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A. C. SMITH  
AUG 15 1969

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EXHIBIT

JM-2024

MEMORANDUM TO: Environmental Health Task Force  
Johns-Manville Corporation

August 6, 1969

SUBJECT: Conference on "The Control of Asbestos in the Working Environment,"  
British Occupational Hygiene Society and the Asbestosis Research  
Council, London, June 18, 1969.

The British Asbestos Regulations of 1969, which will become operative next year, strengthen and extend the provisions of the old Regulations, calling for protective measures against respirable asbestos dust throughout industry. Accordingly, the British Occupational Hygiene Society and the Asbestosis Research Council jointly sponsored a conference on the implementation of the new Regulations. The audience of about 300 included representatives of various businesses concerned with asbestos, and research people from Britain and the Continent. Secretary of the conference was Anthony Masterton-Smith, Hill and Knowlton's London account executive for the Asbestos Information Committee.

The typed transcription of the Conference runs to 70 legal-sized pages. In order to make the information contained therein more accessible and readable, the text is divided into eight parts, with separate summary and evaluation forms for each of the principal speakers, and one for a panel discussion.

At the conclusion of the Conference, a summation of the proceedings was presented by Dr. S. A. Roach, and is marked Number One on the stack of papers. Otherwise the papers are numbered Two through Eight in sequence as presented.

1. "Final Comment and Summary" -- Dr. S. A. Roach, President, British Occupational Hygiene Society.
2. "Opening Remarks" -- R. H. Dent, Chairman and Managing Director, Cape Asbestos Co., Ltd; Chairman, Asbestosis Research Council.
3. "Asbestos Products and Health Problems" -- Dr. J. C. Gilson, Director, Pneumoconiosis Research Unit, Medical Research Council, Penarth, Wales.
4. "Hygiene Standards for Asbestos" -- Dr. S. A. Roach, President, British Occupational Hygiene Society.
5. "Legislation" -- B. H. Harvey, Deputy Chief Inspector of Factories, Department of Employment and Productivity, Ministry of Labour.
6. "Monitoring Techniques and Sampling Procedures" -- Dr. S. Holmes, Turner Brothers Asbestos Co., Ltd.; Secretary, Asbestosis Research Council.

7. "Medical Supervision and Control" -- Dr. W. J. Smither, Medical Adviser, Cape Asbestos Co., Ltd.; Medical Consultant, Asbestosis Research Council.

8. "Prevention and Personal Protection" -- Panelists: Dr. R. Murray, Medical Adviser, Trades Union Congress; A. A. Cross, Environmental Control Consultant, Cape Asbestos Co., Ltd.; Chairman, Environmental Control Committee, Asbestosis Research Council; W. P. Bamblin, Turner Brothers Asbestos Co., Ltd.; Member, Environmental Control Committee, Asbestosis Research Council; P. Swift, Technical Director, Dust Control Equipment, Ltd.

CF:bt

(1)

SUMMARY AND EVALUATION

Subject: Summation of the proceedings of a British conference on asbestos and occupational health. Of interest and importance.

Evaluation: The first speaker, Dr. Gilson, reviewed current medical concepts. Dr. Smither discussed the role of the plant physician, emphasizing the importance of periodic medical examinations. The other papers were largely technical. The importance of prevention of disease through dust control was stressed by Dr. Gilson, and subsequent speakers were largely concerned with the practical aspects of maintaining a safe work environment. (The papers and comments of each of the speakers are evaluated separately.)

Author: Roach, S. A.

Unpublished: Presented at the Conference on "The Control of Asbestos in the Working Environment," British Occupational Hygiene Society and the Asbestos Research Council, London, June 18, 1969.

Title: "Final Comment and Summary."

Summary: As given above.

FINAL REPORT AND SUMMARY

S.A. WASH

It now falls upon me to summarize the main points of today's conference.

Mr. Dent mentioned that some incidence of asbestosis is still occurring but said a sound and practical series of precautions have been drawn up so as to enable this most useful material, asbestos, and products from it to continue in widespread use.

