

Electronic permit-to-work

John Naylor talks to a company that has developed a permit control and monitoring system which aims to improve onsite safety

DOCUMENTING the release and management of safety permits is an imperative part of maintaining health and safety standards in the workplace. Companies in the process sector are now being presented with electronic solutions to the hitherto paper-intensive process. These packages allow permits-to-work to be produced quickly and accurately while maintaining the necessary attention to protocol and regulations.

An HSE survey found that a third of accidents in the chemical industry were maintenance-related. Lack of, and deficiency in, permit-to-work systems was cited as the largest single contributing factor. One of the most high profile accidents that was, in part, attributed to a failure in the permit-to-work system was the *Piper Alpha* disaster of 1988.

Most companies still rely on paper-based systems, where permits are hand-written, signed off and filed away – frequently with little assessment of the true risks involved. The HSE survey reported that a disturbing number of companies had failed to perform adequate checks on their systems, fell short of identifying potential hazards, and did not provide sufficient details of protective equipment to be used.

Much of this is due to poor practice and failure to adhere to proper procedures but the present systems play their part too. The sheer volume of paper documents that exist can cause problems when it comes to permit crosschecking, safety auditing and general management of the permits. Electronic systems provide companies with a more efficient and robust means of managing permits, ultimately leading to safer and more efficient control of potentially hazardous jobs.

Advanced Safety Applications and Procedures (ASAP) is a British company that has recently developed its own permit control and monitoring system with web-based functionality. The software has been designed with the

pharmaceutical, bulk chemical, food and petrochemical industries in mind, but is transferable to any organisation that is required to demonstrate a safety at work system in accordance with the HSE.

A simple graphical user interface using basic point and click, and message box options guides the permit issuer through the permit lifecycle. The form pages can be set up to mirror the design of present paper permits, thus ensuring minimum fuss with changeover to the electronic system. Minimal staff training is required.

One of ASAP's main features is that it can be used as a web-based tool. Although it is inadvisable for companies to issue permits-to-work remotely, there are many benefits of centralising the system for use through a company intranet.

Firstly it allows large multinationals to standardise their permit issuing systems with a format that will be recognised, and a protocol that can be followed, irrespective of where in the world the job is taking place.

It also allows senior managers to keep an eye on the running of individual plants and performance. Records of all permits issued can be recalled in seconds, allowing checks and audits of safety systems to be carried out at any time and from anywhere. Companies could operate specialist safety units from a central location that would have the capability to compile safety reports, audits and research on any site. This would also remove complication in adopting wholesale changes to safety procedures across all facilities.

The network would also give users an opportunity to take a look at how colleagues at other sites were approaching particular problems.

A permit query system is available online, to allow specific permits to be examined and searched. This facility could also be used to check the progress report of a job. A permit monitoring system allows remote computers to display real-time information on active



Piper Alpha: failure in the permit-to-work system was found to be partly to blame for the disaster

permits – this could be useful for installation in a gatehouse, to give emergency services advance warning of what they may have to deal with should an accident arise.

Security is an important issue. The benefit of an electronic system is that safety permits cannot go missing or be altered. By housing all permits on a centralised system, the ASAP package prohibits amendments to be made to the permit once it has been issued. In the event of an accident investigators can use the software's management tools to conduct a full audit trail to identify any source of negligence.

From a safety perspective, electronic systems are able to ensure much tighter controls on conflicting permits. For example it is not possible to issue a permit that may subject the operator to danger from work being carried out under the authorisation of another permit.

All these features help to assure staff safety and provide cover for those concerned, in the unfortunate event of an accident – a matter that is becoming evermore important in today's 'claim culture'.

Another problem posed by safety systems is proving that the person instructed to carry out the job actually visited the source. ASAP has incorporated a feature that date stamps the moment that the fitter arrives at the source. Using a PDA the fitter will be required to

scan a barcode fitted to an individual piece of equipment before being able to authorise the permit-to-work, thus ensuring attendance at the source.

The ASAP system has been written in industry standard Java code. The software framework allows the interface to be customised to individual specifications as required by different companies.

An ASAP permit control system is currently being implemented by Merck Sharp and Dohme at one of its sites in Ponders End, Hertfordshire.

bottom line is that the safety at work system is only as good as the application and attention of those involved. ■

Links

Advanced Safety Applications and Procedures (ASAP)
www.safetyapplication.com