

FILE NAME: Johns-Manville (JMA)

DATE: 1970-1973

DOC#: JMA343

DOCUMENT DESCRIPTION: Memo & Report - Selikoff Opposition
with BC Notes

7/5/98:

Selikoff Opposition 1970 -1973

Matt Swetonic memo to Solon, Hill & Knowlton (6/30/70) shows Selikoff at conference clearly aware of Swetonic's role with top management at J-M, surveillance and P.R. He comments on Cape's Dr. Smither preparing his opposition in advance of the conference, challenging and questioning Selikoff. Classifies "good Guys" and "bad Guys" (incl. Nicholson) on Selikoff's staff.

Solon (10 pp.) memo on J-M group's (June 1973) trip to UK following Selikoff's attack on the UK asbestos standard identifies Stuart Luxon, Deputy Chief Inspector of Factories as "the British government official who, at the request of Sabourin and Swetonic, appeared as an expert witness at the March 1972 OSHA hearings on the asbestos standard."

Selikoff talks in Toronto were heavily attended by industry, tape recorded for error analysis, and at a medical presentation QAMA handed out literature at the door. Jack Solon, who led this damage control effort for J-M, said: "The man, Selikoff, is an excellent presenter; he is in constant command of the situation and is convincing. If you'd like to hear how convincing--I'll gladly let you have a set of tapes to listen to." (5/18/73)

VP Solon was on a first-name basis with Selikoff and lamented unfair CBC press coverage (3/6/73).

0178

C O N F I D E N T I A L
=====

June 30, 1970

TO: W. P. Raines

CC: F. J. Solon, Jr.

Carl Thompson -- Hill & Knowlton

RE: POST-GRADUATE SEMINAR ON ASBESTOS DISEASE

Dr. Selikoff's June 15-18 seminar on asbestos related disease was designed almost exclusively to acquaint physicians and other highly technical types with the various types of asbestos related disease -- how to identify them, how they are caused, and what can be done to control them. I only attended the first two days of classroom sessions, and the field trip to construction sites in the New York - New Jersey area. I did not attend the final day's session when control aspects were discussed.

Because of the highly technical nature of the seminar, a good deal of the material was over my head, so rather than attempt a blow by blow description of the proceedings, I will merely list a few observations that may be of interest or importance.

1. Dr. Smith, of Fairleigh Dickinson, said in his presentation on the first day that his research with intra-pluvial injections of hamsters indicates a dose relationship with mesothelioma. He also said that inter-tracheal injections of chrysotile produced no reaction until he added benzo-pyrene to the mix, at which point many tumors in the lung developed. Dr. Selikoff commented with regard to the mesothelioma study that animal research is well and good, but that it would be unwarranted interpolation to equate human response with the reaction of Dr. Smith's hamsters. Dr. Selikoff was obviously concerned that some doctors in the audience might get the idea that mesothelioma in humans was also dose related, a notion completely at odds with Dr. Selikoff's ideas on the subject.
2. Dr. Suzuki, on the basis of his work with hamsters, described three possible results from the depositing of asbestos in the lung. They were:
 - a. the fiber could be digested by the cell
 - b. an asbestos body could be formed
 - c. the fiber (or fibril) could kill the host cell and be released to do more damage

Dr. Suzuki said that point 'c' explains why asbestos disease progresses even after exposure stops. It is of interest that many of the fibers or fibrils described by Suzuki as causing damage were 100 sized particles. It is also interesting, but not surprising, that Suzuki neglected to mention that most of the fiber inhaled by an animal (or a human) is never deposited in the lung, but is brought up and out by the body's mechanisms. I noticed that Dr. Selikoff raised no objection when Suzuki freely translated his findings with hamsters to human beings, as he did with Dr. Smith.

3. Dr. Selikoff completely repudiated Mr. Kissmiller's skin cancer from asbestos. He said that he has examined more than 2,000 asbestos workers and has never seen a case of skin cancer yet that he could even theoretically associate with asbestos exposure. Perhaps we should inform Candidate Ottinger of this fact.

4. Selikoff said that although he has found a strong relationship with cigarette smoking and lung cancer among his asbestos workers, there does not appear to be a similar relationship with asbestosis.

5. Based on past experience, personal conversations, and listening to them speak, I have arrived at a tentative "good guy" vs "bad guy" listing for many of Dr. Selikoff's associates at Mount Sinai. I should point out that by "good guy" I mean a doctor or technician who approaches the problem of asbestos and health with an open mind, and who is more concerned with medicine than theatrics.

