Process plant control desks utilising Human-Computer Interfaces

A guide to design, operational and Human-Computer Interface issues

PUBLICATION 201

Edition 2

THE ENGINEERING EQUIPMENT AND MATERIALS USERS' ASSOCIATION

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ENGINEERING EQUIPMENT AND MATERIALS USERS' ASSOCIATION

The Engineering Equipment and Materials Users' Association, more commonly known as EEMUA, is a European non-profit membership Association helping companies that own or operate industrial facilities - the *users* of engineering equipment and materials.

EEMUA aims to improve the safety, environmental and operating performance of industrial facilities in the most cost-effective way, thereby demonstrating and pursuing leadership in asset management.

EEMUA Members pursue these aims through collaboration for mutual benefit, sharing engineering experiences and expertise and by promoting their distinct interests as the users of engineering products.

Specifically, the aims of EEMUA Member companies are achieved by:

– providing the organisation within which networking, information sharing and collaboration on non-competitive technical matters can take place;
– influencing the way written regulations are interpreted and applied in practice;
– presenting and promoting Members' views, and encouraging the application of good, sound engineering practices;
– developing user guides, specifications, training and competency schemes;
– facilitating Members' participation in national and international standards making;
– influencing relevant national and European legislation and regulations.

Formed in 1949 as the Engineering Equipment Users' Association, and re-named in 1983 (as a result of taking over the materials association, OCMA), EEMUA has for more than fifty years given companies that own and operate process plants, power stations and other significant industrial facilities, a collaborative voice in addressing technical and engineering related issues that impact on good integrity management and asset management practices. The Association is open to companies of all sizes that meet its 'engineering user' criteria. Further details of current Members of EEMUA is available on the Association's website, www.eemua.org.

EEMUA activities often lead to the production of publications. These are prepared for Members' use and are often offered for sale as well.

A list of EEMUA publications for sale is given at the end of this Publication. The full list is also on the Association's website, including details of on-line shopping facilities.

To enquire about corporate Membership, write to enquiries@eemua.org or call +44 (0)20 7621 0011.

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Health and Safety Executive

Human-Computer Interfaces (HCI) have become an area of increasing focus and importance to the UK chemical and allied industries in the major hazard sector, particularly with the advent of centralised control and the use of computer screens as key interfaces between processes and the operator. The first edition of this EEMUA guide has been widely used and referred to within the Chemical Industries (CI) sector of the Hazardous Installations Directorate (HID) and has proven to be very useful. The guide is equally relevant for: other parts of the major hazard sector e.g. offshore; non-major hazard process and other industries where HCI is used as a medium for process and plant control.

While the term 'HCI' may sound technical it describes something we are all very familiar with – the display screens (VDUs) most of us increasingly use at home and in the workplace. It's that interface, as used in industrial and process applications, which can be so important in maintaining process and major hazard safety. Issues that may be just irritating to users at home or in the office, may have major safety implications as we have learnt from many disasters over the decades from the Texaco Milford Haven incident right up to the more recent Buncefield Oil Storage Depot explosion and fires.

This guide is a very useful resource for industry, designers, manufacturers and suppliers in the major hazard sector. Inspectors and specialists in HID will be looking for evidence that the standards and principles in the guide have been implemented appropriately both for new design, and for ongoing review – and continuous improvement - of existing installations. The degree of rigour expected in applying the guide is of course proportionate to the hazards and risk under control but there are clear business and other benefits to good HCI design and use, as well as safety benefits.

The renewed focus on HCI reflects well the current HID and HSE post-Texas City and Buncefield focus on process safety leadership, workforce involvement and wider human factor issues. Good leadership will help focus on HCI as one of a number of key areas that can influence - and optimise - human performance in the key area of a centralised control room and elsewhere. Good end-user involvement and user-centred design will provide good, workable and valued interfaces, including the HCI.

I commend this guide to you.

Peter Baker
Head of the Chemicals Industry Division, Hazardous Installations Directorate, Health and Safety Executive.