

Asbestos management

Is the jigsaw finally finished?

Despite many years of effort to reduce the health burden caused by asbestos, it remains a cause for concern. Consultant and former HSE occupational hygienist Martin Stear explains the need for a more strategic approach to the management of asbestos and how this will be achieved through sustained compliance with the Control of Asbestos at Work Regulations 2002, regulation 4 of which came into force earlier this year.

ON 21 MAY 2004, employers, landlords and other duty-holders came under a new duty to investigate and manage asbestos on their premises (see box). With the *Control of Asbestos at Work Regulations 2002* (CAW) firmly in place, it is time to ask whether we now have all the pieces of the jigsaw to finally solve the biggest occupational health problem the UK has ever seen. Asbestos has killed thousands of people and will continue to do so as the long latent period catches up with those exposed decades ago. But we now know far more about the dangers of asbestos and how to protect those who work on asbestos-containing materials (ACMs). There should be no more significant exposures and no additional deaths. Yet there is still a feeling that we haven't quite cracked it; that there may be additional deaths resulting from current and future activities. This was illustrated in August this year, when a company was fined £245,000 for exposing a team of temporary workers – one aged just 16 years old – to asbestos during a building clearance operation (this issue p.00).

In 2002, the Health and Safety Commission and Executive (HSC and HSE) remodelled the previous CAW Regulations to make explicit a duty to manage asbestos in premises. The duty was already implicit in the *CAW Regulations 1987* and other health and safety legislation. Nick Brown (then minister responsible for health and safety), in his speech to the House of Commons, stated: 'If current levels of exposure to asbestos are allowed to continue over the next 50 years, nearly 5,000 additional people will be exposed to asbestos fibres and will die from asbestos-related diseases. These Regulations should go a long way towards preventing human suffering and misery, and they deserve the full support of the House.'

HISTORICAL CONTEXT

Interest in asbestos started thousands of years ago. The Greeks and Romans first discovered a 'magical' fibre with seemingly indestructible qualities. We now know that the exceptional qualities that make it so useful also mean that the human body cannot deal with it.

The Greeks and Romans were also first to note the harmful biological effects of asbestos. The Greek geographer Strabo and the Roman naturalist Pliny both observed

the 'sickness of the lungs' in the slaves that wove asbestos into cloth but they were in such awe of asbestos that they ignored the symptoms.

Asbestos was not commercially mined until 1870 when the first mine opened in Thetford, Canada, but within 30 years the first real signs of the dangers of working with asbestos had been recognised. In 1898, Lucy Deane, one of the first women Inspectors of Factories, observed the 'evil' effects of asbestos. According to Deane: 'A microscopic examination of this mineral dust, which was made by a HM Medical Inspector, clearly revealed the sharp, glass-like, jagged nature of the particles, and where they are allowed to rise and remain suspended in the air of a room, in any quantity, the effects have been found to be injurious, as might be expected.'

In 1906 Dr Hubert Montague Murray, a physician in London's Charing Cross Hospital, performed a post-mortem examination on a 33-year-old man who worked for 14 years in an asbestos-textile factory. The patient was suffering from pulmonary fibrosis and was the last survivor of a group of 10 men who were working in the carding room of the factory in 1886. Murray found traces of asbestos in the man's lungs and concluded that his death was attributable to his occupation.

Although knowledge of asbestos-related disease increased, there remained an unwillingness by some to accept the real dangers. Asbestos was cheap and versatile so its popularity soon grew with an estimated 6 million tonnes imported into the UK for more than 3,000 different uses. So, despite the evidence beginning to stack up against the magic mineral, and the discovery that it could cause lung cancer and mesothelioma as well as asbestosis, importation levels were still on the increase.

After World War II, large quantities of asbestos were used, particularly for new 'system-built' buildings in the 1950s, 1960s and early 1970s. ACMs were also used extensively in the refurbishment of older buildings. Exposures during the manufacture and installation of asbestos were horrendous – hundreds or thousands of fibres per millilitre of air (the exposure limit is currently 0.2 fibres per millilitre of air for blue and brown asbestos and 0.3 for white). Around 3,000 people in the UK now die annually from diseases caused by past exposure to asbestos.

