Mesothelioma.
Benchmarks levels of asbestos exposure

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Mesothelioma. Benchmarks levels of asbestos exposure

Summary

This paper examines the benchmarks used by the medical profession, statisticians, courts of law, and the HSE to define the levels of asbestos exposure that pose a significant risk of developing mesothelioma. It examines the asbestos control levels and puts them in context by comparing them with the benchmarks levels of exposure and risk.

Expert medical and epidemiological opinion is that there is no threshold level of exposure to asbestos below which there is no risk. This is accepted by the Courts, as is the benchmark for a "Significant" exposure which is defined by the Industrial Injury Advisory Council as being above normal background levels. Workplace control levels are considerably higher, but those are meant to be controlled by asbestos contractors wearing protective clothing and respirators. Because it is known that the Control limits are dangerous they have been progressively lowered over the years, with the French health and safety agency presently calling for a ten-fold reduction in the present level.

Despite the risks being known, the workplace control levels have by default been applied to the occupants of buildings, including children in schools. Contrary to expert opinion current HSE guidance advises that levels beneath the Action level will "*Usually have been insufficient to pose a significant long term risk to health,*" and to reinforce this opinion they list various timescales and activities they claim fall within the limit. The numbers of fibres inhaled from even simple activities are in the millions. The guidance is not only misleading, it is dangerously misleading.

More than forty years ago the Government were warned of the particular risks to children from asbestos and that because knowledge was not complete, preventative measures should be taken. Knowledge is still not complete but successive Governments have refused to assess the scale of the asbestos problem in schools or the risks to the occupants. Twenty five years ago it was recommended that an environmental limit should be introduced, and because of the particular risks to children it should be1/80 to 1/100 of the workplace control limits. But this has never happened.

It is recommended that workplace control levels should not be applied to the occupants of schools.

An environmental limit, especially for schools, should be set in law without further delay.

HSE guidance advising that levels below the Action level pose an insignificant risk should be withdrawn with immediate effect.

A national audit of the extent, type and condition of asbestos in schools and the standards of asbestos management should be carried out.

An assessment of the risks to the occupants of schools, and particularly to children should be carried out without further delay.

Control limit. Action level

There are no control levels designed for the occupants of buildings, for all the levels have been designed for contractors working on asbestos materials. It is only by default that they have been adopted for the occupants of buildings. Contractors by law have to keep asbestos exposures to a minimum but if it is anticipated that the Control limit will be exceeded during work on asbestos materials, then by law respirators have to be worn and stringent control measures put in place to

prevent the release of asbestos fibres into the rooms. The present level is 0.1f/ml averaged over four hours or 0.6f/ml for a ten minute period. Over the 4 hours a person would inhale about 240,000 asbestos fibres and over the 10 minutes they would inhale about 60,000 asbestos fibres. The Control Limit is not a safe level.

The Action level was designed for asbestos contractors carrying out work on asbestos materials where they would be wearing protective overalls and breathing apparatus. It was not designed for the occupants of rooms. The level is the sum of exposures over a 12 week period, where the exposure can be a single large exposure over a short period of time or a number of smaller exposures. If it was exceeded then certain measures came into force including regular medical inspections. In the 1987 Control of Asbestos at Work Regulations the Action level was set at 48f/ml hours for crocidolite and amosite and 120 f/ml hours for chrysotile.[1] The level for chrysotile was later reduced to 72f/ml hours however the 48f/ml hours remained until the Action level was removed from the regulations in the 2006 Control of Asbestos Regulations. Twenty years ago it was based on 240 hours exposure at the Control limit, and because the limits were reduced it now represents 480 hours exposure at the Control limit. The Action level is not a safe level.

Regrettably the Action level has been arbitrarily used by the regulators, HSE, for the occupants of schools as the benchmark between a significant and insignificant risk of developing mesothelioma. A Parliamentary question was asked in order to determine what justification there was for the continued use of the level.

