The High 5**” – aimed at small sites and workers. The leaflet sets out 5 key areas to reduce risk on site. Welfare is the key target for HSE Inspectors on site and is one of the risk control indicators they use to judge employers against.

The basic requirements are for washing, toilet, rest and changing facilities and drying rooms, as well as somewhere clean to eat and drink during breaks with drinking water. It sometimes goes beyond these to provision of showers if a risk assessment requires it in the case of, say, asbestos removal contractors or contaminated site workers. The standards for toilets are that there should be adequate numbers, with a lockable door, preferably connected to a main sewer or, if portable, regularly serviced. Importantly, they should be regularly cleaned and supplied with toilet paper. Separate facilities are preferred for women, however, they may use the same toilet if it is a lockable room partitioned from any urinals, if there are less than 12 persons AND if there is no alternative. There are no current recommendations on numbers in HSE guidance specifically for construction sites although the following tables from the Welfare Regulations are helpful

<b>Men only – Office Workers</b>			
No. of Persons	No. of Toilets	No. of Urinals	No. of Washbasins
1 – 15	1	1	1
16 – 30	2	1	1
31 – 45	2	2	2
46 – 60	3	2	2
61 – 75	3	3	3
76 – 90	4	3	3
91 – 100	4	4	4
Every Extra 30	1	1	1

<b>Mixed Use or Women only - Office Workers</b>		
No. of Persons	No. of Toilets	No. of Washbasin
1 – 5	1	1
6 – 25	2	2
26 – 50	3	3
51 – 75	4	4
76 – 100	5	5

Ray then showed some examples of toilets seen during a recent HSE Construction Blitz.



Although toilets connected permanently to the mains are the top priority – not if they look like this! HSE Inspectors don't want to see 'holes in the ground' or

buckets, either! Another issue to be considered when using existing facilities whilst a building is being re-furbished, is **“What can you use when the new fittings are installed and the old toilets disconnected?”** It is extremely unlikely that the client will want construction workers to use the new toilets, so alternative, temporary facilities will have to be provided.

Comfort is another important factor – not many people want to use a freezing cold toilet and provision of a heater and lighting is a vital necessity! Ray showed an example of a hired portable toilet that was inadequate in this respect because it was cold, smelly, not easy to use, no washing facility and no lighting. The moral is – don’t hire such horrors when there are plenty of better designs with integral washing facilities and lighting connected to a mains electricity supply. They could be hired for little more than £35 per week! Ray went on to show some of these and said that the key to keeping them OK was good cleaning and maintenance! It may be necessary to increase the servicing regime if the use on site was heavier than anticipated. The final test is – would you like to use it yourself?

It may be possible to arrange facilities off-site at, say, a public toilet, café or garage. Public toilets are rarer nowadays and others may not be open to be used for the same period as site operating hours. The Enforcement Model used by the HSE is ‘Has the employer been advised about poor standards of welfare in the past?’

On the subject of washing facilities, Ray said that they should be adjacent to the toilets, with sinks large enough to wash hands, forearms and face.



If basins are little more than finger dips, as in some portaloos, then they should be got rid of – they are next to useless. There should be hot, as well as cold, running

water and the best form of heater was a direct-acting design, connected to mains electricity and water. A Burco boiler was not adequate, as it cannot have the capacity to maintain a truly running source all day. Hot water is an essential requirement because it is so much more effective than cold water. It is also necessary to provide soap and towels or a dryer. . Again, maintenance is the key to good facilities.

A shower might also be a necessity in particularly dirty work conditions, or where workers are exposed to hazardous substances such as contaminated land, demolition of old industrial buildings contaminated with toxic substances. They may need a 'clean' and 'dirty' end like asbestos decontamination welfare units.



