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SEMINAR ON ASBESTOS

April 4-7, 1972

IIT Research Institute
10 West 35th Street
Chicago, Illinois 60616

A G E N D A

Tuesday, April 4th — Chairman - Dr. Colin F. Harwood

Morning

9:00 - 9:30	Registration	
9:30 - 9:40	Opening Welcome	
9:40 - 11:00	Introduction	Dr. Harwood
11:00 - 11:15	Coffee Break	
11:15 - 12:00	Introduction (cont'd)	Dr. Harwood
12:00 - 1:00	Lunch	

Afternoon

1:00 - 2:00	Medical Aspects	Dr. Nicholson
2:00 - 2:15	Coffee Break	
2:15 - 3:30	Medical Aspects (cont'd)	Dr. Nicholson
3:30 - 4:00	Questions and Speakers from Floor	

Wednesday, April 5th — Chairman - Dr. Colin F. Harwood

Morning

9:00 - 10:15	Legal Aspects	Mr. Tim Harker
10:15 - 10:30	Coffee Break	
10:30 - 11:30	Legal Aspects (cont'd)	Mr. Tim Harker
11:30 - 12:00	Questions and Speakers from Floor	
12:00 - 1:00	Lunch	

Afternoon

1:00 - 2:00	In-Plant Control Techniques	Dr. Harwood
2:00 - 2:15	Coffee Break	
2:15 - 3:15	In-Plant Concentration Levels	Dr. Harwood
3:15 - 3:45	Experience of Good and Bad Practice	Mr. Nathan Willens
3:45 - 4:00	Questions and Speakers from Floor	

Thursday, April 6th — Chairman - Mr. Reg Davies

Morning

Afternoon

1:00 - 1:45	Basis for the Occupational Exposure Levels	
1:45 - 2:15	Worker Protection Aspects	Mr. Duncan Holaday
2:15 - 2:30	Coffee Break	
2:30 - 3:30	Worker Protection Aspects (cont'd)	Mr. Duncan Holaday
3:30 - 4:00	Questions and Speakers from Floor	

Friday, April 7th — Chairman - Dr. Colin F. Harwood

Morning

9:00 - 10:00	Monitoring Theory	Mr. John Stockham
10:00 - 10:15	Coffee Break	
10:15 - 11:45	Standard Methods of Monitoring	Mr. John Stockham
11:45 - 12:00	Questions from Floor	

production). Total US production (1969) was 125,936 tons, valued at an estimated $10,648,000.

The United States utilizes about one-fourth of the world's production of asbestos, practically all of it is imported from Canada and Africa. Figure 1 graphically illustrates domestic supply and consumption.

3. ASBESTOS EMISSIONS

3.1 Non-Industrial Sources

Before entering into the main source of asbestos emissions, that is, through commercial manufacturers processes, it is worthwhile to consider briefly other less obvious but important mission sources. These may be listed as:

- Rock Outcrops
- Farming
- Construction
- Talcum Powder

3.1.1 Rock Outcrops

It has been pointed out previously in Table 1 that asbestos-containing rock outcrops in very many areas of the United States. It is interesting to note that in 1920, Staten Island was once considered a large enough outcrop that mining on a commercial scale was undertaken there.

Emission from such outcrops will occur due to the natural eroding processes of earthquakes, temperature, wind, and rain. Thus, wind and water-borne erosion products will inevitably contain asbestos particles.

3.1.2 Farming

Farming of the soil in areas containing asbestos rock will cause the emission of fibers. Such actions as tilling of the soil are always dusty operations (unless, of course, it happens to be wet), the extent of the emissions will depend on

the concentration of asbestos in the soil.

Studies have been conducted on the effect of such emissions on the health of the local population(1). The evidence, though not very conclusive, suggested that asbestosis could be caused by agricultural employment.

3.1.3 Construction

The outcrops of asbestos-containing rock will give rise to emissions whenever construction is undertaken. Hence, such activity as excavating for housing, pipe laying, and road making, must be considered as a source.

3.1.4 Talcum Powders

Talcum powder is a mineral rock dust very closely related mineralogically to asbestos. The main difference lies in the fact that talcum powder has a platy morphology, while asbestos is characterized by its fibrous nature.

The fact that talc is very frequently found with a significant fibrous content now leads to a very important situation since the total quantities of talc mined in the U.S. exceeds that of asbestos.

It was pointed out by Cralley(2) that the majority of cosmetic talcs contain significant quantities of fibrous particles. Virtually everybody, from babies up, is exposed to cosmetic talc and so are exposed to the threat of asbestos bodies.

Apart from the cosmetic use, talc is used very considerably in industry as, for example, a filler and as a lubricant in the production of pharmaceutical tablets and rubber goods. Another large use is as a carrier for pesticides in the spraying of crops.

On a more exotic note, there has been recent publications on the use of talcum for polishing rice(3,4) and its association with stomach cancer because of its asbestos content. Even more

exotic is the quote of Nader that children may be endangered by the talc used as a lubricant in rubber balloons.

The above discussion on talc has been included for completeness in this report concerning asbestos. Certainly it should not be neglected when considering the health effects and hazard of asbestos fibers.

Other studies discussing the presence of asbestiform fibers in the mining of talc are those of Siegal(5) and of Greenberg(6)

3.2 Manufacturing Processes

3.2.1 Introduction

Several tasks preliminary to the manufacture of asbestos products are potential emission sources. These are common to all asbestos processing. They include such functions as unloading and storage of milled asbestos, subsequent transport of the bagged asbestos to the bag opening area, fluffing of the compacted fibers, and a mixing process where asbestos fibers are dry mixed with other materials.

The bagged asbestos is usually unloaded from railway boxcars, moved to storage areas, and finally transported to bag opening areas by fork-lift trucks. Opportunities exist during each of these operations for bags to become damaged and spill fibers to the atmosphere.

The amount of emission from the bag opening and dumping processes depend upon the degree to which the tasks are enclosed. in some instances, the bags are cut open with sharp knives and the contents dumped into a container or onto a conveyor belt.

The compacted fibers, from packing at the mill, are fed through a "willow" or "Moody fluffer" which fluffs up and separates the fibers. This operation may also be employed as a blending stage wherein several grades of fibers are thoroughly mixed.