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MAY 1965

U.S DEPARTMENT OF LABOR

Washington

RECORDS AUTHENTICATION CERTIFICATE

PLAINTIFF'S EXHIBIT Snell 14 66 12-13-78

I HEREBY ATTEST, That the annexed copy, or each of the specified number of copies, of each document listed below is a true copy of a document in the official custody of the Department of Labor.

1 copy each of:
Transcripts from March 14,15,16, and 17
Comments and hearing exhibits of:
W.J. Nicholson, American Petroleum Institute, D.A. Holaday, Brand Insulations Inc., L.J. Bibri, B.J. Phillips(Certain-teed), M.W. Borow, J.D. Moran(Flintkote), F.L. Pundsack(J-M), J.W. Rawlings, W.M. Hancock(Dow), W.K. Hesse(J-M), E.M. Fenner(J-M), E.J. Killian(Nat. Gypsum), Cement Asbestos Products Co., M.M. Key, G.E. Best(MCA)

SIGNATURE AND OFFICIAL TITLE	DIVISION AND BUREAU	DATE
Daniel J. Marsick Technical Information Specialist	Docket Office/Technical Data Center/Occup. Sfty & Hlth Adm/ U.S. Dept. of Labor	7 Sep 78

I HEREBY CERTIFY, That Daniel J. Marsick who signed the foregoing attestation, is now and was at the time of signing (title) Technical Information Specialist and has legal custody of the official records of the United States Department of Labor therein attested and that full faith and credit should be given to his act as such.

IN WITNESS WHEREOF, I

J. J. Lafranchise

duly designated by the Secretary of Labor as Authentication Officer of the Department of Labor, have hereunto subscribed my name and caused the seal of the Department of Labor to be affixed this 7th day of September 19 78.

J. J. Lafranchise

Authentication Officer
Department of Labor

M-311 181

CRMC-Motley1000-Subj-001525

UNITED STATES DEPARTMENT OF LABOR

WASHINGTON, D.C.

In the Matter of:	
STANDARD FOR EXPOSURE TO ASBESTOS DUST, PROPOSED RULE MAKING	PUBLIC HEARING

Conference Room B
Interdepartmental Auditorium
12th & Constitution Ave., N.W.
Washington, D.C.
Thursday, March 16, 1972

The above-entitled matter came on for further hearing, pursuant to recess, at 9:00 o'clock, a.m., Thursday, March 16, 1972.

BEFORE:

ARTHUR M. GOLDBERG, Hearing Examiner

APPEARANCES:

(As heretofore noted.)

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Henry B. Moreno, and I am the Senior Operating Vice President of Johns-Manville responsible for the company's Industrial and International Divisions.

I am a graduate of the University of Southern California with a bachelor's degree in Electrical Engineering and post-graduate work both at that institution and at the Harvard Business School. For the past 32 years, I have held various sales, marketing, production, general management and senior management positions with Johns-Manville.

As our testimony thus far has indicated, we support the present OSHA emergency standards if they are modified as suggested by Johns-Manville associates here today.

I would like to address my remarks primarily to the engineering problems involved and the economic impact of implementing the standards. I will do this by relating personal experiences and by presenting other information that we have developed for this hearing.

Five years ago, I was given responsibility for our Packings and Friction Materials Division. This is the division in our company which has many of the asbestos handling problems especially in its asbestos textiles and friction material operations.

During those five years and right up to the present time I have devoted a great portion of my time personally to improving in plant environmental conditions for our employees,

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particularly those working with asbestos fiber.

For the last four years, our goal has been to bring all of our operations to a Threshold Limit Value of five to six fibers per cc, which is half of the previous LTV standard of 12 fibers per cc.

Since we at Johns-Manville began our active dust control program many years ago, we can speak from experience about the difficulty ahead of achieving 5 fibers per cc and solving environmental problems. Perhaps a specific example will help give some insight to our activities.

One of our largest plants is located in Manville, New Jersey. It is a multi-product plant containing, among other things, a fairly extensive, integrated textile operation.