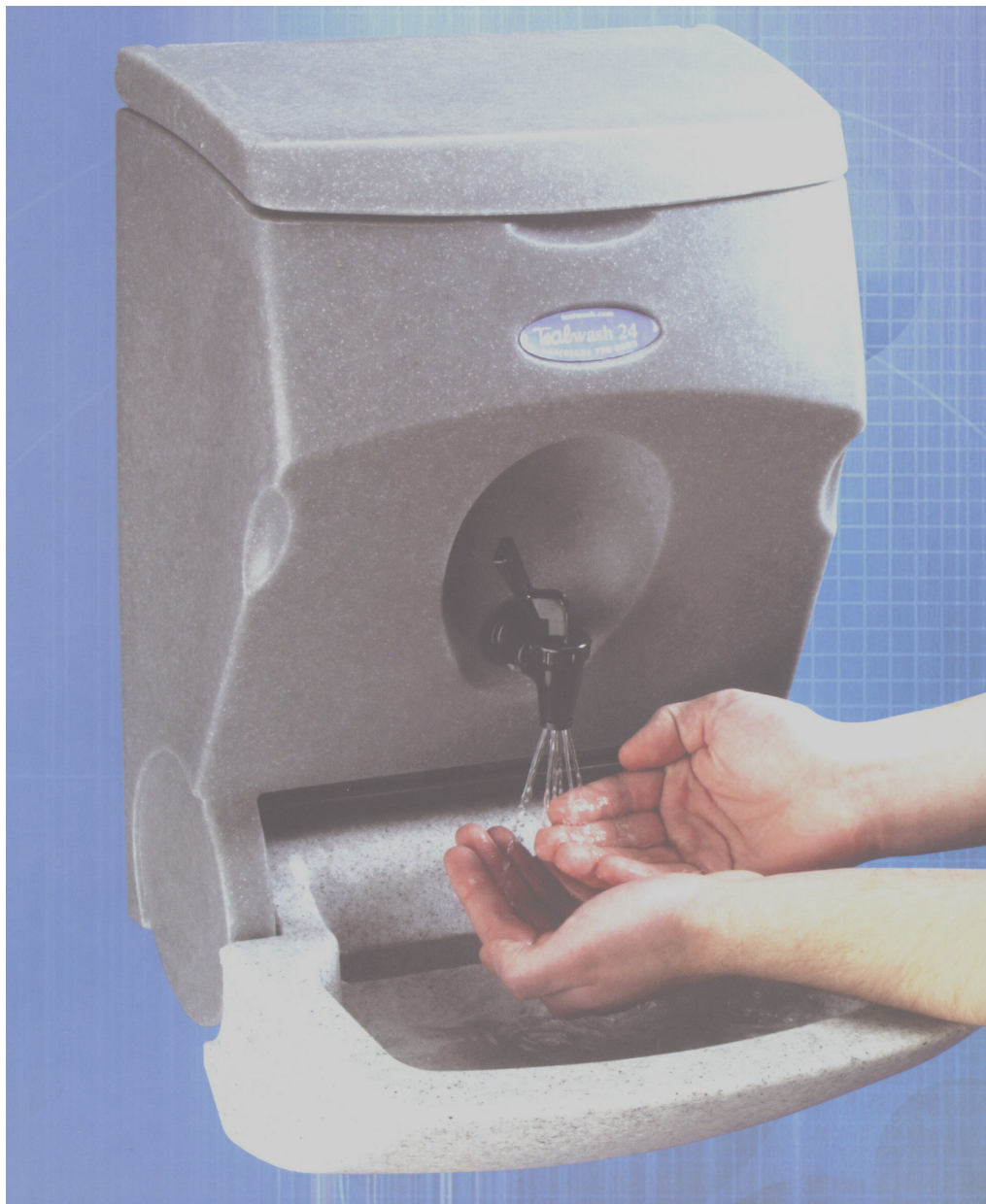
This typical self-contained unit was demonstrated at the meeting by **Mobiloo** and may be laid out in various configurations to suit the particular site requirements. This unit was laid out with two water closets and urinals at the left hand end, with a single female toilet at the other. Mobiloo also had two toilet/hand washing units on display.

Ray showed several different designs and recommended strongly that, wherever possible it should be connected to main services.

Another important welfare requirement is for a suitable Break/Rest area to be provided. The Regulations don't specify that there must be seating but it is obviously sensible to do so and it would hardly be suitable without. It should be clean, with washing facilities nearby, drinking water available, with a means to heat food and drinks. The Schedule to the Regulations doesn't actually specify what can heat the food, but the HSE guidance does. Some larger sites even have a resident cook in the facilities, so some companies obviously see the advantages of looking after the 'inner man/woman'!

For peripatetic workers, the van may be sufficient if there is enough clean space for the team involved. Ray showed us a fully mobile design based on a Luton type van.

This is an example of a typical portable hand-washing unit for a van, made by Teal Patents of Chelmsley Wood in Birmingham.



Another important welfare element is a changing facility, which may be needed if work clothes are too dirty or contaminated to travel home in. This requires seating, a hanging area with secure storage arrangements for clothes to travel home

in and PPE clothing for that site. If the site-specific clothing might contaminate other clothing, then it should be stored separately. Provision should also be made to dry wet clothing but care needs to be taken because of the risk of fire. Also beware of petrol generators being used inside or LPG used inside without adequate ventilation. Classic examples occur every year where the ventilation is blocked to cut out the draught and people die of CO poisoning. The changing facility should also be situated near the washing facility. There should be separate facilities for men and women or, at least, the separate use of the facilities.

Ray went on to say that, because many hazardous substances are used on construction sites, welfare facilities are crucial to controlling the associated risks. Solvents, cement, chemical cleaning agents and timber preservatives have the potential to cause ill-health by contact with skin or absorption through it. Proper washing facilities are part of the control measures. Dermatitis is very commonly caused by cement in cement-based products such as mortar concrete and plaster. It is thought that 5 – 10% of brick and block layers, concreters and plasterers develop allergic dermatitis, forcing many experienced and skilled craftsmen out of the industry each year.

