ASBESTOS IN[illegible]RNATIONAL ASSOCIATION
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PLAINTIFF'S EXHIBIT
UC-4087

MEMORANDUM

TO: MAP
CAP
Executive Committee
Dr. B.T. Commins
Mr. F. Baunach

FROM: Director General

OUR REF.: AIA/4/4/PR

18 February 1985

"STATEMENTS AND COMMENTS"

Dr. Kevin Browne has forwarded his observations on, and additions to, the nine "Statements and Comments" and has incorporated the views of doctors in the UK asbestos industry.

You will recall that Dr. Korsgaard has agreed to speak on Statements Nos. 2, 3 and 4, and Dr. Raffaelli has been asked to do so on Nos. 1, 8 and 9. Both doctors may find some of these latest views helpful.

Please find attached:

(a) The "Statements and Comments"

(b) Dr. Kevin Browne's views (the numbers in his paper refer to the numbers on the "Statements").

Sir Neville Stack

Enc. 2

A01242

RECEIVED
FEB 26 1985
H. C. LEWINSOHN, M.D

AIA/4/4/PR
7 February 1985

SOME STATEMENTS AND COMMENTS ON THOSE STATEMENTS

1. * STATEMENT "One fibre can kill"

COMMENT

(a) There is evidence to show that asbestos-associated diseases are dose-related. The dose is always much greater than 1 single fibre, even with the lowest documented exposure levels. There is no evidence that one fibre can kill a human being. It has been shown that the body defence mechanism is such that it can handle a single fibre or other invasive body without difficulty.

(b) This is the same logic as saying that smoking one cigarette can kill.

(c) If one fibre kills we should all be dead since asbestos, a naturally occurring mineral, is everywhere and we have been inhaling its fibres since birth.

2. STATEMENT "Only asbestos fibre causes mesothelioma "

COMMENT This is untrue; a proportion of mesothelioma cases have no known cause and in the remainder other types of fibre besides asbestos may also cause this malignancy.

3. STATEMENT "All fibre sizes are equally dangerous"

COMMENT All evidence indicates that the fibre must be greater than 8μ in length - fibres less than this can be cleared by the lung mechanism. Fibres with diameter greater than 3μ do not normally reach the depths of the lung where damage may result.

4. STATEMENT "Asbestos inhalation causes lung cancer "

COMMENT Asbestos may be regarded as a promoter of lung malignancy in the presence of an initiator such as (cigarette) smoking. Inhalation of asbestos has been associated with the development of lung cancer in exposed persons after a period of exposure of many years, and the risk has been found to be greatly increased in cigarette smokers.

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Cancer-causing substances are now divided into Initiators and Promoters (e.g. Asbestos). Promoters do not cause cancer in their own right.

5.		STATEMENT	"Asbestos ingestion causes cancer"
		COMMENT	This is now generally accepted to be untrue as has been shown by animal experiments and epidemiological studies.
6.		STATEMENT	"Children have developed mesothelioma from asbestos exposure"
		COMMENT	There are no documented cases of childhood mesothelioma where definite exposure to asbestos has been shown.
7.		STATEMENT	"Working in asbestos factories causes thousands of cancer deaths in the UK (and USA etc.)"
		COMMENT	Reliable statisticians have estimated that 4% of the total cancer cases are caused occupationally. Asbestos forms a part of this 4%.
8.	*	STATEMENT	"The general population is at risk from asbestos"
		COMMENT	Most authorities agree that the levels experienced by the general population are 1,000 times smaller than those at the workplace which are themselves considered safe.
9.	*	STATEMENT	"There is no threshold level for asbestos-related diseases"
		COMMENT	(As the comment to this statement is somewhat complicated, MAP members were asked at their meeting in September 1984 to let the Director-General have their comments.)

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* These are considered by CAP to be the important Statements from the point of view of the general public

A01244

There have been many replies already to the "Statements and Comments". I will try not to duplicate these but merely to add points which I think need emphasis. I will also in the process incorporate the views of the UK asbestos industry medical advisers' group.