CAW Reg 4: the duty to manage asbestos in non-domestic premises

- ▶ The duty-holder is required to ensure that a suitable and sufficient assessment is carried out as to whether asbestos is, or is liable to be, present in the premises (reg 4(3))
- ▶ In making the assessment, the duty-holder is required to consider the condition of any asbestos, which is, or has been assumed to be, present in the premises (reg 4(4))
- ▶ The duty-holder shall ensure that account is taken of building plans or other relevant information as well as the age of the premises. An inspection should be made of those parts of the premises that are reasonably accessible (reg 4(5))
- ▶ The assessment must be reviewed immediately if there is reason to suspect that the assessment is no longer valid, or if there has been a significant change in the premises to which the assessment relates (reg 4(6))
- ▶ The conclusions of the assessment and reviews must be recorded (reg 4(7))
- ▶ Where the assessment shows that asbestos is or is liable to be present in any part of the premises, the duty-holder must ensure that the risk from that asbestos is determined. A written plan must be prepared that shows the affected parts of the premises and the measures which are to be taken to manage the risk (reg 4(8))
- ▶ The measures specified in the plan must include adequate measures for:
 - monitoring the condition of any asbestos, or any substance containing or suspected of containing asbestos
 - ensuring any asbestos, or any such substance, is properly maintained or where necessary safely removed
 - ensuring that information about the location and condition of any asbestos, or any such substance, is provided to every person liable to disturb it, and is made available to the emergency services (reg 4(9)).

Source: Control of Asbestos at Work Regulations 2002, SI 2002 no. 2675, HMSO.

The decline in the use of asbestos products started in the early 1970s when the installation of sprayed coatings decreased. The importation and use of all asbestos products was finally banned in 1999. With the manufacturing and installation industries gone, no longer should we see the horrendous exposures to asbestos. But that does not mean that the problem has been solved.

CUMULATIVE LOW-LEVEL EXPOSURE

Exposures during removal have, in the past, been very high but we now know how to achieve very low exposure levels using wet methods, such as multi-point injection, that turn the dry dusty asbestos into a wet dough. In many respects the problem is cracked providing best practice is always followed. Irrespective of the work required, exposures should be very low in all cases. We know how to remove it, drill it, and saw it with extremely low exposures, in many cases, below 0.01 fibres/ml. But this is not always the case, typically because building workers do not always know they are working on asbestos and what appears to them as a small amount of dust has just increased their risk of ill health.

The cumulative risk of relatively low-level exposures was recognised in 1995 by Professor Julian Peto and HSE epidemiologists, who showed that 25% of the 3,000 people who die each year from asbestos-related diseases had worked in the building industry at some point in their lives. People who work with asbestos are at risk, particularly those who are involved in the refurbishment, repair or maintenance of buildings, such as electricians, plumbers and carpenters. These people will have had a variety of exposure profiles, some working alongside those installing asbestos, but some doing routine jobs on building materials. What most of these workers had in

common is that they didn't know they were working on asbestos. The duty to manage was born out of the need to further protect these workers.

REGULATORY FRAMEWORK

The HSE has a long-established regulatory framework and system for controlling anyone working on asbestos. But this was only catching those knowingly removing or repairing asbestos, not those who had been sent in to carry out routine building maintenance or more major work. The concept of regulation 4 of the *CAW Regulations* is simple: don't allow anyone to unknowingly and unsafely disturb asbestos. In theory this is simple, but in reality it requires commitment to control every single job, no matter how small, on the fabric of the building. It means that every electrician, plumber, carpenter and demolition contractor needs to have their awareness raised and needs to know what they are working on. It is not acceptable – and never has been – to just get on with the job. Tradespeople need to know what they are working on, every day, for the rest of their working lives.

If we never disturb any of the ACMs still in UK premises, there will be no more exposures and no additional deaths. Asbestos which is in good condition and is left undisturbed cannot harm anybody. Unfortunately, every time a building is refurbished or demolished asbestos may have to be disturbed to remove it. Asbestos can be removed safely, but it is essential that appropriate removal technologies are always used. The challenge then is to stop the unplanned exposures.