Dr. Gilson outlined some of the medical problems associated with the use of asbestos - the world production of asbestos is increasing rapidly, especially crocidolite and chrysotile. Asbestosis is characterized by fibrosis of the lung or pleura - and cancer of the lung may be bronchial or pleural. Dr. Gilson emphasized that fibrosis of the lung and pleura is almost certainly preventable by immediate and control and progression of the disease may be halted by recognizing its very early signs. Bronchial carcinoma is related to the severity of asbestos exposure and while other factors, such as cigarette smoking, are also involved, the specific asbestos effect is probably also preventable by practical control. Dr. Gilson emphasized that the pleural and peritoneal cancer is also preventable, even in asbestos workers, but that it is closely associated to asbestosis which is preventable. In the case of cancer, the appearance of the disease is usually late, although in the case of asbestosis, the disease is usually early.

FINAL COMMENT AND SUMMARY

S.A. REACH

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Dr. Gilson outlined some of the medical problems associated with the use of asbestos - the world production of asbestos is increasing rapidly, especially crocidolite and chrysotile - Asbestosis is characterised by fibrosis of the lung or pleura - and cancers of the lung may be bronchial or pleural. Dr. Gilson emphasised that fibrosis of the lung and pleura is almost certainly preventable by practicable dust control and progression of the disease may be halted by removing men with very early signs. Bronchial carcinoma is related to the severity of asbestos exposure and while other factors, such as cigarette smoking, are also involved, the specific asbestos effect is probably also preventable by practical dust control. Dr. Gilson emphasised that the pleural and peritoneal tumours, mesotheliomas, are uncommon, even in asbestos workers, but those that do occur are closely associated with exposure to asbestos after a long latent period. In mines and mills processing anthophyllite, amosite and chrysotile the risk of mesothelioma appears to be much less than those processing crocidolite, although in the manufacturing industries this distinction is less clear. Incidence of lung cancer is closely associated with places where a heater is worked and not with the very low levels of exposure to which the general population is subjected.

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To understand more about these problems a close collaboration is required between medical experts, hygienists, research workers and industrialists. In discussion, it was pointed out that fibrosis and cancers are not yet amenable to effective treatment although studies of this are proceeding. Fibrosis is preventable by dust control alone and bronchial carcinomas are, in addition, preventable by stopping cigarette smoking. Asbestos corns are treatable by removing the asbestos when the condition clears up. Pleural plaques do not appear to be closely associated with serious disability but more studies are needed to establish prognosis.

Dr. Roach discussed hygiene standards of the BOHS, the ACGIH and other standards relevant to the new Asbestos Regulations.

In discussion, it was brought out that the number count of fibres  $> 5 \mu$  is an index of dustiness and it is ~~to be emphasized~~ that each fibre larger than  $5 \mu$  is considered equally dangerous and all others harmless. There are certainly easier ways of measuring dustiness and these and others may be used. Provision is made for this in the BOHS standard. It was emphasised that there is much information already contained in industry records on the costs of dust control, and these could be very useful if they can be obtained and analysed.

Mr. Harvey discussed the development of legislation relating to asbestos dust exposures in Factories Acts and the Regulations. There was a preliminary draft to the new asbestos regulations. This was considerably improved as a result of discussions with industry and others concerned with the health aspects of asbestos.

Mr. Harvey then went on to show the advantage of codes of practice as against the legal phraseology necessary in Regulations. The language of the Regulations must be couched in precise, all embracing terms, difficult to grasp, so as to protect the individual in the courts of law.

The changes made by the New Regulations were outlined, which included special requirements of notification of the use of crocidolite. The phrase "as safe as if no asbestos were liberated" was also found in regulations relating to the guarding of machines. The regulations relating to new buildings was motivated by the need to give impetus to purposive planning to have built-in protection of health of workers to a very high standard.

It will be attempted to enforce the Regulations by using quantitative air quality standards and Not just in the major asbestos companies, but in all the smaller areas of use which were not covered well-enough by the old regulations.

Measurements will often only be necessary in the marginal areas between obviously good and obviously inadequate places. It is important that the advice offered by inspectors should be similar to the advice offered by others and it is hoped that compliance with codes will be the norm.

In this country, we are proud that our conditions in industry are as good as they can be. In discussion, it was said that ventilation may be over-prescribed and costs may sometimes be kept under control by changing the system.

The standards for crocidolite in relation to chrysotile have been set. The standards are about the same as those of the Continental Regulations. It is similar to those of Britain to hold a good

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It was reported that the ARC is determined to comply with the new Regulations.