1. Many studies, of which the one from Norway (Mowe, Gylseth et al Skand J Work Environ Health 1984 p293) is the latest, have shown that lungs of people not occupationally exposed to asbestos invariably have many hundreds of thousands, if not millions, of asbestos fibres in their lungs, some of which will have originated from natural sources, ie. rock and soil. The lowest found by Mowe was about 20-30 millions (100,000 per gram of dried lung). The lung has a clearance mechanism for dealing with all dusts, including fibrous dusts, and it appears that only when this is overwhelmed can harm arise.

2. The most recent and most comprehensive review of other agents which may cause mesothelioma is by Peterson, Grumberg et al, Cancer Sept 1984 p951.

3. As early as 1944 it was shown that asbestos fibres averaging 15 μ long introduced into rabbits' lungs produced fibrosis, while fibres averaging 2.5 μ long did not. The extensive work of Pott and Stanton provided detailed evidence for implantation experiments, and inhalation of short and long fibres in baboons (Webster) and rats (Davis) have shown that fibres in the 2-3 μ range do not produce interstitial fibrosis, while fibres $>10\,\mu$ long produce typical asbestosis. These findings are in complete accord with what is known about the size of the macrophage and its role in the lung clearance mechanism.

4. While it is true that asbestos is a promoter, and not a complete carcinogen, I think that care should be exercised over turning this into an argument in defence of asbestos. If a person exposed to asbestos develops a malignancy which would not otherwise have occurred, it does not matter to him whether in doing so asbestos was acting as an initiator or merely a promoter.

   The important point to be brought out in this question is that asbestos only increases the risk of lung cancer at exposure levels sufficient to produce asbestosis. We know this from a number of mortality studies now (a list could be drawn up if needed of studies of low exposure where lung cancer risk has not been increased). This is almost certainly because the lung cancer is caused by the fibrosis of the lungs, not by the asbestos fibre itself.

(There are many reasons for believing this.) Therefore, once exposure is reduced to the level at which no asbestosis occurs (the Ontario Royal Commission estimated that for practical purposes it would be abolished by a control limit of 1 f/ml) there will be no excess of lung cancer.

5. This has been fully dealt with by Dr Commins in his book and subsequent writings.

6. This answer needs qualification and amplification. Fuller details are given in the IOEH review of non-asbestos related mesotheliomas, in my own review of the epidemiology of mesothelioma (J Soc Occup Med 1983), and in the review referred to in Q2.

7. This answer is misleading. The total mortality from occupational cancer is irrelevant to what goes on in the asbestos industry. Even though overall mortality is low, it could theoretically be 100% in one industry sector.

It is true that thousands of cancer deaths in the USA, UK, France, Germany etc have been caused by occupational exposure to asbestos in the distant past, over which we now have no influence. The statement uses the word "causes" in the present tense, which is wrong. Some very good evidence for contemporary experience which may be worth quoting is the EMAS (government) survey of all UK asbestos workers. A prospective mortality study is being carried out on all workers in the asbestos industry in the UK who were at work in the industry in 1971 or who have joined since. The SMR of this group of 32,000 workers is 88, and even when groups first exposed to asbestos before 1950, 1960 and 1970 are looked at separately, the SMR does not rise above 91.

8. The Canadian Royal Commission reviewed this comprehensively, and it is worth quoting. One of their conclusions was that the risk of death from working for 10 years in a building with an average concentration of 0.001 f/ml is one fiftieth of that incurred by travelling 10 miles to and from the building each day by car. The level of 0.001 f/ml is actually greater than that found in most asbestos-containing buildings. Doll and Peto conclude in their report (about to be published by the HSE) that 'it is doubtful whether as much as one death a year occurs from this cause in the whole country'. (UK)

9. The Royal Commission on matters of Health and Safety Arising from the Use of Asbestos in Ontario (1984) concluded that:

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