Parliamentary Question. Action Level

In July 2009 the Shadow Schools Minister, Nick Gibb MP, asked a Parliamentary question to determine the risks to children from asbestos exposure at the Action Level:

Mr. Gibb: *To ask the Secretary of State for Work and Pensions (1) what assessment her Department has made of the health risks to (a) a child aged five years and (b) an adult aged 30 years from an exposure to 48 fibres of (i) crocidolite and (ii) amosite per millilitre of air in a 12 week period;*

(2) what assessment her Department has made of the risk of (a) a child aged five years and (b) and adult aged 30 years developing mesothelioma as a consequence of exposure to asbestos; [288724]

(3) what assessment she has made of the health risks to (a) a child aged five years and (b) an adult aged 30 years from an exposure to 72 fibres of chrysotile per millilitre of air in a 12 week period.

Jonathan Shaw: *The information requested could be produced only at disproportionate cost as it is currently not available or cannot be produced on a sound scientific basis in respect of a five-year old.*

The exposures in the question appear to relate to the "Action levels" in the 2002 Control of Asbestos at Work Regulations which are no longer current. The current limit in the 2006 regulations is lower at 0.1 fibres per millilitre of air averaged over a four hour period. Irrespective of this limit the regulations require exposures to be reduced to the lowest reasonably practicable level below 0.1 fibres per millilitre.

[1] Statutory instrument 1987 No 2115 The Control of Asbestos at Work Regulations 1987 para 2

Risk assessment models are available for mesothelioma and asbestos-related lung cancer. These can be used to assess risk for given levels of exposure, exposure durations, types of asbestos, and the age at which exposure occurs—but only within the working age range.[2]

Action level used as benchmark between significant and insignificant exposure

The Minister is correct that "Action Levels" are no longer current, however despite that if there is an asbestos incident in a school DCSF and HSE refer school authorities to their current guidance OC265/48 which was updated in 2008, but nonetheless uses the outdated Action Level as the benchmark between a significant and insignificant level of exposure. The guidance states that so long as the Action level, 48f/ml (hours), is not exceeded then the exposure would:

"*Usually have been insufficient to pose a significant long term risk to health*." [3]

This is misleading and can neither be justified scientifically nor medically.

The guidance lists a series of activities and the related timescales that HSE consider would expose people to levels of 48f/ml. They advise that if the timescales are not exceeded the activities would give "*exposures insufficient to pose a long term risk to health."* The activities include cutting, drilling, smashing and breaking sprayed coating, asbestos lagging and AIB and aggressive disturbance of asbestos cement. The guidance states that only if the period of time is exceeded, or the activity is repeated, should the incident be considered dangerous and reported. The HSE table is as follows:

Sprayed coatings... or loose lagging :	*15minutes*
Insulation:	*30 minutes*
Asbestos insulating board:	*60 minutes*
Asbestos cement:	*8 hours*[4]

Other documents give typical fibre release from the activities. The table below gives the activities, the fibre levels and the approximate number of fibres a person would inhale during the period HSE consider that the exposure would be insufficient to cause a long term risk to health:

Activity and material	**Fibre levels f/ml**	**Time**	**Fibres inhaled**
De-lagging Dry stripping of crocidolite[5]	100 -1000	15 minutes	13,500,000 To 130,500,000 Crocidolite
Uncontrolled dry stripping of lagging[6]	1-100	15 minutes	135,000 To 13,500,000 Amosite, or Chrysotile
Drilling AIB overhead[7]	5-10	60 minutes	2,700,000 To 5,400,000 Amosite
Removal of asbestos insulating board and tiles. Breaking and ripping out[8]	5-20	60 minutes	2,700,000 To 10,800,000

[2] Hansard written answers Column 1259W WORK AND PENSIONS Asbestos http://www.publications.parliament.uk/pa/cm200809/cmhansrd/cm090721/text/90721w0031.htm#09072269000033

[3] http://www.hse.gov.uk/foi/internalops/fod/oc/200-299/265-48-1.htm

[4] HSE Information document Exposure to Asbestos from Workplace activities OC265/48 Factors that influence level of risk para 3 2008

