

Written evidence from the Joint Union Asbestos Committee (ASB0044)

ASBESTOS REGULATIONS AND BUILDING OCCUPATION:

MINIMISATION OF ASBESTOS EXPOSURE AND TRIGGER LEVELS

The evidence presented to the Works and Pensions Committee, in response to the Call for evidence on the Health and Safety Executive's approach to asbestos management, suggests that there has actually been little research into the risk of developing mesothelioma from asbestos exposure in CLASP-type buildings with substantial inaccessible asbestos throughout.

For that reason, I am submitting some more evidence from the recent JUAC investigation of asbestos management in 60 CLASP schools. This document outlines *how* ineffective funding and the asbestos regulations have failed to *minimise* asbestos exposure – as intended by the HSE - in these buildings. It also considers the HSE evidence regarding *trigger asbestos levels, simulated asbestos disturbance and normal asbestos exposure* in CLASP buildings and calls for urgent government action to prevent future asbestos exposure in these asbestos riddled buildings.

This document outlines:

1. *Minimisation* of occupant asbestos exposure in CLASP buildings PAGE 1

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- b. Building deterioration and cost of asbestos removal
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2. What is the risk of developing mesothelioma? PAGE 4

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1. MINIMISATION OF ASBESTOS EXPOSURE IN CLASP BUILDINGS

The asbestos regulations stipulate that asbestos exposure should be *as low as reasonably practicable* (see also KB response to Q80). However, for many Duty Holders the cost of minimising asbestos exposure is an avoidable cost because the condition '*as far as reasonably practicable*' takes into account the cost of minimising exposure and there is no specific threshold that limits long term exposure to any specified asbestos level below the Clearance level in buildings. See also Section 2A AND 2C.

For example, in practice, staff and pupils are usually required to reoccupy buildings when the level is just below the Clearance level of 0.01f/ml; 10,000f/m³ despite the fact that Regulation 17 Approved Code of Practice 21 regarding Clearance levels in buildings after work involving asbestos states:

"The threshold of less than 0.01 f/ml [10,000f/m³] should be taken only as a transient indication of site cleanliness ... and it is not an acceptable permanent level."

There are many competing demands on the school budget and there is no earmarked funding for the additional costs arising from asbestos management, maintenance and renovation work in buildings with substantial asbestos. The JUAC CLASP school survey in 2017 found that 69% of CLASP school Duty Holders in England indicated they had received no funding for maintenance, renovation and demolition.

Findings from the recent JUAC investigation of asbestos management in 60 CLASP schools suggest that attempts by Duty Holders to cut asbestos management costs are likely to increase asbestos exposure. These findings were based on the school asbestos surveys, asbestos management plans and asbestos registers provided, in response to Freedom of Information requests, by each school Duty Holder. See JUAC report 2021 and summary in box below.

BOX1: SUMMARY OF ASBESTOS MANAGEMENT FINDINGS*

The available evidence provided by the 60 CLASP school Duty Holders indicated that:

- Only 37 of the 60 CLASP schools had an up-to-date survey
- Only 29 of the 60 CLASP schools had a UKAS accredited survey
- Only 17 of the 60 CLASP schools had identified all asbestos locations
- Just 3 schools out of 60 CLASP schools provided evidence that the Risk/Priority ratings took account, as required, of the actual level of disturbance caused by everyday school activities in the different locations.
- 42 of the 60 CLASP schools had carried out a risk assessment for each asbestos location
- Only 22 of the 60 CLASP schools had asbestos training arrangements for staff and ensure all staff knew the location and risk from asbestos in their work areas.
- Only 22 of the 60 CLASP schools provided evidence for remediation of columns and ceiling tiles according to the HSE 2008 Guidance.

The apparently widespread Duty Holder failure to comply effectively with the asbestos management regulations potentially places the occupants of these asbestos riddled schools at risk. See Figures 4a & 4B on pages 24/25 JUAC Report 2021.

