ISRP 2002 abstract

Presenter/author	Title	Abstract
Dennis, Mike R. *Defence Science and Technology Laboratory, Porton Down, Salisbury, UK*	**Modification of the Respirator Hood Interface to Reduce the Protection Factor Requirement of the Face-seal**	It is widely appreciated that the most challenging aspect of providing respiratory protection is ensuring that an effective face seal is maintained. In order to ensure that adequate protection factors across the seal are achieved, user comfort is often compromised resulting in an increase in the physiological load to the wearer. Research into respiratory protection at Dstl is aimed at reducing such physiological burden whilst maintaining or improving the level of protection. This paper describes an alternative approach to providing an effective face seal involving the respirator hood interface. By exploring different methods of integrating the respirator and hood the option of reducing the level of particulate material directly outside the face seal by utilising the hood's particulate removal properties has been explored. In order to facilitate this several prototype hood – respirator interfaces were devised. One such system included the incorporation of electret material to enhance particulate removal. The effectiveness of this approach was assessed using an animated manequin and sodium chloride aerosol challenge. It was found that the protection factor requirement of the face seal could be reduced with such systems but only with due consideration of the usability, physiological load and compatibility with other equipment.