[5] HSE EH 35 Probable asbestos dust concentrations at construction process

[6] HSE A comprehensive guide to managing asbestos in premises HSG 227 2004 p95

[7] HSE A comprehensive guide to managing asbestos in premises HSG 227 2004 p95

			Amosite
Circular saw without exhaust ventilation asbestos insulating board[9]	Greater than 20	60 minutes	Greater than 10,800,000 Amosite
Breaking a single AIB ceiling tile (8ftx4ft).[10]	50 f/ml.	60 minutes	27,000,000 Amosite
15 minutes dry brushing and bagging of AIB dust and debris after breaking of single 8ft x4 ft AIB panel.[11]	73 f/ml	60minutes	39,420,000 Amosite
Abrasive disc cutting asbestos cement sheet or pipes[12]	15-25	8 hours	64,800,000 To 1,080,000,000 Chrysotile

It is dangerously misleading of HSE to claim that these fibre levels would normally be insufficient to pose a significant long-term risk to health. Not only are they misleading the people carrying out the work about the risk to their health and that of others, they are also giving totally the wrong impression to anyone who might be considering disturbing asbestos materials. The HSE guidance gives them the impression that they can drill, cut or smash asbestos lagging, AIB and asbestos cement, and so long as they don't exceed these times then it is unlikely that either they or the occupants of the rooms will come to any harm. The numbers of asbestos fibres that the workman and the occupants of the rooms will inhale gives a graphic illustration of how terribly wrong they are.

Even when it was in force, the Action Level applied to specialist asbestos contractors and not to the occupants of buildings and certainly not to children. The parliamentary answer confirms that there is no scientific basis on which to make the claim for children. There is also no scientific basis for the HSE to continue making the claim for adults, as expert medical opinion, past and current risk estimates show that the statement is incorrect. It is unacceptable that outdated levels that were designed for asbestos contractors wearing masks and protective clothing are being applied to children, it is particularly unacceptable when there is no medical or scientific basis on which to make the claims.

This dangerous HSE guidance should be withdrawn immediately.

Action level used as a benchmark for informing after asbestos exposures

Following a prolonged period of asbestos incidents and fibre releases in a primary school, HSE held a meeting in 2004 to discuss the policy of informing staff and the parents of their children's exposure.[13] Their conclusion was unambiguously spelt out in a briefing to the Chairman of the Health and Safety Commission. HSE Asbestos Policy unit stated:

"*HSE guidance is to inform those who may have been significantly exposed to asbestos (eg exposure has exceeded the Action level) to distinguish such cases from those where there may have been relatively minor exposure which could apply to considerable numbers of people because of the widespread use of asbestos in the past.*"[14]

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[8] HSE EH 35 Probable asbestos dust concentrations at construction process
[9] HSE EH 35 Probable asbestos dust concentrations at construction process
[10] Risks with asbestos insulating board. Howie ACADemy Autumn 2001 p11-12
[11] Risks with asbestos insulating board. Howie ACADemy Autumn 2001 p11-12
[12] HSE EH 35 Probable asbestos dust concentrations at construction process
[13] HSE Minutes "The Lees Family Conference meeting2 19 Mar 2005. Letter HSE Head of Nuclear,Hazardous Installations & Chemicals Policy Division, Coldrick/Lees 6 Sep 2004.
[1414] Briefing. HSE Asbestos Policy Nash/ HSC Chairman's Office CO Case CO/62/04 13 Aug 2004

This decision ran contrary to expert medical opinion that had been given at the meeting which stated:

"Even when it is not possible to determine whether an exposure was significant or not, entry in the medical record is recommended."[15]

The Schools Minister at the time, David Miliband MP, supported the HSE's use of the Action level as a benchmark for significant risk and agreed with their policy of only informing staff and parents if their exposure has exceeded the level.[16] This policy has resulted in teachers, support staff and children, who have been unknowingly exposed asbestos, remaining unaware of their exposures. The policy of keeping staff and children's asbestos exposure from both them and their parents is indefensible, as is the use of the Action levels as a benchmark for whether they will be informed or not.