* JUAC 2021 Report. *Continuing Government failure leads to rise in school mesothelioma deaths: Are pupils and staff any safer today?*

The potential impact of inadequate funding on Duty Holder compliance with the asbestos regulations is outlined in Sections a, b and c below.

a. Impact of funding on asbestos management

Survey remit restrictions: The CLASP school FOI investigation of 60 CLASP schools [JUAC Report 2021] suggests that many of the school Duty Holders often restricted the survey remit – presumably in order to cut survey costs. Inadequate training may also be a contributing factor. Thus, only 17 of the 60 schools had identified all asbestos locations. Survey restrictions included the omission of areas above a certain height, omission of some school locations and a failure to presume asbestos (unless there was firm evidence to the contrary) in all inaccessible locations from the survey.

In addition, 11 of the 60 schools commissioned a **Reinspection Survey**. This is a survey which omits all areas that were previously thought not to include asbestos. It cuts the survey cost but if a previous survey did not identify all asbestos, then the overlooked asbestos would also not be included in the Reinspection survey. This was likely to be a problem if the

first survey was carried out over a decade earlier when standards were less stringent or the previous survey for various reasons had not identified all asbestos locations.

It was noted that over half of all surveys were not UKAS accredited and **the level of compliance with all the survey criteria used to evaluate the surveys varied from 25% to 100%; Average 63%**. See JUAC Report 2021 Table 5 page 23. This is a shocking finding as **any asbestos location not identified potentially places occupants and contractors at risk**. The need for more effective guidance regarding surveys and 'reach by the regulator to ensure good asbestos management and asbestos removal' was outlined by KB in response to Q66 and 67.

The failure of 38 of the 60 Duty Holders to provide evidence of staff asbestos awareness training and information to staff about asbestos location and risk in work areas contravenes the asbestos regulations but is unlikely to result in HSE enforcement as the HSE, in practice, presumes all school asbestos levels below the Clearance level during normal occupation are safe. See JUAC Report 2021 Table 4B p. 22.

This Duty Holder failure may explain why 90% of the 60 CLASP schools investigated still had accessible asbestos in pupil occupied areas throughout. See JUAC Report 2021 Table 7 page 28. It also probably explains why 9 out of 60 schools still had easily accessible asbestos in low level classroom walls where the risk of disturbance by classroom activities is likely to be high according to the HSE model guidance for schools.

b. Building deterioration and cost of asbestos removal

The JUAC CLASP school report in 2017 estimated that, at the current rate of demolition, CLASP schools would still be in use in the 2050s. Five years later following further funding cuts, it now appears that they will still be in use at the end of this century. Yet CLASP-type school buildings are already at or have passed their expected lifespan and the available evidence, suggests that their condition is deteriorating and the risk of developing mesothelioma is increasing. See JUAC submission 29th November 2021 of *Evidence Further to Hearing 17th December 2021 page 2 Are children safer today?*

There are over 6,000 CLASP-type school system buildings in England alone, according to the Duty Holder responses to the HSE questionnaire in 2009, so the issue of building demolition and replacement* plus safe asbestos disposal is a major environmental issue for Government. A Brent CLASP school of moderate size had 5 tonnes of friable amosite and most of that was inaccessible and integrated into the structure. Nottinghamshire County Council has estimated that it is more cost effective to demolish and replace CLASP-type buildings because of the high cost and difficulty removing the substantial asbestos integrated into the structure itself according to: *Issues of Using CLASP to transform learning – Nottinghamshire County Council. 2008.*

Despite the high number of deteriorating CLASP buildings there appears to be no Government plan regarding their disposal. Currently, the failure of Government to urgently fund proactive methods for safe asbestos disposal has led to fly tipping and unsafe asbestos exposure in some local areas. KB outlined how safe disposal of asbestos was a postcode lottery in his response to Q74.

