

Meeting date: 1 Feb 2006

Open Govt. Status: Fully Open

Type of paper: For debate

Paper File Ref:

Exemptions:

WATCH COMMITTEE

Assessment of potential exposure of teachers and others from the use of drawing pins on asbestos (amosite) insulating board in a school classroom setting

Issue

1. A position on the most reliable estimate of the potential exposure of teachers and others from the use of drawing pins on asbestos insulating board in a school classroom setting.

Timing Considerations

2. No particular timing issues; the scheduling of this WATCH item follows the most recent exchanges in a long line of correspondence (see below).

Recommendation

3. WATCH is invited to consider the issues noted in this cover paper and the annexes and to respond to the actions in paragraph 16.

Background and Argument

4. Asbestos insulation board (AIB) was widely used in the UK until about 1980. It generally contains 25-40% by weight of the amphibole form of asbestos, amosite ("brown" asbestos). A major use of AIB was to provide a strong, non-combustible wall board for use in buildings such as schools, hospitals and offices.

5. HSE was contacted by Mr Michael Lees in 2001 following the death of his wife from mesothelioma. She was a school teacher and he was concerned that her death resulted from exposure to asbestos fibres from asbestos insulating board in classroom walls while putting in and pulling out drawing pins. HSE did not at that time undertake tests to assess possible exposures, but explained to Mr Lees that he could arrange for an occupational hygienist to do so.

6. HSE was then contacted in 2003 by Robin Howie with the results of research undertaken at the request of Mr Lees (see Annex 1) using a version of the micro vacuuming technique described in ASTM standard 5755-95, ASTM (1995).

7. Following receipt of Robin Howie's report, HSE (Mark Piney, HSE occupational hygienist) arranged for HSL to develop and apply tests mainly focussed on the use of drawing pins in AIB. The initial tests used Robin Howie's vacuuming technique but later tests were designed to measure only

the airborne respirable asbestos fibre released without further disturbance of the debris. The tests were done on widely and closely spaced holes and the results and the results are set out in the HSL report MF2004/02 (Annex 2).

8. The results of the fibre levels released by the various sampling methods were used by Mark Piney to calculate the likely level of exposure based on the number of fibres released as set out in his report at Annex 3. In summary he concluded that inserting drawing pins into asbestos insulating board (AIB) and withdrawing them does not lead to a high level of exposure in the classroom. Although he estimated this activity gave airborne respirable fibre release between 0.00000632 f/ml and 0.00000316 f/ml when evenly dispersed in the classroom for a short period, these levels are extremely low (ie between 0.5% and 60% of the normal background level of airborne asbestos in the UK generally). Such exposure would only occur during the actual activity itself and an estimate of the contribution that these additional fibres would make to overall exposure concluded that, in a typical day, they would at worst increase exposure by 0.006% and 0.44% of the normal daily dose of people in the UK. This position was set out in a letter from HSE's Bill Macdonald, then Head of Asbestos Policy, to Michael Lees, Annex 4).

9. Robin Howie was critical of the methods used, the results obtained and the conclusions drawn, as set out in his letter at Annex 5. The main issues of contention were:

- The contribution from any non-respirable debris produced from the pin holes;
- The effects of using a small 1 mm dia. orifice vacuuming method;
- The differences between different sampling methods.

10. In an attempt to resolve the situation, HSL advised HSE that it would be better to first conduct a simulation of the "drawing pins" scenario using the 9m³ HSL test cabin, with conventional personal sampling carried out in the way any asbestos sampling would normally be conducted. Some additional disturbance of the debris produced was also measured to see if this made a significant contribution to the airborne fibre levels. A short summary of the results was circulated to Robin Howie in October 2004 and a final report was produced in June 2005 (Annex 6).

11. Robin Howie's comments on this HSL work are at Annex 7. The HSL report and covering letter at Annex 6 also resulted in criticism from Michael Lees towards Garry Burdett of HSE's HSL, and further exchanges between Mr Howie and Mr Burdett. These are at Annex 8 and include Mr Lees' letter to the Chair of HSE. Mr Lees' complaint has raised a number of issues but the main ones concerning the quality of the science were:

- (i) HSE/HSL drawing pin tests are flawed to the extent that they give dangerously misleading impression of the level of asbestos fibres released into the classroom.
- (ii) The series of tests have been designed and the parameters set in a way that guarantees an unrealistically low measure of the fibre levels within the classroom.

- (iii) HSL is intentionally attempting to mislead and cover up the discrepancies between its first and second reports.

12. This issue has become highly contentious between the various parties involved. It has been agreed that the issue should be submitted to WATCH for an expert advisory committee opinion. Robin Howie has been invited to the WATCH meeting.

Link to HSC Strategy

13. The issue is associated with HSE's statutory responsibilities.

Consultation

14. There has been no external consultation on this package.

European Context

15. None.

Action

16. WATCH is invited to consider this paper and its annexes and to:

- (i) express its opinion on the most reliable assessment of the potential exposure to asbestos from the use in a school classroom setting of drawing pins on asbestos insulation board; and
- (ii) comment on the adequacy and fitness for purpose of the scientific work carried out by HSL in this context

Contact:

Nicola Gregg
WATCH Secretariat

References / Attachments

Annex no.	Document	Date
1a	Letter from R Howie to M Lees reporting results of Howie test results on respirable airborne fibres released from asbestos insulation board by the insertion and removal of drawing pins.	07.04.03
1b	R Howie information to BOHS conference on use of Higgins Cyclones for sampling airborne asbestos fibres.	1998
2a	Memo M Piney (HSE, HSE Occ Hygienist, Wales & SW) to G Revell (HSL). Request for further work: to assess, by quantitative and other means, the degree of respirable airborne asbestos fibre release and the damage caused when AIB is punctured by drawing pins (and drilled).	06.01.04
2b	Tests to determine release of respirable asbestos fibres from asbestos insulating board due to drawing-pin damage, by G Revell. MF2004/02	August 04
3	Report by M Piney: Potential exposures to teachers and others from the use of drawing pins on asbestos insulating board (AIB).	20.08.04
4	W Macdonald (Head of Asbestos Policy) to M Lees reporting the conclusions of HSL and M Piney reports.	23.08.04
5	Letter from R Howie to W Macdonald commenting on HSL and HSE reports (Annexes 2b & 3 above)	31.08.04
6a	Letter from G Burdett to R Howie covering a copy of report IF2005/06.	Undated
6b	Further HSL report by G Revell and G Burdett: Concentration of airborne respirable fibres released from asbestos insulation board by drawing pin damage. IF2005/06.	Formally publish June 05
7a	Letter from R Howie to G Revell commenting on the further HSL report IF2005/06 (Annex 6b).	25.10.04
7b	Letter from R Howie to W Macdonald commenting on the further HSL report IF2005/06 (Annex 6b).	03.11.04
7c	Letter from R Howie to G Burdett commenting on HSL report IF2005/06 (Annex 6b).	09.08.05
8a	Letter from G Burdett to M Lees responding to comments on the HSL report IF2005/06.	02.08.05
8b	Second letter from G Burdett to M Lees responding to comments on the HSL report IF2005/06.	22.9.05
8c	Reply from G Burdett to R Howie reiterating HSL conclusions.	16.08.05
8d	Reply from R Howie to G Burdett	14.10.05
8e	Reply from G Burdett to R Howie	20.12.05
8f	Michael Lees letter to the Chairman of the HSC and to HSE's DG, covering one to Garry Burdett of 18 October.	20.10.05