Forty years ago Government warned that children are particularly at risk

The Government were told in 1967 that very low levels of asbestos exposure could cause mesothelioma and that children are particularly vulnerable. They were also told that as knowledge was not complete they must take preventative measures to eliminate the escape of asbestos fibres into the air.[17] This did not happen. Knowledge is still not complete and yet workplace levels are applied to children despite the fact that they are known to be more at risk than adults. However forty years after they were first warned, the Government has still not assessed the particular risk to children. Their underlying reason is not for the safety of the staff and pupils, rather it is for the more pragmatic reason of cost. A confidential Ministerial briefing document obtained under the FOI gave the Department of Education's reasons for not carrying out a risk assessment. In June 1997 the Secretary of State for Education was asked a parliamentary question by Michael Clapham MP:

"*What assessment his Department has made or commissioned of the risk to school teachers and pupils from the crumbling of materials containing asbestos in schools."* [18]

The answer abdicated the Department's responsibility for assessing the risks and instead placed the responsibility on the local authorities and school governors. A confidential background briefing for the Minister stated:

"*A central government initiative to assess the risk to teachers and pupils would not only be inappropriate, given where the statutory duty lies, but would also lead to pressure for centrally funded initiatives to remove all asbestos and for other aspects of building work. That would be extremely expensive, as well as risky and disruptive for the schools concerned."*[19]

"*We do not recommend issuing a Press Notice. Asbestos in schools is an emotive issue. Any press coverage could lead to renewed calls to remove all asbestos, which would be very expensive and could actually increase risks in some cases."*[20]

Over the last twenty five years there have been increasing calls from MPs, health and safety organisations, doctors, solicitors, the combined teaching unions, support staff unions and others for a national audit of asbestos in schools and a risk assessment to be carried out, but neither have

[15] Comments on Lees family and OC265/48 Inadvertent exposure HSE Medical Inspector Hermann Mar 04.
[16] Letter Minister of State for Schools David Miliband 2004/0043423PODM 23 Aug 2004
[17] Letter Dr Lloyd Davies Head Medical Officer Factories Inspectorate Ministry of Labour/Department of Education 6 Mar 1967. 1966 Annual report of HM Chief Inspector of Factories on Industrial Health. Ministry of Labour P60 August 1967
[18] Secretary of State for Education and Employment written reply 4210 Mr Michael Clapham/ 17 June 1997
[19] Secretary of State for Education and Employment written reply 4210 Mr Michael Clapham/ 17 June 1997. Department for Education and Employment Background brief. Presentation
[20] Ministerial Briefing Background Note for reply to Michael Clapham 17 Jun 97

happened. The Government 's advisory committee, WATCH, have been deliberating the risks from low level asbestos exposures since November 2007, but have not been instructed by the Minister or the HSE to examine the particular risks to children, when clearly this should be part of their brief. In addition on 12th October 2009 in a Parliamentary written answer the Government once again refused to undertake a national audit of the extent, type and condition of asbestos in schools.[21] The underlying reasons are no different now from what they were in 1997, only the terminology has changed. For in 2009 the Government have refused requests to assess the scale of the problem and the risks as they are concerned if they did so it would *"Open a Pandora's box.*" As they refuse to assess the scale of the problem or the risks, it is consequently a very easy step for them to even deny that there is a problem.

It is essential that the scale of the asbestos problem in schools is established by carrying out a national audit of the extent, type and condition of asbestos in schools and the standards of management. In addition an assessment must be made of the risks to staff and children from asbestos in schools, with particular emphasis on children. Only then can proportionate resources be allocated to solve the problem.

There is no threshold dose of asbestos below which there is no risk

Dr Rudd is one of the most highly respected mesothelioma experts in the country. At a High Court hearing on 24th July 2009 between Dianne Willmore and Knowsley Metropolitan Borough Council he gave an expert witness statement that stated:

"*Mesothelioma can occur after low level asbestos exposure and there is no threshold dose of asbestos below which there is no risk."* [22]

..."*Significant" is defined in accordance with the definition adopted in relation to mesothelioma causation by the Industrial Injuries Advisory Council in their 1996 report (CM3467) "A level above that commonly found in the air in buildings and the general outdoor environment."*

It would be appropriate for the Court to conclude that each such exposure materially increased the risk that she would develop mesothelioma." [23]

Dianne Willmore had been exposed to asbestos at school as a child and consequently developed mesothelioma, and sadly she died on 15th October 2009, the day after the Appeal Court hearing. Dr Rudd's expert medical evidence was accepted by the Judges and was not disputed by either party at the High Court or the Appeal Court. The same benchmark is also advocated in the HSE Statistics Branch Hodgson and Darnton paper. The paper is generally acknowledged as being the most definitive work on the risks from asbestos exposure, with the risk model being used as a basis for the Regulatory Impact Assessments for the 2002 CAWR and the 2006 CAR and the subsequent Regulations. They state:

