

Treating Health Like Safety



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There has been a widely held (political) view in the UK that health & safety (H&S) is a burden on industry and commerce, fuelled by stories in the media of H&S gone mad. So, following the recommendations of the Löfstedt report, the British Government has set about cutting red tape and reforming legislation. This provoked the TUC to respond in February 2013, by publishing its own *Time for Change* manifesto which proposes the concept that occupational health should have the same priority as injury prevention measures and includes specific actions on dust and carcinogens in the workplace.

The TUC also urges the government to adopt and comply with *all* H&S conventions of the International Labour Office (ILO) who say that occupational diseases cause huge suffering and losses to workers, businesses, social security funds and society at large. It estimates that diseases caused through occupational exposure, kills six times more employees than work-related accidents.

However, unlike deadly gases such as hydrogen sulphide (H₂S), which pose an immediate threat to life, the effects of exposure to potentially toxic dusts have a long latency period. It may take many years before symptoms such as cancers of the lungs, throat and nose as well as other respiratory conditions including emphysema and asthma present themselves.

So what is the scale of the problem? It is estimated that there are about 2 million deaths annually caused by disease due to work, while the annual global number of

cases of non-fatal, work-related disease is estimated to be 160 million. Human suffering apart, the estimated direct and indirect costs are US\$2.8 trillion which equates to around 4% of global GDP, according to ILO figures.

As western economies have de-industrialised the problem has inexorably shifted to the emerging BRIICS economies, where environmental issues tend to be a first priority over H&S. However, as NIOSH in the US point out, 'black lung' (the colloquial name for silicosis, yet another disease of the lungs) still remains an



issue, even after more than 25 years of regulation in US coal mines.

Coal Services, NSW

In process plant environments and confined spaces that exist in sectors ranging from oil & gas to chemical processing and utilities, protecting employees from exposure to multiple gases requires the non-discretionary, continuous monitoring of individual worker exposure. The same can't be said for dust and vapour monitoring, which may fall outside the safety remit, although underground mining tends to be the exception given the harsh, confined environment.

It is common for leading companies in the above mentioned sectors to have a strong Corporate Social Responsibility, also known as a sustainability agenda, which covers

a continuum that extends from safety through occupational health to worker wellbeing (and the wider 'external' environment). But even for the top 100 companies in a report undertaken by the Center for Safety & Health Sustainability, not one organisation reported on fatal occupational diseases? However, it is implicit that these organisations see safety, health and wellbeing as an investment rather than a cost with a tangible return on that investment (ROI) and various figures have been touted.

For example, the occupational health (OH) provision on the London Olympic Park and Athletes' Village as reported by the HSE has been recognised by the construction industry and beyond as an example of good practice, and one of the best implemented on any major construction project in the UK. The cost of OH provision was circa £1m covering 9000 employees and a return of 7:1 has been claimed. At the other end of the scale Forbes state in an on-line article that a corporate wellness program might yield a 4:1 return, as well as employers strengthening the psychological contract with their employees, which is no bad thing.

Returning to the mining sector, historically, according to the International Council on Mining and Metals (ICMM), there has been a tendency within the industry to focus more attention on the development, use and reporting of safety indicators than on occupational health. This arose not least from the immediacy of the consequences associated with safety and the associated regulatory focus, as well as the longer time lag between cause and effect in health-related issues. Safety and health, while treated as separate disciplines, are nonetheless significantly interdependent. The ICMM says that the use of the term 'health and safety' is neither merely a linguistic

convenience nor industry tradition; it is influenced by this interdependent relationship.

As an example of best practice, the South African Government set out to radically improve its occupational health record since mining is a mainstay of the economy, employing approximately 500,000 people. The Mine Health & Safety Act (MHSA) in 1996 together with Regulations and Guidelines placed an emphasis on identifying workers exposures and the setting of internationally comparable occupational exposure limits (enforced by the Department of Minerals and Energy (DME)). The Occupational Hygiene Regulations under the MHSA state that the employer must establish and maintain a system of occupational hygiene measurements for all working places where airborne pollutants exceed 10% of the occupational exposure limit for particulates and 50% for gases & vapours. There is widespread use of homogeneous exposure groups (HEGs) which are based on similarity of tasks, exposure to the same range of stressors and similarity of environment. 5% of employees within a HEG have to be monitored up to every 3 months (depending on class of potential exposure) and the results have to be reported to the DME. There is talk of further increasing the sampling.

However, this focus has not prevented class action law suits on behalf of thousands of South African miners being brought in London against major gold mining companies for silicosis, the latest in March 2013, with compensation levels which could run to billions of dollars! It was significant that also in March, it had been reported in India that mine workers, who were exposed in the 1960's and 70's, have at last won their own fight for compensation.

On the standards front, the British Standards Institute (BSI) has proposed a new work item to the ISO secretariat on the requirements for occupational health & safety management (OH&S) systems. In their covering letter they state “the need for organisations worldwide to improve their OH&S performance cannot be underestimated; the statistics for health and safety incidents, accidents and their related costs (to the individual, to organisations and to society) continue to be horrific”. They go on to say that a survey has shown “a rapid rise in the rate of use of OHSAS 18001 and equivalent standards over the past 10 years” and that more importantly “(the survey) has shown that standards are now being used in 127 countries around the world, which strongly suggests that there would be value to seeking harmonised OH&S practices into International Standards and to share best practice”.

Against a background of claims for compensation and a growing consensus on the need for more action on occupational health, what can the instrumentation suppliers do as part of the cyclical *plan, do, check, act* approach to management and continuous improvement? Customer expectations are high given the growing deployment of sensors in the home and the environment, mobile computing and the *internet of everything* and the emergence of big data. Early technology adopters, like BP in the UK, whilst encouraging innovation, realise that there are challenging technology issues to be



overcome, not least making any solution capable of meeting stringent intrinsically safe requirements, all of which makes for a difficult business case. Try taking an everyday mobile phone around a petrochemical plant!

In conclusion, regulation by Government alone is not the answer and delivering the capability to treat health like safety could well mean mass deployment of instrumentation with all the signal processing, battery life, connectivity and data management challenges that would bring. However, Casella is well placed to lead the revolution building on its core competencies in workplace dust (and noise) measurement.



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