ASBESTOS SURVEYS

Ever since the HSE announced its proposal for a duty to manage asbestos, the number of asbestos surveyors

CONCLUSIONS

- The *Control of Asbestos at Work Regulations 2002* are now fully in force
- All duty holders have an obligation to manage asbestos in non-domestic premises
- The importation and use of asbestos products is banned, but people continue to die from asbestos-related disease owing to past exposure
- The new duty to manage was implemented to protect building and maintenance workers at risk of exposure to asbestos during routine work
- Much attention has been paid to asbestos surveys – but they are only part of the solution
- Asbestos management strategies are essential to ensure that tradespeople never unknowingly work on asbestos-containing materials, that such materials are maintained in good condition and that proper procedures are followed when work on them is carried out

has increased. Many surveyors are now fully booked for months and are turning work away. And landlords are writing to tenants demanding copies of their survey reports, failing to understand what regulation 4 is really about. The British Occupational Hygiene Society proficiency module P402 ('Building surveys and sampling for asbestos') is also in high demand with everyone wanting this certificate to demonstrate his or her credentials. In many respects, this is positive, but surveys are not the complete answer; it's not what the HSE meant when they referred to the duty as being the final piece of the jigsaw.

The HSE wants to achieve one simple concept: stopping tradespeople from working on ACMs unknowingly and unsafely. The HSE sees surveys and inspections as a vital element of this aim, but only one part of it. For the jigsaw to be complete, we don't just need to know where the asbestos is, we need to know that every tradesperson is protected.

Some duty-holders clearly believe that a completed survey report means that they have fulfilled their obligations under the *CAW Regulations*, that somehow this will stop uncontrolled work. The message here is that surveys are relevant, but they must be planned, and targeted initially at the buildings or premises of greatest risk due to their age, occupancy or the likelihood of building works. And they must be part of an overall asbestos management strategy.

ASBESTOS MANAGEMENT PLANS

The management strategy (regulations 4(8) and 4(9)) sets out measures to ensure that ACMs are maintained in good condition and that nobody works on them unsafely. It is a strategy for compliance.

A proper asbestos management plan sets out the systems and procedures for controlling work on the fabric of buildings. It also gives clear guidance on what the electrician or plumber should do each and every time they get a job request; what they should do if asbestos is found; and

what duty-holders can do to ensure that all ACMs are maintained in good condition. It also gives details on who has responsibilities for the management of ACMs, strategies for training, surveys, inspections, knowledge management, risk assessments, monitoring and reviewing. In other words, the plan states how to ensure that ACMs are kept in good condition and not disturbed in an uncontrolled manner today, tomorrow, next week, next month, next year and so on.

Once the strategy is in place, it is important to ask if it will work. Imagine it is Monday morning and the maintenance department receives a call to do a routine minor job; will the strategy ensure that ACMs are not disturbed? A system audit will help to ensure that the strategy is working and will continue to do so.

Without an asbestos management plan, a survey does not stop tradespeople working on asbestos; nor does it stop architects and others, planning works on the fabric of the building without first considering the presence of asbestos. Thousands of asbestos surveys and repeat surveys have been carried out over the past two decades but most have not been kept up to date and are now unreliable.

AN INTELLIGENT APPROACH TO SURVEYS

There seems to be a greater emphasis on surveying than on achieving the ultimate goal: stopping ACMs from being disturbed. But is it possible to manage a hazard if you don't know where it is? The answer is – yes – and you may have to.

Imagine a duty-holder with 100 large premises (there are plenty with more) – they cannot all be surveyed in the short term, but the duty-holder is still under an obligation to protect its workers and others. The solution is to put a system in place they makes the tradesperson go through a series of checks about the material(s) he or she is about to work on. It may seem cumbersome but it is necessary and achievable. Most tradespeople have a reasonable idea when they are working on something that could contain asbestos; it's just that rarely has anyone ever taken them through a safe system of work.

The jigsaw will only be complete when we can say that tradespeople are being protected, that they no longer work unknowingly on ACMs. Every exposure can now be prevented providing there's a commitment to find out what the material is, in every case, before the work starts. Ultimately, this means surveying for asbestos but it also means much more. We should carry on surveying to build up our knowledge of the thousands of ACMs remaining in UK premises – but let's not forget the people who matter when we are doing this. ■

Martin Stear runs Workplace Environment Solutions Ltd having recently left the HSE where he was involved in the technical development of the HSE's asbestos policy. He is the author of the HSE publication A Comprehensive guide to managing asbestos in premises (HSG 227).