"Taking this evidence together we do not believe there is a good case for assuming any threshold for mesothelioma risk."[24]

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[21] Hansard Parliamentary written answers 12 Oct 2009 : Column 234W Schools Asbestos http://www.publications.parliament.uk/cgi-bin/newhtml_hl?DB=semukparl&STEMMER=en&WORDS=289818&ALL=&ANY=&PHRASE=&CATEGORIES=&SIMPLE=&SPEAKER=&COLOUR=red&STYLE=s&ANCHOR=91012w0054.htm_wqn3&URL=/pa/cm200809/cmhansrd/cm091012/text/91012w0054.htm#91012w0054.htm_wqn3

[22] High Court QBD Liverpool District. The Hon Mr Justice Nicol . Dianne Willmore and Knowsley Metropolitan Borough Council 24 July 2009 Para 4

[23] High Court QBD Liverpool District. The Hon Mr Justice Nicol . Dianne Willmore and Knowsley Metropolitan Borough Council 24 July 2009 Para 8, 57b

[24] The Quantitative Risks of Mesothelioma and Lung Cancer in Relation to Asbestos Exposure *Ann. occup. Hyg.*, Vol. 44, No. 8, pp. 565–601, 2000 Hodgson and Darnton Is there a threshold? P593

Expert medical opinion, expert epidemiological opinion, the High Court and the Appeal Court all agree that "*There is no known threshold exposure to asbestos below which there is no risk*." The Industrial Injuries Advisory Council , expert medical opinion, the High Court and the Appeal Court all accept the benchmark airborne asbestos fibre level that will cause a "significant" risk as "*A level above that commonly found in the air in buildings and the general outdoor environment."*

Background airborne asbestos fibre levels

The airborne asbestos fibre levels commonly found in the air in buildings and the general outdoor environment are given in the 1999 DETR document on asbestos materials in buildings where the outdoor background level is between 0.000001f/ml and 0.0001f/ml, with the former generally being accepted as the outdoor rural level and the latter as the outdoor urban level. The same document gives an approximate level of 0.0005f/ml for school buildings where asbestos is in good condition.[25] In flats and housing it gives a long term average exposure in the order of 0.0001f/ml – 0.0005f/ml and states only where it is regularly disturbed are the levels likely to be higher.[26]

0.0005f/ml is therefore the level commonly found in schools, and expert opinion is that exposures to levels above that benchmark pose a "significant" risk of mesothelioma developing.

Airborne asbestos levels in schools frequently far higher than background levels.

To put this into context 0.01f/ml is the Clearance Level which is the level below which a room can be legally occupied following work on asbestos, it is again a level designed for asbestos contractors and not for the occupants of buildings, but by default has generally been adopted as a level at which classrooms can be occupied following an asbestos incident in a school. But it is not a safe level. HSE make this clear by stating:

"*The threshold of less than 0.01 f/ml should be taken only as a transient indication of site cleanliness... and is not an acceptable permanent level."*[27]

The reason being that the level is 20 times greater than the normal background level for a school with asbestos in good condition, and also a person inhales 6000-10,000 fibres an hour at the Clearance level. Asbestos fibre levels in schools have frequently been found to be significantly greater than the Clearance level, let alone the normal background level. Air sampling has shown levels of up to 0.33f/ml of mainly amosite fibres were released when a door was slammed five times in a school, where the asbestos appeared to be in good condition,[28] which is 660 times greater than the background level. 0.44f/ml when walls and columns were hit in a school,[29] which is 880 greater. Removing books from a classroom stationary cupboard produced levels of up to 0.05f/ml on a daily basis for decades,[30] which is 100 times greater, and carefully removing AIB board with shadow vacuuming up to 3 f/ml,[31] which is 6,000 greater. The Action level, 48f/ml hours, is 96,000 times greater than normal background levels in a school with asbestos in good condition.

