

A Safe Landfill Atmosphere After 30th June? Implementing the Explosive Atmospheres Regulations for Landfills

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**Steve Last, Technical Director, Waste Processes, Enviros Consulting looks at our industry's likely compliance record as the transitional period for existing premises ends and the new Explosive Atmosphere regulations come into force for all workplaces.*

Waste Management Operators may have done all they can to maintain good health and safety practices in the past, and will continue to do so; but how many will be compliant after 30th July [2006] when the EU's ATEX Directive finally comes into force?

The EU Directive applies to all workplaces where the risk of the presence of an Explosible Atmosphere exists and encompasses all installations from waste transfer and processing plant (where explosive dusts, and unused solvents may create an explosive atmosphere), to any landfill - no matter how long since closed and made over to other uses - which possesses any wells (for gas or leachate monitoring or management) in gassing waste.

Although the large waste operators have been actively tackling the issues surrounding ATEX compliance at their waste collection, transfer and processing facilities, and on their (mostly active) landfill sites, most landfills are historical and fall into the "closed" category. In this area there has been very little activity to review old sites, assess which exhibit the potential for an explosive atmosphere to be present, and compile the necessary risk assessment, ameliorative, training and record keeping actions needed for compliance.

Similarly, activity would seem to have been minimal in reviewing and risk assessing existing leachate treatment and methane stripping plant for compliance – so far.

Even within the big five waste operator's active sites there are real problems in interpreting the requirements and in achieving compliance, and much of this arises from the inherent difficulty in applying regulations which were originally perceived for factory and industrial workplaces, to a landfill setting.

However, the industry has been actively working to solve the matter. For more than the past 12 months the waste industry has been endeavoring to tackle the various issues surrounding ATEX compliance, as regulated under the UK's instrument known as the DSEAR (Dangerous Substances and Explosive Atmosphere Regulations). A working group has been meeting under the auspices of the Environmental Services Association (ESA), funded by Biffa, EnerG, SITA, Viridor and the ESA's Trust ESTET. The working group is chaired by Stuart Hayward-Higham, and is currently well advanced in its programme to produce six Industry Codes of Practice to provide comprehensive guidance on the application DSEAR to all waste management activities.

The first Code (ICoP1) was published last Autumn, and establishes general principles of compliance, provides basic calculations for establishing ATEX Area Classification (“Zones”) around landfill wells, boreholes etc., and provides examples of the most common zoning.

ICoP 2 is titled, “Area Classification for Landfill Gas Extraction, Utilisation & Combustion”, and was published in November 2005.

ICoP 3; “Area classification for leachate extraction, treatment and disposal”, has now also recently been published, and a further ICoP on Landfill Operation is well advanced.

All these documents are approved by the Health & Safety Executive, before publication, and are available for free download on the ESA web site www.esauk.org.

All operators will find that changes to existing practices will be required in order to comply with the DSEAR. Previous procedures for carrying out risk assessments and establishing safe working methods will need to be re-assessed and modified to comply with the new DSEAR Zoning requirements. Specifications for equipment will require review and either ATEX Certified equipment installed, or a site-specific risk assessment undertaken to justify each plant installation is “appropriately” certified if ATEX Certificates are not available for existing plant, as required under these regulations.

All staff and operatives will in future under these regulations be required to be trained specifically in atmospheric explosion risk management in general, and in the meaning of three ATEX Zones, each of which reflect the degree of risk within one of three classified risk severity situations. Drawings must be retained on site showing the locations and extent of these ATEX area classification zones, and each zone must be marked on site by a sign. These zones will all need defining individually for each site on the basis of a risk assessment. The ICoPs recommend the best person to carry out these assessments will normally be the site manager.



This requirement is in addition to the normal practice of writing method statements based upon risk assessments, plus internal H&S checks, and Supervisor approvals in place in companies already, as has been the case since the introduction of various health and safety legislation in the 1980s.

A major area of concern remains in respect of the impact which the DSEAR will have on the after-use and restoration of landfill sites, and such matters need to be taken on-board by the planners when after-use policy is established for sites. The directive is explicit and prescriptive in that each zone area must be signed, and it is clear that these zones extend into the general airspace around and above chambers, wells, and boreholes etc. Just how this can be squared with public access uses such as golfing, and even dog-walking has yet to be resolved – yet the defined zones apply to workplace activities and not the public usage of the site.

Generally, the ICoPs give guidance which by its specificity will clarify the interpretation DSEAR requirements and reduce costs to an affordable level. Detailed reading of the ICoPs should do much to allay concerns that wholesale replacement of equipment which has given long-term incident free service over many sites and for extended periods, would be required just to comply with the directive.

There have however, already reportedly been substantial costs to some major operators in preparation for DSEAR. SITA themselves have been reported as finding it necessary to spend between £50,000 and £100,000 per flare, on changing 18 of its landfill gas flares on sites around the country to comply.

Such high costs are likely to be the exception rather than the rule, and costs will be best controlled by careful reading, and in-depth knowledge, of the ICoPs. Although not all ICoPs have yet been published, reviews can be undertaken in full knowledge of the approach being taken by the ICoP committee. Industry participants will normally also be provided with final drafts of ICoPs prior to publication for their comments, on request.

So the message is that all Site Managers, Estate Managers with former landfills as part of their landholding portfolios, and the Waste Disposal Officers for Council's responsible for closed landfill should be aware of this legislation and should be making it their duty to familiarise themselves with the ICoPs, and then carry out their reviews, and all this needs to be done by the end of this month (June).

By taking this approach DSEAR compliance should become both affordable, and reduce injuries from these risks. Whether the rate of injury directly from the risks covered by these regulations was ever sufficiently high for any statistically relevant Health and Safety gain ever to be seen is doubtful, but we hope we are proved wrong, and that the passage of time will reveal real benefits to the industries workforce. In any event, the implementation of these regulations will go ahead on 1 July, so the wise will go ahead now and comply as a matter of urgency.

(Steve Last served on the committee in preparation of ICoP 3, and has commented on others.)

Note 1: The article refers to the "[ATEX Directive](#)", for brevity, however, the DSEAR actually implements two EU Directives on the subject, namely: The ATEX Product Directive, and the ATEX Worker Protection Directive.

Note 2: The term "ATEX" is derived from a shortening of the words ATmosphere and EXplosible.