There are three main problems – Allergic Dermatitis. Contact Dermatitis (caused by the irritant and abrasive nature of cement) and cement burns caused by the strong alkaline nature of cement. It is the Chromium VI in the cement that causes allergic dermatitis. If someone becomes sensitised to it then any contact will trigger a full allergic reaction (allergic dermatitis) – most sufferers leave the industry. **An EU Directive (2003/53/EC) requires the UK to introduce legislation to restrict the amount of chrome VI in cement and those Regs must be in force by 17 Jan 2005.**

The commonest way to remove the chrome VI is to add ferrous sulphate to the dry cement mix. It is a by-product of other industrial processes and is currently sent to landfill. Doesn't affect the cement's engineering properties. There is, however, one drawback – the ability to remove the chrome VI deteriorates with time, so treated cement products will be marked with a sell by / use by date. Remember though – removal of chrome VI will not make cement safe to use without proper control and the use of PPE. Part of that control is suitable washing facilities. Cement burns are very insidious because the source is wet and its alkaline nature does not burn. Ray showed us a photograph of a typical example of someone who has been kneeling in wet cement without adequate protection. He recalled the picture in Construction News that he thought most of the audience would also remember of the chap who had such severe cement burns on his legs that he had to have a leg amputated. The longer the cement is in contact with the skin the more likely it is for a skin problem to develop.

The golden rules are to wash regularly with warm water and soap, dry the skin afterwards and apply aftercare cream. It is sometimes advisable to wear gloves for certain tasks and to get a responsible person to check skin regularly. Ray warned against reliance on Barrier Creams that can sometimes trap dirt in the skin. Skin care products, like the **Stockhausen** range on display in the entrance to the

meeting, are specially formulated for certain tasks and usually include an aftercare cream to replace the natural skin oils that are removed by the work process or the hand cleansers.

If all this advice fails, Ray added, then Inspectors have to play the Enforcement Card, depending on the length of time on site, in these alternative ways: -

- No/Inadequate toilets = Improvement Notice or Prosecution
- No/Inadequate Washing Facilities = Improvement notice or Prosecution
- If Cement in use = Prohibition Notice or Prosecution
- No Inadequate rest/changing = Improvement Notice or Prosecution

Ray concluded by saying that: -

- Provision must be made for basic needs of individuals
  - Mobile/Portable facilities are readily available
  - They are not as expensive as you think
- AND THEREFORE
- There is NO excuse for not providing them

## *Members' Questions*

**Gerry Mulholland** started the questions by asking Ray about the size of sinks and whether it was required to submerge the forearm in water. Ray said that sinks should be large enough to place the hand in and rest the elbow on the edge of the sink.

**The President, Morris Cooke** said that he would like to clarify an earlier statement about Chromium Dermatitis and barrier creams. Over many years he had done much research into the use of barrier creams and had found that they could be dangerous because their surfactant content can increase penetration of chemicals into the skin. He had received independent confirmation of this by researchers in the United States. He advocated, instead, the use of aftercare creams that controls the water loss from the skin. He warned also against the alkaline nature of cement that made the burns painless!

**Carl Lewis of Balfour Beatty** asked if a Use By date was exceeded by one day, what would be the enforcement approach? Ray said that pragmatism dictated the action and that Used By dates were there to be used. However, if it was just one day the, probably not! Gerry Mulholland pointed out that the date would also affect the strength so there was a business case for not exceeding it.

**Nick Higginson of I.O.M.Consulting**, asked about companies operating on multiple sites. Ray said that it would be necessary to plan their itinerary to make use of facilities.

**Malcolm Copson of Geopost** enquired about competence of persons to carry out health surveillance. Ray replied that what mattered most was a responsible attitude, coupled with basic training and good written records of a systematic programme.

**Chairman David Hughes** asked if it was possible to develop an allergy from inhaling dust from cement bags. He quoted a scenario where warehouse operatives carried dusty cement bags on their shoulders, within their breathing zone. Ray asked if it had happened? He admitted that the moisture in the lungs could well combine with the dust to create a wet mix that could, theoretically, cause an alkali burn.

**Mark Hoare of Birmingham University** asked if there was any guidance on acceptable walking distances to Welfare Facilities from the working location. Ray quoted the example of the M5 site where there was a main compound and portable vans. There were also Portaloos every ½ mile that probably equated to an average walking time of 10 minutes.

**Jack Cotterill of Tweeds Project Services** asked a general question about notification of sites to HSE under the Fire Certificates (Special Premises) Regulations. Various thoughts were put forward and the **Secretary found the definitive answer in HSG168, Fire safety in construction work, Appendix 2. Suffice to say it is not just a matter of satisfying a limit of a number of people on site. If a certificate is required, then the responsible person, probably the Principal Contractor, has to apply to the HSE.**

**Alex White of Moss Construction** asked if delays by the utilities were ever acceptable and Ray said that written confirmation would be needed.

**Brian Dunckley of Balfour Beatty** asked a general question about the progress on the Working at Heights Directive. Ray said that a Consultative Document was planned to be issued by December.

**Bob Cole of Morgan=EST** asked about the HSE intentions towards Lifting Plans. Ray said that Competent Persons should produce generic plans unless there was an extreme case demanding a specific method of work.

As there were no other questions, Gerry Mulholland thanked Ray Cooke for his presentation and also the exhibitors for their informative displays. The members showed their appreciation and the Secretary announced that the draw for the Champagne would take place on the Mobiloo display after coffee and biscuits were served.