In the medical profession acknowledged experts consider there is no threshold dose of asbestos below which there is no risk, and in law exposures greater than background levels are considered capable of causing mesothelioma. And yet frequent asbestos incidents occur in schools where airborne asbestos fibre levels many hundreds of times greater than background levels are produced

[25] Asbestos and man-made mineral fibres in buildings DETR Aug 1999 Para 4.3.1 p14
[26] Asbestos and man-made mineral fibres in buildings DETR Aug 1999 Para 4.3.1 p16
[27] HSC CAWR 2006 Work with materials containing asbestos ACOP para 17 p68
[28] ILEA report LSS/AP/52 (1987) Investigation into fibre release from low level asbestos panels - Ernest Bevin school May 1987
[29] HSE FOI request/Lees 2007010226 15 Jan 2007. HSL FT 20080010493 30 Jan 2008 work/data sheets. HSL Summary of fibre concentrations in CLASP construction schools containing asbestos. HSL/2007/22 10 Apr
[30] Strategic Consulting Report: 629-0022 4An assessment of the past exposure and estimation of consequent risks to health of staff that may have arisen from asbestos-containing material in cupboards at Lees Brook Community Sports College,
[31] HSE a comprehensive guide to managing asbestos in premises HSG 227 2004

from common classroom activities at times on a daily basis. However the extent and levels of the occupant's exposure is not measured as staff and pupils do not wear air samplers, in addition most of the exposures pass unnoticed. Most of the exposures would probably not fulfil the 12 week criteria for the Action level, however all are cumulative, however small they maybe, and all contribute towards the likelihood of a tumour developing. Cumulatively the exposures typical of those that frequently occur in thousands of schools throughout the country are capable of causing mesothelioma.

Action level applied to children in schools

The Government's advisory committee on science, WATCH, have been considering the risks to adults from low level exposure and so far they appear to have accepted that the Hodgson and Darnton model works down to 0.1 f/ml years, but some members have been reluctant to endorse its accuracy below that level. That does not mean that they consider that there is no risk below that level, because they acknowledge that there is, rather they are unsure whether the model can accurately quantify the level of risk.

Unfortunately senior members of the HSE have put a different interpretation on the committee's deliberations and have made statements dismissing the risks from low levels of exposure. To compound this in 2008 while the WATCH committee were considering the risks from low level exposure HSE published the OC265/48 guidance that states that exposures below 48 f/ml "W*ould usually have been insufficient to pose a significant long-term risk to health where Action Levels were not exceeded,"*[32] when they were fully aware that this runs contrary to the available evidence.

Because HSE have given 48f/ml as a benchmark for insignificant exposure it has now been used as such, for the Institute of Occupational Medicine, IOM, used it in a risk assessment at Lees Brook School in Derby where prolonged low level amosite exposure of staff and pupils occurred over the course of many years. The cumulative exposures of some pupils were estimated at 47.5 f/ml and for a number of staff their cumulative exposures far exceeded 48f/ml, and yet on the basis of the HSE statement Derby council felt able to state "*IOM concluded that the exposures and predicted risks are low enough that they should not lead to any occurrence of asbestos related illness... The risks are so low that IOM are not recommending that information is placed on individual's health records..."*[33]

The IOM/Derby conclusion on risk runs contrary to expert medical opinion, as does the advice of not entering the exposure on medical records. It is bad advice but was justified by quoting HSE OC265/48 guidance. If the exposure has not been recorded in any of the staff or pupils' medical records, then if in the future one of them develops the early symptoms of mesothelioma, the person will probably not remember this incident, particularly if they were a child, and those symptoms could be missed by the GP. Whereas if the exposure was recorded on the medical record a GP would be alerted to the early signs and remission could be given, and perhaps one day a life could be saved.