Land fill asbestos disposal simply removes the risk to another area. The deactivation of asbestos is clearly necessary for any safe asbestos disposal and so the Government needs to be more proactive like other European countries and promote /fund the necessary research and investment in order to safeguard the current and future generations from asbestos exposure from land fill, fly-tipping and ageing, unsafe asbestos riddled buildings.

See also HSE response to DWP Call for evidence Q8 *and the overview in Bureau KLB, June 18, 2018 Practicable sustainable options for asbestos waste treatment at:*

<https://www.asbeter.com/documents/KLB%20assessment-of-asbestos-waste-treatment->

[techniques.pdf](#)). This project was commissioned by the Dutch Government and aimed to establish the state of the development of techniques that make it possible to treat asbestos containing waste and to reuse the remaining product, instead of sending it to landfill sites.

c. Who pays the cost of mesothelioma prevention?

Hitherto the cost of developing mesothelioma has largely fallen on the victim according to the HSE. See HSE RR1074. Costs to Britain of work-related cancer. However, any building replacement and demolition costs would be borne mainly by the Government and Duty Holder.

Historically, as outlined in the JUAC Report 2021 and the JUAC submission to the WPC in 2021 (Q 7) the available evidence suggests that Government / Duty Holder pressure may have reduced the stringency and effectiveness of current risk assessments as well as the effectiveness of column and ceiling void remediation in CLASP-type schools. See response to WPC on the Health and Safety Executive's approach to asbestos management Call for evidence Q7.

It appears that the government has therefore, effectively prioritised asbestos management cost reductions over the prevention of thousands of unnecessary pupil mesothelioma deaths.

2. WHAT IS THE RISK OF DEVELOPING MESOTHELIOMA?

The asbestos regulations do not provide a measure of the *risk* of building occupants developing mesothelioma in future.

a. What is the mesothelioma risk in CLASP school buildings?

The current *risk assessment* for accessible asbestos has been used to justify keeping millions of children in CLASP-type schools today with substantial inaccessible asbestos throughout. Yet, these *risk assessments* are unable to measure the *risk* from exposure to disturbed inaccessible asbestos that can pass via gaps in columns and missing/damaged ceiling tiles into occupied areas.

The HSL research shows average asbestos levels in unremediated buildings (in the absence of work) were, on average, at about the Control level in enclosures and that the remediation guidance does not always apparently reduce asbestos levels from columns in enclosures to asbestos levels found in buildings with asbestos in a good condition. The level of asbestos from columns in enclosure is higher than in classrooms because it is not able to dissipate around the room. However, that is likely to be counterbalanced by the failure to include asbestos from other sources within the classroom.

JUAC has estimated that the risk of staff in CLASP school building developing mesothelioma after 30 years exposure is Medium to High. Children are more likely to develop mesothelioma after exposure and their risk is likely to be High. See response to WPC on the Health and Safety Executive's approach to asbestos management Call for evidence Q2 Sections A and B.

b. What is the mesothelioma risk during building demolition?

Arguments used by JP (15th December 2021) against asbestos removal were based on 1980s research that indicated that asbestos exposure levels afterwards were often high. Since then, asbestos removal techniques have become far more stringent and according to the response of KB to Q73 the main issues now include other factors which influence the level of compliance. For example, market forces and the local authority asbestos disposal facilities.

Clearly adequate compliance requires adequate expenditure and independent oversight in order to lower the risk to the contractor working with the asbestos and the people in the local

environment who may be exposed to asbestos during fly tipping and non-compliant asbestos management. See Response of DG to WPC on the Health and Safety Executive's approach to asbestos management oral hearing Q83 and 84.

On the positive side, if a CLASP-type school is demolished and replaced, then there would be no future risk to occupants of the new asbestos-free building. There would also be no need for asbestos contractors in that building. The CLASP school occupants would be rehoused during demolition and construction of the new building.

Any measure of the risk to asbestos contractors and to people in the local environment should therefore be counterbalanced by the potential risk to the high number of occupants who would have to remain in the unsafe building for many years to come.

