

March 2005

Presentation on "RPE Fit Testing" by Natasha Lafayette, 3M Occupational Health & Environmental Safety Group

In describing the Fit Testing process, Natasha said that it confirmed that initial good fit of any Respiratory Protective Equipment (RPE) and showed the fit quality *on that day*. For some time, it had been a mandatory test for RPE used with Asbestos but, since 2002, it has been required for all other Hazardous Substances under the COSHH Regulations 7, Paragraphs 141 to 151 in the ACOP and Guidance. **(Secretary's Note: More information on Face Fit Testing and related topics can be found on the HSE Website, by clicking COSHH in the Health and Safety Topics drop-down menu and finding the Fit Testing topic. The document you should read is an HSE Operational Circular, OC 282/28)**

Under the ACOP and Guidance, a suitable and validated Qualitative Test could be used for filtering face pieces (sometimes called disposable) and half-masks. It was essential to ensure that the wearer was free of facial hair, before being taken through a set of exercises during the test. The equipment that Natasha had on display, consisted of a hood that fitted over the wearer's head, whilst the RPE under test was being worn. The tester then injected a controlled test vapour through a hole in the front of the hood and the wearer was asked if it is possible to detect the bitter smell after doing the exercises. If they can smell the test vapour, then the test is a failure and the process of fitting and testing must be repeated. After the test the kit only needs washing

A pre-requisite of the test is that the wearer is given proper instruction on how to adjust the fit of the RPE straps on the crown of the head and the nape of the neck. The wearer should also be asked if it is compatible, ergonomically, with any other PPE that has to be worn at the same time. It is also necessary to carry out a sensitivity test of the solution on the tongue of the wearer, so that the right strength of solution is obtained by dilution. In some cases it may be necessary to change the bitter solution to a sweet version, or vice versa. A record of the test results is kept for five years, although some firms place them in medical records, which are then kept for 30 years.

These tests must be done if a COSHH Assessment is carried out, which shows that RPE is needed in addition to all the other control measures that have to be implemented. Testing would NOT be necessary, however, if the COSHH Assessment did not require it AND the wearer used RPE for comfort reasons, only! There is a 3M poster available from the Hotline on **0870 60 800 60**. The poster also includes a series of breathing and exercise routines.

It is necessary to repeat the tests if: -

- The wearer loses/gains weight significantly.
- If the wearer has dental work done.

- If major facial injury is experienced after an accident.
- If a different size/model of RPE is used.

Full Face Masks required a more rigorous procedure, known as a Quantitative Test, in which probes were used with gas detectors to determine the level of contamination inside, and outside, the mask.

Another requirement of the Regulations is that any person involved in work with hazardous substances must be competent to fulfil their duties. With regard to Face Fit testing, there are no competence standards laid down and it is considered appropriate for a person just to have witnessed the use of the kit, before using it on other persons.

Natasha then continued by explaining the “Four Step Guide to Selection of RPE”.

1. Identify the Hazard (In this case the hazardous substance contained in any preparation or mixture) and how it presents itself, i.e. is it a Particulate, Gas/Vapour, or Fume
2. Assess the Degree of Risk
 - What are the properties of the substance?
 - What is the permitted exposure limit?
 - What is the Actual Exposure Level?
 - With particulates, what is their size?
 - With Gas & Vapour hazards, the detectability?
3. Selection of type of RPE
 - Does it offer adequate protection, of the right type?
 - What are the maintenance implications? Do records need to be kept and spare parts ordered?
 - Individual’s Characteristics – facial hair, face shape, other PPE to be worn.
 - Comfort – wearer acceptability, wear time. Heat and/or humidity.
 - Re-usable RPE against Disposable designs.
 - Filter designs (including positive pressure) vs. Air Fed types (The 3M hotline and written guide can assist with this stage)
4. Train in Proper Use!

Members' Questions

David Simkin asked if where the spray should be applied and what stops it from going through a dust mask. Natasha replied that the mask stops the vapour as it is not just a dust mask, but is a “filtering system”. She went on to say that it is important to use masks with a recognisable CE marking and commented that the obsolete 8011-model mask was dropped because of abuse by wearers.

Another member commented that the standard for competence to test was not adequate and Natasha agreed. She added that, although Inspectors were asking questions about testing, their attitude was relaxed about a timescale to do it. The greatest pressure on employers, she said, was from the threat of Civil Compensation in 10 – 15 years and that design of mask, when adequacy of testing may be questioned. **Mark Hoare of Birmingham University** commented that Natasha had trained key persons throughout the campus.

Natasha said that the training had to be resourced properly and would take about 15 minutes per person. Fit testing is specific to the particular design of RPE and this imposed a restraint on the purchasing of masks, which had been subjected to testing. Training from 3M was free and the costs of the Kits varied from £80 - £100.

As there war no more questions, the Chairman thanked Natasha for an extremely useful presentation and the audience responded in the traditional manner.