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PLAINTIFF'S EXHIBIT NO. BX224

MINUTES OF THE MEETING

of the

ASBESTOS STUDY COMMITTEE

Friday, June 1, 1973, at 9:30 A.M.
at the
Institute Office, E. 210 Route 4, Paramus, N.J.

MEMBERS PRESENT

I. E. Weaver, Chairman	Raybestos-Manhattan, Inc.
H. Wagner	Carlisle Corporation
Z. E. Feierabend	Abex Corporation

OTHERS PRESENT

S. B. McGinnis (for J. C. Henning)	World Bestos Company
M. Jacko (for W. Spurgeon)	Bendix Corporation
D. E. Stone	Bendix Corporation
R. C. Wyatt	Maremont Corporation
W. H. Gustafson	Maremont Corporation
E. W. Drislane	Friction Materials Standards Institute, Inc.

MEMBERS NOT PRESENT

J. C. Henning	World Bestos Company
T. Bell	E. K. Porter Co.
W. Spurgeon	Bendix Corporation

The meeting was called to order by Mr. Weaver, Chairman, at 9:30 A.M.

MINUTES OF PREVIOUS MEETING

The Secretary read a summary of the Minutes of the Meeting held February 16, 1973. These minutes had been released and a motion for their acceptance had been obtained.

Upon motion duly made, seconded and unanimously passed, it was

RESOLVED: To accept the minutes of the February 16, 1973 meeting as distributed.

LABELING

At the February 16, 1973 meeting, the Secretary was directed to distribute information on typical CAUTION labels now in use. The purpose of this distribution was so that the Committee Members could review what is available and would be in a position to propose label specifications to meet the OSHA requirements.

One member suggested that the size of the labeling used should be of sufficient size to be noticeable on a large carton and should be commensurably smaller but

still noticeable on a smaller package. One member was using an insert with a CAUTION label stuffed into the package. The use of imprinted CAUTION labels on the carton is desirable because it is essentially a one-time tooling cost. The use of separate labels is a continuing added direct expense. Most members now using separate gummed labels will eventually go over to imprinting the carton when ordered.

In what must be a response or a reaction by others, many customers are now asking Members about how much percentage of asbestos is in the brake linings. This could be a reaction on the customer's part as to whether they would have to put control practices in their factories because of the asbestos that is contained in brake lining. To meet the true spirit of the OSHA regulations, manufacturers doing subsequent drilling, grinding or cutting of asbestos containing brake linings should use the care that OSHA suggests.

One member felt that where he was shipping drilled ground lining sets that he would not have to imprint these small cartons with the OSHA CAUTION label. Other members are simply putting the OSHA CAUTION labeling on everything. When it was suggested that the Committee should take a position on this labeling requirement, the members of the Committee were referred back to the Resolution that was made on February 16, 1973. This Resolution said, in effect, that OSHA labeling practices should be adhered to where asbestos containing materials do not have asbestos fiber completely locked in or where subsequent operations may be performed. The question concerning the drilled and ground set is: While it is unlikely that subsequent operations will be performed, is it possible that they may be performed?

After a lengthy discussion it was decided that no resolution concerning recommended CAUTION labels would be proposed. Rather, the Secretary is directed to send to the Membership copies of typical labels now in use.

It was called to the Secretary's attention that his yellow Bulletin of March 30, 1973 was in error. In that notice it stated, "Avoid breathing dust". The wording should have been, "Avoid creating dust". This error will be called to the attention of the Membership.

The Chairman brought up another point as regards labels. There is a sign that can be posted in the factory where there are restrictions concerning asbestos dust in the atmosphere. This is a standard sign for placing in the factory which says: "CAUTION - Asbestos dust hazard; avoid breathing dust; wear assigned protective equipment; do not remain in area unless your work require it; breathing asbestos dust may be hazardous to your health". Information on the availability of these signs will be sent to the Membership.

EPA EMISSIONS STANDARDS FOR ASBESTOS

While the new EPA emsions standards appear to be reasonable, there is some difficulty in interpretation. For example, the standards are not simply "No visible emssions", but (1) if the control equipment does not meet the air cleaning requirements in the regulations, no visible emissions are permissible, or (2) one could even have visible emissions if they were using a collector with the specifications recommended by the EPA. In other words, if you have the EPA's recommended collector you could possibly have visible emissions and still be complying with the EPA requirements. It goes without saying, that interpretation of the requirements by individuals in the different EPA regions may vary quite a bit.

as the dry-bag collector. If an EPA Enforcement Officer sees a vapor from the stack where a wet collector is used, the source best be able to prove there is asbestos being discharged. In other words, it can be inferred that if a source has wet collectors they may more likely be cited for visible emissions.