Parents would be shocked to realise that the evident risk of developing mesothelioma due to school asbestos exposure has been ignored by the Government and Duty Holders.

Thus, while asbestos contractors lead the HSE Proportional Mortality Ratio Tables, the mesothelioma deaths of pupils who were exposed to asbestos in their former schools are invisible and ignored. Yet, according to the estimates in the JUAC report, based on research in the United States, about 20% of mesothelioma deaths each year are due to asbestos exposure of pupils in their former schools and according to GB research up to 12% of mesothelioma deaths. JUAC has also estimated that 1,000 staff have died from mesothelioma between 1980-2017 because they were exposed to asbestos in their former schools prior to 1980. See JUAC report 2021 pages 8-11; JUAC response to DWP Call for evidence Q1, Q8.

This suggests that 30-50 years ago the number of children developing mesothelioma due to asbestos exposure in their former schools was higher than the number of many of the asbestos contractors working with asbestos at that time. We also now know that the PMR of teachers between 2011-2019 is significantly higher than the average for all occupations and that the trend is increasing. See JUAC response to WPC on the Health and Safety Executive's approach to asbestos management Call for evidence Q1 paragraph C.

It is likely that these schools are still being used. Unfortunately, their occupants may have a higher risk today because the Government has failed to require the development of a measure of the risk in the most dangerous school buildings with substantial inaccessible amosite asbestos throughout - the CLASP-type buildings

The crucial question is: *What is the risk in CLASP-type schools today?*

c. Trigger levels for asbestos removal from CLASP buildings?

In France, Germany and the Netherlands according to responses made, they remove asbestos from buildings with levels higher than 0.005f/ml, 0.01f/ml and 0.002f/ml respectively. Germany is currently negotiating to reduce their trigger level to 0.001f/ml. France has a national environmental limit for asbestos (in buildings in the absence of work) set out in the public health code from the Ministry of Health. See HSE response to the WPC Call for Evidence Q3.

Effectively these Governments appear to recognise the current risk from long-term, low-level exposure and are carrying out the phased removal of asbestos commencing with the most dangerous first. There is a precautionary presumption that if asbestos levels are above the trigger level the asbestos should be removed. This procedure appears to be in line with WHO advice. See JUAC response to WPC on the Health and Safety Executive's approach to asbestos management Q3 Section C.

The HSE maintains that monitoring for asbestos fibres in air is a lagging indicator – something has failed leading to exposure before action is taken. It argues GB has a more proactive ongoing response. **However, while the HSE argues that visible inspection of accessible asbestos is proactive**, the failure of the Government to require Environmental asbestos regulations for buildings means that the risk from inaccessible asbestos is not known and so occupants are potentially exposed unknowingly to very high asbestos levels. See JUAC response to WPC call for evidence Q6 Section A. **Clearly the management of asbestos in CLASP-type schools with substantial inaccessible asbestos is not proactive.**

If CLASP-type schools were located in France, Germany and the Netherlands, presumably many may have already been demolished and replaced.

The HSE recommends that where damage is suspected, no simulated disturbance should take place. Yet Duty Holders of system buildings have no means of knowing whether inaccessible asbestos is damaged and occupants are potentially disturbing damaged inaccessible asbestos every school day.

The HSL investigation of asbestos levels in 20 CLASP schools in 2007 was able to measure asbestos levels down to 0.001f/ml during normal occupation. So, the UK Government could also decide on procedures and methods that effectively inform a GB asbestos removal trigger level appropriate for CLASP-type school buildings

The next section outlines the evidence which suggests that the measure of asbestos levels during everyday school activities could form the basis of a suitable cumulative asbestos exposure in CLASP-type buildings.

d. Asbestos level measurement in CLASP schools today

Various methods may be used to detect asbestos exposure in schools today. They include measurement of airborne asbestos levels, swabbing of surfaces, the wearing of passive air samplers and more recent measures of asbestos using new technologies.

