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## **HEALTH AND SAFETY COMMISSION**

### **WORKPLACE TRANSPORT COMPETENCY ASSESSMENT CD-ROM**

#### **‘Safe Driver, Safer Workplace’**

**A Paper by Kevin Jewitt**

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**Cleared by Jane Willis on 27 February 2004**

#### **Issue**

1. Inform the Commission about a research project, part of the Workplace Transport Priority Programme, which uses cutting-edge computer based interactive virtual reality technology, to assess the ability of workplace transport drivers / operators to detect and understand hazards.
2. This is a new approach for HSE to target high-risk activities using a ‘safe’ environment within a virtual reality world.

#### **Timing**

3. Routine. An evaluation report was published in December 2003.

#### **Recommendation**

4. For information only

#### **Background**

5. There is no specific health and safety legislation that requires employers to retrain their drivers or operators at specific time intervals. It the employer’s responsibility to ensure that workers are adequately trained and are competent to undertake their work activities in a safe way, without putting themselves or others at risk of serious harm.
6. A research project was commissioned in the Summer of 2001 by the HSE’s Workplace Transport Priority Programme team, to investigate new ways of helping stakeholders with the task of assessing competency levels of drivers / operators of workplace transport vehicles. Vehicles used on a public highway were excluded from the project.

7. HSE's publications, which take the form of printed guidance, have always been well received. However, feedback from stakeholders following the launch of the Workplace Transport Discussion Document in early 2002, suggested that a new approach was needed, in addition to the hard copy publications.
8. The workplace transport programme team came up with the idea of producing an interactive CD-ROM, which would use cutting-edge virtual reality technology. The outcome of the project was intended to provide HSE with constructive feedback from employers, employees and the self-employed on whether or not virtual reality technology could play a part in helping to reduce workplace transport accidents.
9. The CD-ROM 'Safe Driver, Safer Workplace' was successfully launched at the Queen Elizabeth II Conference Centre in London on 17 October 2002. Over 4,000 free copies of 'Safe Driver' were sent out via HSE Books, upon request. Recipients were asked to register their copy and participate in the evaluation exercise during 2003.
10. Approximately 500 copies were registered. An evaluation of the CD-ROM was undertaken between May and September 2003 and a report has now been published.
11. Other HSE Directorates have shown great interest in virtual reality technology and are considering using it in new initiatives during 2004/05.

## **Argument**

12. HSE needs to develop and introduce new ways of delivering health and safety information to employers, employees, self-employed and members of the public. Virtual reality technology is one innovative way of achieving this goal.
13. Pictograms and moving 3D images can be universally understood by a majority of people in all age groups. Given the choice, many young people at work would prefer the use of visual images, rather than having to understand potentially complex written procedures. Simplicity is the key to effective delivery of information.
14. Virtual reality was chosen as the preferred medium. The alternative approach of using film and video would have been more expensive and not have given HSE the flexibility to respond to any changes in direction, as the project developed.
15. A satellite company of the University of Nottingham undertook the work, as they had specialist virtual reality knowledge, were competitive with price and offered a flexible approach. HSE have previous experience of the company and its quality of work.

## **Consultation**

16. Policy Group consulted widely with many industries about the need to tackle the issue of competency assessment. The consultation exercise included large construction and

distribution companies, which continued to support the project throughout its development. Forklift truck training organisations were also included in this process.

17. As the project did not encompass driving activities on the public highway, there was initially some concern from the larger freight haulage distribution companies that they were being excluded, but with persuasion they also provided valuable support by making their premises available to HSE for site visits.
18. FOD Sectors were consulted about the type of scenarios intending to be portrayed. This ensured that their views were taken into consideration and did indeed represent the type of accident that had been occurring in many workplaces.
19. DIAS was kept fully informed throughout the project development stages and played an important part in producing and distributing the CD-ROM.
20. During 2001, the Commission were encouraging HSE staff to use innovative ways of 'getting the health and safety message across'. This research project is a new approach to engaging stakeholders, which has received much positive support from many industries since its launch in October 2002.

### **Presentation**

21. Virtual reality has not been widely used by HM Government to support important initiatives. Copies of the CD-ROM will be circulated with the evaluation report to OGDs for information, during the spring of 2004.
22. The target audience was identified as any person with a responsibility for operating or driving any vehicle, used in a work setting. Pedestrians and company directors could also benefit from interacting with the software.

### **Costs and Benefits**

23. There are no further anticipated costs associated with the 'Safe Driver' CD-ROM project; it was funded from the 2002/03 research budget. The total project cost was £134,000.
24. Policy Group, Safety Unit, the Communications Directorate and DIAS will explore new opportunities and work together to ensure that the correct target audience is reached for maximum impact. The final CD-ROM will be made available as a priced product once completed.

### **Financial/Resource Implications for HSE**

25. Anticipated minimal resources required to support HSE internal / external events during 2004, once Windows XP has been adopted by HSE as its computer operating system.
26. There will be a cost, levied by REFIT (HSE's provider of IT equipment), for the installation of the software onto any HSE computer within the organisation. Therefore, it is suggested that only one PC in every HSE office has the software installed.

27. Further interactive virtual reality project work has been identified for 2004/05, which will concentrate on specific high-risk areas within the workplace (site safety) and involve other HSE Directorates. The development work will again be funded from the research budget and the communications budget will be used to distribute the finished product.

### **Environmental Implications**

28. None.

### **Other Implications**

29. Some SMEs were not able to run the software effectively. Research undertaken three years ago suggested that new computers replacing older models in the future would be more technologically advanced and should therefore not have a problem running virtual reality software.

30. The evaluation report confirmed these early findings, but the numbers were not as many as anticipated. Many Local Authority staff were unable to interact with the software simply because there has never been a need, until recently, for them to install a 3D graphics card onto their computers.

31. 'Safe Driver' was developed for UK industry and not for HSE's sole use. Currently HSE's national operating system (Windows NT) will not run the software. Most HSE computers are restricted in use and do not allow information to be written onto the hard drives. It is expected that during 2004, HSE's current operating system will be replaced with Windows XP, which will run the 'Safe Driver' software, once installed.

### **Action**

32. The Commission is asked to note the success of the 'Safe Driver' CD-ROM research project, as an innovative approach to engaging stakeholders in all UK industries.

33. If any Commissioners would like a demonstration of the 'Safe Driver' virtual reality CD-ROM, please contact Kevin Jewitt. It is a visual experience.