While it is apparent that the EPA's emissions standards promote the dry collection of asbestos in bags, many problems have been indicated with these collector One of the problems was repeated fires in the collection system. Another member stated that he too had this problem until cigarette smoking was banned in the factory. Since discontinuing smoking in the factory, he claims they have not had more than one or two fires in the last 25 years. Another member said that may be, but they have had a No Smoking rule for many years and they still have fires. This party blames the fires on the incentive program where the workers receive a bonus for exceeding certain work standards. This promotes the taking of heavier cuts with grinding wheels and creates sparks which apparently promote the fires in the system. The operation that has not had any fires for the past 25 years does not have an incentive system and does not permit smoking in the work place. Where the wet collectors are now in use, apparently the EPA is permitting their use as complying with the requirements.

At this point, the disposal of the materials picked up by the collectors was brought up. One member sent the dust to a pelletizing machine. In this process they add 5%-10% cement to the pelletizer. A volume reduction in the order of 3 to 1 was developed. The pellets are taken by truck and dumped as land fill. While the pellets could be broken down into a powder, if they receive reasonable handling they can be readily moved from the pelletizing machine to the land fill operation. It is this member's intention to install a vacuum system from the collecting areas to go to a central pelletizing machine. One member described his handling of dust from (1) a central collector, to (2) a screw conveyor, to (3) a truck, and to (4) the land fill. The workers in this case use respirators.

The pelletizing operation not only reduces the transportation cost by three times but eliminates the need for a watering truck and an individual to wet down the land fill. However, the costs of this pelletizing equipment are substantial. A manufacturer of pelletizing equipment is Ferro Tech Inc., 1231 Banksville Road, Pittsburgh, Pa. 15216.

Several members mentioned that in dealing with the EPA Regional Offices they were having difficulties deciding what was a "new source" and what was an "existing source". Also, where one manufacturer adds one machine to an existing collection system he may not be in compliance without getting a Waiver of Compliance. Apparently the EPA will not give a Waiver of Compliance that will take more than 12 months to complete. An applicant must give the steps to be taken and the schedul to be met. When each date arrives, the applicant must advise EPA concerning completion of that stage of the schedule.

One member felt that we should review the EPA source report form to get a better understanding of what they were calling for. Page one of the report would be us for each factory. As there would most likely be several points of emission, pag 2 would be completed for each stack or collector that emits asbestos.

If a manufacturer wished to make an addition or modification in his plant with equipment that might put asbestos into the atmosphere, he must file with the EPA On page 1 of the report he would cross off the words "Source Report" and type in either "Application to Construct a New Source", or "Application to Modify Existing Source". In reviewing page 2 of the report under "Process Description", some questions came up as to how to complete this section. One member who had worked on this report with the EPA said you should enter here the type of

machinery used without quantifying. Another member indicated that the EPA insisted that he list the type of equipment and the numbers of each piece of equipment. If the EPA specifically said to list the numbers and types of equipment in this section it was suggested that they would have said so on page 2 of the report. The question of putting down the numbers and types of equipment cou become very cumbersome where a manufacturer wished to move a grinding machine from a location with one collector to another location where it would be hooked into another collector. The member who filed with the EPA worked on reports in 2 different jurisdictions: New York and Tennessee. He indicated that at neithe location did he enter the number of pieces of equipment on this form. (Since th meeting he called to advise that the application filed in Tennessee without quantities was accepted by the EPA. His application in New York State had not been either accepted or rejected as of June 4, 1973.) It would appear that Regional Offices are not in agreement as regards quantification of the equipment under the "Process Description."

The question came up concerning interpretation of question 3, the "Amount of Pollutant." In many factories a set of dry mix brake blocks could emit into a collection system at the mixer, at the briquette press, at the cut-off wheels, at grinding, at drilling, and at inspection and boxing. The problem is that this is the same original asbestos which entered the process and might be counted 6-8 times. So, in effect, a factory taking in one million pounds of asbestos might list one million pounds of asbestos going into 8 different collection systems. This, in turn, would make i appear that eight million pounds of asbestos is going into the operation. From the wording of the form, it would appear that this is exactly what the EPA wants However, another member was told that this in not what the EPA wants. He suggest that if a factory takes in one million pounds of asbestos into the process that should not report in total more than one million pounds of asbestos. If he had 10 different emission points, he would divide the one million pounds of asbestos by 10 to give the "amount of pollutant." Again, their apparently has been a difference in interpretation from different Regional Offices of the EPA.

On page 3 of the report, under "Waiver of Compliance," it was stated that Section 2a and 2b did not have to be completed unless EPA specifically requests this information.

INSTITUTE SEMINAR ON SAFETY AND HEALTH

At the February 16, 1973 meeting, suggestions were made that the Institute consider the sponsoring of a seminar for members associated with plant operation The Institute indicated it would be willing to sponsor such a seminar if sufficient interest developed.