Dr. Holmes indicated the importance of the fibre diameter for determining the aerodynamic behaviour of particles and the importance of length of the fibre for determining which particles will stay in the lungs.

Dr. Holmes then went on to describe the techniques for determining fibre counts over short or long periods either by fixed position sampling or personal samplers or electronic automatic particle counting which record the results from time to time.

Gravimetric sampling is not by itself totally satisfactory for fibrous dusts and might have to be supplemented with microscopic analysis by X-ray diffraction or electron microscopy - also horizontal electrostatics are not quite satisfactory for fibrous dusts.

Discussions are taking place between ARC and Inspectorate on the methods of dust sampling to be used in interpreting the new regulations.

Dr. Holmes indicated during discussion that there are continuing developments in sampling methods being made and improvements are on the way for more satisfactory gravimetric methods. Another point that was made in discussion was that chrysotile dust taken to high temperature alters to a form which would be expected to be less hazardous.

Dr. Smither described manufacturing processes in the Asbestos industry and how systematic medical histories in depth are obtained. Dr. Smither went on to describe the form of medical examinations appropriate for initial and periodic examinations. The importance of the chest radiograph was brought out, the physical sign-<sup>s</sup> basal crepitant rales, the physiological index of disturbed diffusing capacity and ventilatory function.

Statistics show that those workers subject to periodic medical examinations appear to benefit considerably from this. Medical records contribute substantially to the increase in our knowledge of the disease, and in combination with engineers suggest where, by mechanisation, the number of workers exposed becomes less and productivity increases.

In discussion it was said that priority should be given to prevention. Masks should be provided where this becomes impractical. It was suggested that people with <sup>asthma, emphysema</sup> might not be suitable for work in some asbestos conditions and these would preferably be placed in the least dusty jobs. <sup>Immunity in workers on pipe</sup> do need medical supervision to supplement dust control.

In the Panel Session on Prevention and Personal Protection, Dr. Murray pointed out that we make the calculations but the workers take the risks. The workers need taking into ones confidence and thereby their cooperation is assured. Despite the work of the existing hygienists, including the factory inspectors, there are not enough trained men in this field, more are required.

Mr. Cross discussed the work of the Asbestos Research Council for the development of codes of practice, and the work of its experimental control committee in different classes of use. Documents are being prepared to help employers to cope with the new asbestos regulations.

Mr. Bamolin assured us that the production man and the engineers and specialists need to cooperate to handle the health problems most effectively.

Mr. Swift described some of the devices his company have developed for controlling the dust successfully - but this does require tight ductwork throughout the system with good, well-designed filters.

In discussion consideration of the possibility of substituting alternative materials was advocated. This was practiced rigorously in shipyards. Insulation boards can be worked satisfactorily with good control; wetting is another technique to be included. The part to be played by keeping good medical records was brought out again.

The health problems considered at this conference clearly have to be answered by cooperative effort between a number of different disciplines. The scientists, the medical practitioners, the engineers, production men and factory inspectors. We've shown at this conference how this can be done. I would like to thank all the speakers and contributors to this conference for their efforts to make it such a successful one. Finally, let me thank all those concerned with the organisation of the conference - especially Mr. Anthony Masterton-Smith who, with his colleagues, has worked hard to make it work so efficiently.

With that I declare the conference closed. Thank you very much.

(The Conference closed at 5.05 p.m.)

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SUMMARY AND EVALUATION

RECEIVED  
A. C. SMITH  
AUG 15 1969

(2)

Subject: Opening remarks of the Chairman of a British conference on asbestos and occupational health. Of interest and importance.

Evaluation: The Chairman, a representative of the British asbestos industry, expressed the industry's concern with the health problems, approved of the new government Asbestos Regulations, and expressed the optimistic view that the regulations and industry cooperation will "ensure above all that the risks, already slight, of using asbestos are, if possible, totally eliminated." He also affirmed continued industry support of research through the Asbestosis Research Council.

Author: Dent, R. H.

Unpublished: Presented at the Conference on "The Control of Asbestos in the Working Environment," British Occupational Hygiene Society and the Asbestosis Research Council, London, June 18, 1969.

Untitled:

Summary: As given above.