I first visited the Manville plant in 1949. Even though we were unaware of specific health hazards, I can remember the high visibility of dust which clouded the ambient air inside the textile building.

The personal sampler method of measuring dust was not available then, but certainly -- if we could have measured them by that method -- we would have determined that the counts around some equipment were over 100 fibers per cc.

The next time I saw the operation was several years later during the 1950's. By that time, great improvements had taken place as a result of the studies and developments Mr. Jobe discussed in his testimony.

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Extensive dust collecting systems were operating and the plant was using much cleaner asbestos fiber now available because of improved equipment at the mines in Canada.

When I assumed responsibility for the Packings and Friction Materials Division late in 1967, the Manville textile operation was included. Maximum dust counts were about 30 fibers per cc.

When we embarked upon our program to reduce all counts to five or six fibers per cc, it soon became apparent that we had reached the practical limit of improving the system by collecting dust and other similar mechanical means.

A complete redesign of process and equipment was mandatory. We assembled a team of the best experts available within our company and talked to manufacturers in both the United States and Europe to determine if improved asbestos textile machinery were available, that would perform within the dust levels we had specified.

After several months, it was determined that if improved equipment were to be made available, we would have to design it ourselves. This we proceeded to do, and after a three year concentrated program, we have completed the installation of special designed equipment and processes in which in many cases are substantially different from what we had before and the methods currently being used by other asbestos textile producers.

Even though our operating costs have risen over

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fifty-percent due to our improved operating procedures, we are quite pleased with the results.

One can now look down the full length of the approximately 900 foot building through nearly crystal clear air. This is a dramatic improvement from the appearance three years ago and fantastic considering the operations as I first viewed it in the late forties.

Most of our dust counts are now below five fibers cc. Note I said five not two, fibers per cc. If we are required to operate at the two fibers per cc level, I can see no other solution for us but to shut down some equipment. Having brought the counts from 100 fibers per cc to their present levels has been a major accomplishment particularly when one considers that medical results that concern us all were incurred under the far more dusty operating conditions and not under our current modern methods.

I have selected the textile operation for my comments today because that is one which required a great portion of my personal effort and is typical of our corporate program. We are working on all of our othe product lines as well. Asbestos is used in a wide variety of applications, each requiring specific process and equipment design. We could cite instances involving friction materials which pose as complex a problem as the textile operation did.

In operations where equipment redesign is not

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sufficient to reduce dust counts to an acceptable level, complete and sometimes radical changes must be employed.

These changes most often alter the finished product substantially. When the properties of a high performance friction material are changed for instance, extensive testing in laboratories and in the field must be conducted in order to be certain that the product will perform as required under all conditions, as a failure might cost hundreds of lives.

Can you imagine, for instance, a one hundred car freight train operating with unproven brake linings? Or a waste pipe that has exploded because of inadequate fiber reinforcement? In some cases, material tests and validations require as much as four to five years.

It is obvious that protecting our environment is a constant and evolutionary process, not one which could be totally implemented by abrupt and severe legislation.

What is the current status of our dust control program? In spite of the know how and our concerted effort and a recent capital expenditure outlay of some twenty million dollars, I must say to you that twenty percent of our sampled dust stations are still operating over five fibers per cc, although virtually all are under 10 fibers per cc, and more importantly, because we have been unable to reach our desired goal for dust control in a number of our operations, we have discontinued the production of over five million dollars worth

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of asbestos-containing particles originally and have thus had to put over three hundred workers into the unemployed ranks.

As I said before, all of our work has been directed toward attaining a TLV of five to six fibers per cc because experience and medical advice indicates that this is the most practical approach to providing a safe environmental atmosphere for our workers.

To do this requires extensive engineering. For this reason -- to reach a TLV of five fibers per cc actually means designing equipment which will operate at about a three fiber per cc level because we must allow for measurement inaccuracies, human error, maintenance, and climatic variations.