A question was raised as to whether this seminar would apply only to asbestos. The Secretary indicated that such a seminar would apply to any field of interest but it should be related to problems that can be tied into State and Federal regulations. Among the topics suggested for a seminar were the following:

Air sampling and asbestos concentration determination.
The pulmonary function test and X-Ray.
Possible extension to include noise and heat stress.
Cooperation between management and workers in meeting the regulations.
Asbestos bag opening machinery.

The Secretary was directed to make up a list of subjects which might interest the Membership and to canvass the members as regards their interest. In addition to the agenda items to suggest to the Membership, it was suggested that the canvassing letter ask if an individual from that member company would attend, where the meeting should be held, and when the meeting should be held. It was indicated that a meeting in the late fall would be desirable and such locations Chicago, Detroit, Pittsburgh and Paramus were suggested.

When the Secretary has prepared a questionnaire it will be submitted to Mr. Feierabend for his review prior to distribution to the Membership. The actual agenda will be drafted after the members have indicated their preference. The question was raised as to whether outside speakers would be involved and it was suggested that we were not interested in a commercial pitch at the meeting. Johns-Manville had indicated an interest in approaching such a seminar with the idea of promoting their HEAF (High Energy Air Filter) pollution control equipment. It was suggested that perhaps it might be worthwhile to have outsiders make presentations concerning asbestos bag opening equipment, pelletizing, collection, etc. This will have to be worked out at a future Committee meeting.

Brake and Clutch Emissions Generated During Vehicle Operation

This particular study was run by Bendix Research Laboratories under sponsorship of the EPA. A paper was presented to the S.A.E. by Dr. M. Jacko and Mr. R. DuCharme of Bendix, and Mr. J. Somers of the EPA. The actual report to the EPA is a massive document explaining every test procedure and every method of collection used in the study. A technical paper was presented by these 3 gentlemen at the SAE Meeting in Detroit in May, 1973. The study essentially centers on how much asbestos is being put into the atmosphere from brake linings and clutch facings. As Dr. Jacko was in charge of this investigation he discuss the paper at our meeting. He advised that a condensed version appears in the magazine AUTOMOTIVE ENGINEERING. Among the points that Dr. Jacko made was that there were problems where a brake on one side was enclosed and the other brake was open to the regular atmosphere. Modifications had to be made involving cooling of the outside of the shroud so that there would not be too great a temperature difference from the left side to the right side. This was more of a problem with the disc brakes on the fronts. Actually with the necessary cooling there was hardly any difference between the drum brake rears side to side.

Among the items discussed in the paper were how much asbestos is used in friction materials. It is indicated that there are about 103 million pounds of asbestos in the friction materials which are used in the United States each year. There apparently are some differences of opinion as regards how much asbestos is involved but it generally falls in the 90-120 million pound range. Actually, the amount subject to wear is about 66-2/3% of the actual lining that gets on to the brake (after grinding). When asbestos is being used in brake linings it is discarded in one of three ways: It gets deposited on the surfaces of the brake, such as on the caliper, and around the wheel cylinders. (This is surface debris). Additional material is collected on the lining surfaces, in the rivet holes, and on the brake drum. (This is called sump debri Additional material becomes airborne and is collected on membrane filters. (This is called airborne debris). It is this latter airborne debris that the research ers are seeking to quantify.

Based on the samples that were collected, the conclusions were that more than 99.7% of the asbestos in the brake lining is converted to other products. By extrapolating the data that they were able to develop on a passenger car the researchers indicate that a total of 5060 pounds of asbestos is put into the

atmosphere. This airborne asbestos emission is 3.2% of the total asbestos emitted from all automotive brake linings and clutch facings in the U.S.

A question arose as to what happens to the asbestos debris that drops out. Does it eventually get into the atmosphere? It was indicated that based on the study of other materials that apparently there have been build-ups such as lead along the sides of turnpikes. This material apparently goes into the earth's surface and whether it is picked up again is dependent on other factors such as the proximity to streams, etc.

A gentleman from Ford Motor Company was also to present a paper to the SAE meetin concerning asbestos particulate emissions into the atmosphere. No paper was available at this time. There were some questions concerning procedures and a source of data on the Ford paper, but in any event the paper indicated a lower total asbestos emission than the Bendix paper. These two papers should serve as source information when others are attempting to quantify the asbestos emitte into the atmosphere from brake linings and clutch facings.

OTHER ITEMS

The topic of OSHA inspections and enforcement was brought up briefly and the members indicated that no new actions had been taken by OSHA as regards enforcement concerning the asbestos standards.

The Asbestos Information Association (AIA) is to put out a Compliance Manual concerning control practice. This is still preliminary and there is no advance copy available at this time.

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There being no further business brought to the attention of the Committee, upon motion duly made and unanimously passed, it was

RESOLVED: to adjourn.

Adjourned: at 2:30 P.M.

E. W. Drislane
Secretary