Asbestos lung burdens are not included in the above list because they do not enable Duty Holders to identify the individual schools where asbestos exposure is deemed to be unsafe. They clearly have value for epidemiology but not for proactive asbestos management at the individual school level. Meaningful extrapolation from the findings for 18 asbestos lung burdens in young people attending London hospitals to the 9 million pupils in 24,000 schools in England today is clearly not a feasible way of identifying the current risk in individual schools.

A key problem is that the Government has not required the development of Environmental Asbestos regulations that govern the risk from long term exposure in buildings with substantial asbestos throughout such as CLASP-type schools. See JUAC response to WPC on the Health and Safety Executive's approach to asbestos management Call for evidence Q3 and Q6 section A.

Asbestos measurements during everyday activities: The HSE has outlined research which shows that disturbed airborne asbestos fibres decrease by 50% after 10 minutes and by 90% after 60 minutes. They conclude that *'Consequently, there is little value in undertaking ambient air monitoring in buildings, unless it is combined with appropriate simulated dust disturbance activities.'* See HSE response to WPC on the Health and Safety Executive's approach to asbestos management Call for evidence Q3.

The HSL findings (See HSL/2007/22) on asbestos levels in remediated CLASP buildings suggest that normal school activities are actually continually disturbing asbestos. This is because they found asbestos levels were much higher during normal school activities than during minimal activities in the area. However, it is not known about the potential number of non-asbestos fibres like paper during normal occupation measurements and whether they were more or less likely to remain airborne than the asbestos fibres.

Simulation of everyday column disturbance in enclosures would prevent contamination by fibres other than asbestos but be higher than the actual level in a classroom because the asbestos could not disperse. On the other hand, those measurements would not include the potential contribution by other sources of asbestos exposure. See JUAC report 2021 Table 8 p.36. Consultation with staff / unions on typical class room disturbance would be crucial.

The evidence outlined above (see HSL 2007 22) suggest that, if asbestos and other fibre sources behave similarly during normal classroom disturbance then it may be possible to measure airborne asbestos levels during the normal school day. However, if not the potential level of exposure could be measured during simulated asbestos disturbance within enclosures.

Cost of measuring risk from inaccessible asbestos: The measurement of asbestos fibres in all parts of over 6,000 CLASP-type schools would be costly for Duty Holders and schools. Have cheaper preliminary options been considered to ascertain if inaccessible asbestos was passing into occupied areas and settling on exposed surfaces?

For example: Could passive air monitors or the swabbing of surfaces for asbestos fibres - in consultation with an asbestos consultant help identify those CLASP schools / school areas where further action like airborne asbestos monitoring was required? This would need to be carried out in consultation with asbestos contractors, Duty Holders, staff and their unions regarding the potential disturbance in each area during everyday activities.

SUMMARY

1. The recent JUAC investigation of 60 CLASP schools found a widespread failure to comply with the asbestos regulations and minimise asbestos exposure. The evidence suggested inadequate government funding had led to Duty Holders cutting asbestos management costs. This meant unsafe asbestos was not being identified and asbestos exposure was not minimised. Evidence also indicated that pressure had been exerted on the regulator for less effective risk assessments and CLASP school remediation methods. This pressure has ensured that asbestos removal and associated costs were minimised and the main cost of mesothelioma fell on the victim.
2. The asbestos regulations do not provide a measure of the risk of building occupants developing mesothelioma in future and the HSE remit does not include environmental exposure in buildings.
3. JUAC has estimated using HSL 2007 data that the risk of teachers developing mesothelioma in CLASP schools ranges from an average of Medium in remediated schools to High in unremediated schools.
4. The HSL 2007 findings indicate that asbestos can be measured down to 0.001f/ml and that asbestos appears to be continually disturbed during normal CLASP school occupation, presumably because of the high level of activity in crowded classrooms. This suggests that the Government could require a 'trigger level' to inform decisions about unsafe asbestos removal and asbestos riddled building replacement in CLASP-type buildings. Some of the pros and cons of tests that simulate everyday activity and tests during normal occupation were considered.
5. Asbestos exposure needs to be tested in all areas of all CLASP schools. Airborne asbestos tests are expensive. Asbestos swabbing and passive samplers may be helpful in sorting out - with asbestos contractor support and Government guidance and regulations* - which schools do have an asbestos exposure problem and need to carry out airborne asbestos.
6. *The Government, as a matter of urgency, needs to develop:
 - a. Environmental asbestos management regulations and guidance for Duty Holders and occupiers (children and adults) of buildings with substantial asbestos throughout
 - b. A long-term strategy for the funding of unsafe asbestos removal and the demolition and replacement of CLASP-type buildings that cannot be made safe.
7. Further Government inaction would be a death sentence for future occupants, particularly children.