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there have been two sources--1. other manufacturers in the United States, some of whom have not as yet experienced the economic impact of attempting to achieve five fibers per cc; and (2) foreign manufacturers.

Even though Johns-Manville has the financial resources to pay for more sophisticated equipment, higher costs must ultimately be reflected in price increases. In our industry this, in many cases would just mean paving the way for foreign competitors. Already substantial and increasing quantities of fabricated asbestos materials being imported from Japan, Taiwan and South America are invading the U. S. markets. Some of our own surplus equipment has been sold to a company in India so we presume that India and possibly other Asian countries will increase their production and sales of asbestos materials to our country as it becomes more uneconomical to make these products inside the United States.

Attempting to achieve a standard of two fibers per cc will cost American industry millions of dollars in increased operation costs and, unfortunately, cause a significant number of jobs to be shifted to foreign workers for whom, in many cases, no environmental standards whatsoever will apply.

The present OSHA emergency standards--with modifications--provide a good margin of safety and, based on our experience, are attainable in most manufacturing operations if the producers are given a reasonable time to design and

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The cost of redesigning and building equipment to operate at lower dust levels increases exponentially--not in a linear fashion. If the TLV were to be set at two fibers per cc, it would require capital expenditures of $12 million and additional operating costs of $5 million per year to bring our operations to the two fiber-per-cc level in those processes where we believe we could develop the capability to do so.

At the present time, approximately half of our present dust stations show consistent readings over two fibers per cc. Included in this group are five manufacturing plants, involving approximately 1100 workers. As we see it now, it would not be economically feasible for Johns-Manville to attempt to operate these plants at a standard of two fibers per cc. We estimate that 1100 workers would be out of jobs at these locations. And when you add supporting sales, clerical, research and administrative personnel, we are talking about a total of some 1600 employees who would have to join the unemployed.

Since Johns-Manville is quite typical of thousands of other asbestos product manufacturers and users in the United States--it is obvious that the overall effect of lowering the present threshold limit to 2 fibers per cc would have a very substantial effect on our nation's economy.

I would ask this question: Where will our customers obtain these materials that we no longer produce?

In the case of the products we have phased out so far,

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3 1 install the necessary equipment and implement process changes.

2 The establishment of an unnecessarily stringent

3 standard and the requirement of unnecessarily frightening

4 labels, as commented on by Dr. Lundsack, would merely cause

5 confusion and perhaps harm to many very reputable companies.

6 In conclusion, I want to say this quite directly with

7 no scientifically credible evidence to prove the need for

8 such a low TLV standards of 2 fibers per cc, it would be

9 nothing less than complete social irresponsibility to adopt it.

10 We believe the Department of Labor must establish

11 standards that protect the worker, but at the same time are

12 practical and realistic--and mostly--attainable.

13 On behalf of myself and my associates, thank you for

14 permitting us to testify today.

15 Mr. Goldberg, that concludes my testimony unless

16 you want to allow me an opportunity to respond to Dr. Nicholson's

17 questions regarding insulation material.

18 EXAMINER GOLDBERG: Do you wish to do so?

19 MR. MORENO: I will be pleased to speak if he so

20 desires.

21 Dr. Nicholson, do you still want an answer?

22 MR. NICHOLSON: Yes.

23 MR. MORENO: I am told, Dr. Nicholson, Mr. Spicondo

24 yesterday submitted an analysis of insulating materials which

25 is in the record. In addition to that I will give you my

personal observations over the last 22 years in which I have been involved and I think that is probably what you are after.

Twenty years ago or twenty-two years ago, almost any high temperature insulation had amosite fiber in it. I would say every ship built during World War II and afterwards until within the last ten years had large quantities of Amosite insulation because there was in effect a cloned navy Federal spec. specifying a particular type of insulation with a high percentage of Amosite.

This was done, I think, because no one really realized the dangers involved and secondly because this asbestos fiber with Amosite fiber in it had great mechanical strength and could withstand the mechanical abuse. This material was also used widely in industrial applications. The other materials used in those days were generically called in the industry 85 per cent magnesium and calcini denecious earth insulations both of which contained approximately 15 per cent by weight amosite asbestos fiber.