French Health and Safety Agency calls for lower Control limit, as present levels unsafe

Over the years the Control limits for work on asbestos have periodically been reduced, which is a tacit acknowledgement that the previous levels were not safe levels. In 1984 HSE guidance emphasised the fact that the limit was not a safe level and the present HSE medical guidance reiterates the warning by stating:

[32] Information document (part 1) - Exposure to Asbestos from work activities: Advice for employers OC 265/48 Version 3 Para 3.1
[33] Derby CC press release 13 Jul 09 Lees Brook school asbestos information.
http://www.derby.gov.uk/PressReleases/LatestInfo/asbestos.htm

"*Exposure to all forms of asbestos should be reduced to the minimum reasonably practicable. …The Control limits* ***do not represent safe levels…"*** [34]

Although the present European wide levels were introduced in 2006, in September 2009 the French Agency for Environmental and Occupational Health and Safety, Afsset, reinforced the fact that the present limit is not a safe level by issuing a report calling for the Control limit to be reduced even further, stating:

"*The occupational exposure limit should "without delay" be reduced from 100 fibres per litre to 10f/l over an average period of eight hours.* (0.1f/ml to 0.01f/ml) *"This would reduce [the health] risk by a factor of 10," said Afsset, insisting that the current exposure limit "which provokes 3.3 extra cases of cancer for every 1000 workers cannot be considered as acceptable... Afsset insisted that given the toxicity of asbestos "only the lowest possible level [of exposure] is acceptable" and called for the French government to "re-evaluate the limit regularly in order to reduce it".*[35]

The Clearance level is not a safe level, neither is the Control limit and the Action level is most certainly not as it is a summation of 480 hours exposure at the present Control limit. Expert medical and epidemiological opinion is that there is no threshold exposure to asbestos below which there is no risk, and yet contrary to all the evidence the Action level is still being used by the regulators, HSE, as a benchmark between a significant and insignificant risk to adults and children in schools.

Environmental level

Despite it being known that workplace control levels are unsafe they have been, and still are, applied to the occupants of rooms, including children. But the fact that they are unsafe is not a new revelation for the Government were advised more than twenty five years ago that workplace levels were unsafe. Consequently evidence was presented to a Parliamentary Select Committee in 1983 that strongly supported the need for environmental asbestos control limits for the occupants of rooms. Because of the increased risks to children the Department for Education advocated that the limits in schools should be 1/80 to 1/100th of workplace control limits, [36] but nothing was done about it. If an environmental limit had been applied to schools then the present Control limit of 0.1f/ml for work on asbestos materials would mean that the environmental limit would be 0.001f/ml, and the level at which a room could be occupied instead of 0.01f/ml would be 0.0001f/ml. If those levels had been introduced by the Government, measured by air sampling and enforced by the regulators twenty five years ago when it was recommended to them, then our schools would have been far safer places. But they were not. As a result the release of asbestos fibres in our schools has continued unabated.

More than forty years ago the Government were advised that children are particularly at risk from asbestos and that preventative measures should be taken in schools. More than twenty five years ago it was recommended that an environmental limit should be introduced, particularly for schools, but despite this workplace limits continue to be applied to the general population, staff in schools and to children. It could be argued that as a direct result of applying unsafe control levels designed for asbestos contractors, to homes and to schools in part explains why the incident of deaths in Great Britain from mesothelioma is the highest in the world. It could also explain why the lifetime risk to both men and women, who are not aware where or when they were exposed to asbestos, is four times greater in this country than elsewhere in the world. The increasing deaths of teachers,

[34] HSE MS13 Asbestos Medical guidance note 4th edition 2005. HSE EH10 revised 1984 Asbestos control limits measurements of airborne dust concentrations and assessment of control measures. Para 9
[35] French Agency urges immediate lowering of asbestos occupational exposure limits Chemical watch 22 Sep 2009
[36] DfEE Mr Griffin AM on asbestos AB 20/17/02 D 2 Jun 1983

support staff and former pupils from mesothelioma provide graphic evidence to support the argument.

Recommendations

Workplace control levels should not be applied to the occupants of schools.

An environmental limit, especially for schools, is long overdue and should be set in law without further delay.

HSE guidance Exposure to Asbestos from Work Activities OC265/48 version 3 should be removed from the HSE web-site and publications list and amended. The present table of work activities should be deleted, as should reference to 48f/ml being normally insufficient to pose a significant long-term risk.

A national audit of the extent, type and condition of asbestos in schools and the standards of asbestos management should be carried out.

An assessment of the risks to the occupants of schools, and particularly to children, is also long overdue and should be carried out without further delay.

Michael Lees
22nd October 2009