APPENDIX: HOW IS ASBESTOS DISTURBED BY EVERYDAY SCHOOL ACTIVITIES?

Everyday disturbance of inaccessible amosite asbestos in CLASP schools may be caused by forceful closing /opening of windows and doors, knocks to columns, door/window surrounds and wall panels, vandalism, boisterous behaviour, vibrations due to school activities, as well as direct, forceful contact and scuffing of wall panels and the lifting/disturbance of ceiling tiles by pupils/staff. See JUAC report 2021 pages 35-39

The high number of children and staff in a typical classroom or corridor also inevitably means that children are regularly scuffing, knocking and scraping walls with furniture, shoes, bags and clothes. Lack of supervision e.g., between lessons/wet play can lead to boisterous behaviour that directly damages and disturbs ceiling tiles (e.g., hiding bags in ceiling voids, throwing balls, poking tiles with umbrellas) and wall panels (kicks, fights, throwing furniture).

The HSE model guidance on risk assessment for schools indicates that the likelihood of classroom disturbance by normal school activities is high. See HSE guidance in the next section.

During disturbance clouds of invisible inaccessible asbestos and directly disturbed accessible asbestos can potentially pass into occupied areas and 'rain down' on occupants throughout the day. Classrooms are *high activity / pupil-dense* areas in which moving children, furniture, convection currents potentially spread the asbestos fibres further away from the source as well as disturb and make airborne again some of the asbestos fibres on the ground.

In primary schools, children sit on low level chairs / carpets and as such they may be more likely to disturb and be exposed to any settled asbestos fibres at ground level. Cleaners may also have increased exposure if they disturb settled asbestos fibres so they become airborne again. Only a few of the 60 CLASP schools investigated by JUAC provided evidence for asbestos management plans that included specific guidance for cleaners.

HSE guidance on classroom disturbance

The HSE guidance regarding model risk assessments states the likelihood of classroom asbestos disturbance is high. See HSG 227 pages 55-59 and extract in box below.

Thus, in the HSE model priority assessment p.57 for asbestos insulation board AIB on the walls of a primary school classroom the HSE noted that occupant activity for a classroom would be high because there would be:

'High levels of disturbance, children running in and out of classroom, knocking wall panels, wall displays.'

The HSE described accessibility as: *'routinely disturbed – easily accessible to young children'* and so in a standard sized classroom with 57m² of asbestos panels the likelihood of asbestos disturbance would be high. They therefore worked out that the Priority Assessment was 10. The material assessment for the accessible AIB was 7 and they calculated that the Risk assessment was 7 + 10 = 17. They recommended immediate action because of the *"high risk of the AIB being disturbed"*.

The HSE stated that:

"The likelihood of pupils disturbing ACMs during unsupervised or unruly activities needs to be considered as part of the school assessment and management arrangements. Preventing such disturbance involves ensuring that any exposed ACMs are identified and protected or removed. Where asbestos is properly managed everyday activities like slamming doors and unruly behaviour should not lead to release of asbestos fibres"