Starting about 1958 the trend was away from these two insulations. That is the 85 per cent magnesium and calcini materials in favor of another material that had a better temperature limitation. 85 per cent magnesium had a temperature limitation of 600 degrees and the other had a temperature limitation of about 18 or 19 hundred degrees Fahrenheit, depending on how you wanted to measure it so, for a process mine, for

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instance that had an operating temperature of 1200 degrees, it was necessary to apply two layers of insulation, the first layer that could stand the 1200 degrees and then the next insulation which was 85 per cent magnesium that could only stand up to 500 degrees.

During the late Fifties a new insulation was developed and this is a material that is called calcium silicate and this is reinforced originally--I believe it might have have had some Amosite in it but during the past 12 years it had only had Chrysotile fiber in it. This is a material that today has replaced all of the other three materials in almost every application. As a matter of fact, the Amosite material that I referred to in the Navy specifications no longer is produced. The calcium silicate material originally when we introduced it had 12 to 15 per cent Chrysotile fiber and today we are operating with about 8 per cent Chrysotile fiber. Then in answer to your question, if I remember it, there has been a tremendous change in the kinds of insulating materials used particularly in the last twelve years. Do I remember your question correctly, sir?

MR. NICHOLSON: My question specifically refers to non-shipyard insulation material and the question was specifically related to that quantity of Amosite that would have been in all of the industrial and commercial insulations over many years. It is my understanding that Amosite was used very

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little in this country prior to World War II. The total imports could be listed in tens of thousands of tons rather than millions of tons. Could you give us an estimate of the fraction of Amosite that would have been used in commercial non-shipyard or industrial non-shipyard insulation work from the period of say roughly 1930 to 1940 to the current time the period of time being that over which we have experienced the health effect upon the insulation workers using that material.

MR. MORENO: May I break it in two periods. From 1930 if you want to take it or the thirties until about 1960 and then from 1960 to the present time. During the earlier period, to my knowledge every high temperature insulation except rock wool which was used in some areas--every high temperature insulation had Amosite fiber in it because they had 85 per cent magnesium, the calcium Amosite, sir, and the other material we talked about so every product that I know of had some Amosite in it. Since 1960 there has been a decreasing amount of it and I would say within the last three to five years almost none.

MR. NICHOLSON: Would the percentage in all insulation prior to 1960 percentage of asbestos which was more than 50 per cent Amosite/in all insulation used prior to 1960 in non-shipyard work?

MR. MORENO: Industrial at 300 degrees.

MR. NICHOLSON: Asbestos insulation.

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MR. MORENO: And Amosite and that quantity varied from as low as 15 per cent to as high as 50 or 60 per cent and I am not certain about the 50 or 60 per cent only because we didn't manufacture the product. I know in my own mind it was at least 50 per cent Amosite fiber. Our own products had 15 per cent Amosite asbestos fiber in them.

MR. NICHOLSON: Fifteen per cent of the fiber of the asbestos was Amosite.

MR. MORENO: No, sir. All of the products I was involved in was all Amosite.

MR. NICHOLSON: Thank you.

EXAMINER GOLDBERG: Thank you, Mr. Moreno.

MR. FUNDSACK: Mr. Goldberg, that completes the testimony of those testifying on behalf of Johns-Manville. However, Dr. McDonald, whose work has been referred to by Dr. Wright and also cited in the NIASH document wishes to testify as an individual witness representing himself.

EXAMINER GOLDBERG: Dr. McDonald, we appreciate your coming down from Montreal to be with us.

STATEMENT OF DR. J. CORBETT McDONALD,

MCGILL UNIVERSITY, MONTREAL, CANADA.

DR. McDONALD: My name is John Corbett McDonald; I am professor of Epidemiology and Chairman of the Department of Epidemiology and Health at McGill University, Montreal. I graduated in medicine from London University in 1942 and have

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