<u>"Good Guy"</u>	<u>"Bad Guy"</u>	<u>Don't Know Yet</u>
Harry Heirum	A. M. Langer	Y. Suzuki
R. J. Schnitzer	Jacob Churg	
Duncan Holaday	Bill Nicholson	

6. During one of Dr. Churg's presentations, someone in the audience asked what was the difference between an asbestos body and a ferruginous body. Dr. Selikoff answered the question in a thoroughly acceptable manner, going so far as to admit that there are other fibers which can cause bodies in the lung similar to those found in asbestos workers. However, he said that he preferred the term asbestos body in all cases, because using the term ferruginous body might leave people with the impression that the body under discussion did not contain asbestos, and he would rather have people think that a non-asbestos-containing body contained asbestos than the other way around.

7. Dr. Selikoff said that, in his opinion, epidemiological studies are of absolutely no importance whatever unless retired employees are included in the cohort.

8. At the first day's luncheon, Rene Dubos gave a real Jeremiah-type talk on the environment. As might be expected, he blamed industry and government for most of the problems facing us. During the question and answer period, which Selikoff ran, the subject was raised of having someone (government? scientists?) examine all new products for possible health hazards before they are allowed on the market. The idea was pretty well accepted that any new product should be considered a hazard until proven otherwise. At this point, Selikoff asked if "Matt Suetonic of Johns-Manville" was in the audience. I replied in the affirmative, and Selikoff said that he would be willing to talk to the J-M board of directors on this subject anytime. I've been trying to figure out exactly what he was driving at ever since.

9. I talked with Duncan Holaday for a considerable while at the seminar. I gathered from his comments that he has very little personal or professional respect for Churg and Hammond.

10. At one of the coffee breaks, Selikoff asked if I felt the presentations had given a balanced view of the problem. I told him that I had hoped to hear more on the steps that industry and others are taking to reduce the hazard to employees. He said that that part of it would be covered on the last day.

11. Attached is a copy of the list of reference material given to each participant at the seminar. You will notice that 99 per cent of the medical papers included are of the type showing a serious hazard. Any medical study showing that the problem is controllable was not included. Curiously enough, Dr. Wright's paper is on the list, although the actual paper was not included in the batch of papers that I received. Someone in the audience asked about the Knox - Doll - Hill study. Selikoff dismissed it quickly saying that the number of long-term employees studied was not sufficient to give any reliable results. It was obvious that the conservative viewpoint re asbestos-health was not going to get a decent hearing at the seminar.
12. Dr. Smither of Cape Asbestos played the part of devil's advocate throughout the two days of the seminar that I attended. The questions he asked and the points he brought up were not too damaging to Selikoff's position, but they did help keep things in perspective and kept Selikoff and the other speakers on their toes. Reitze told me that Smither had told him that he had actually planned to do this at the seminar.
13. There is no question in my mind, after talking with a number of the doctors attending the seminar, that the sessions achieved their purpose. For whatever reason they attended the seminar, they were nearly all scared to death of asbestos when they left.
14. The tour of construction sites was an especially interesting conclusion to my participation in the seminar. There were nine of us on the tour -- Nicholson, Novak of the Asbestos Workers Union, a lawyer from Mount Sinai named Lattimer, Jack Barnhart of NEHA, C. R. Horres of NATEA, Dr. L. A. Plumlee of IEM, Dr. C. G. Kramer of Dow Chemical, one person whose name I didn't get, and me. We visited a school site in Staten Island where we met Ted Brody of the contractors association. The conditions there were, frankly, a mess. Brody said that it was as untypical a site as could have been selected. Nicholson and Novak said that it was actually a pretty clean job. Horres was afraid to stay very long on the site because he said he firmly believed that one fiber is enough to kill you. He was impossible to talk to. He had the worst possible attitude of anyone I met at the seminar, in fact probably the worst attitude of anyone I've ever met anywhere. Horres told me that he is working on some engineering criteria for asbestos pollution control, and that he was scheduled to meet with Herb Levine to discuss spraying. Unfortunately, Dr. Plumlee wacked his head on a beam at the school site and we lost a lot of time finding a hospital on the island where his wound could be attended to. By the time we left the hospital it was too late to meet with Levine, as was scheduled. Nicholson told Horres not to worry and suggested that he talk with the New York Environment Protection Administration people instead. The EPA, Nicholson said, would not give him a prejudiced viewpoint as Levine probably would have. Horres thought that that would be a good idea. What happened after that I cannot say.

We also visited a boiler insulation job site in Jersey City. There was not really very much to look at, because they were installing mineral wool mats instead of asbestos during our tour. However, the subject came up of the union's responsibility to accept work practices that would reduce dusts. Novak defended the union in such a poor manner that by the end of lunch practically everyone in the group was firmly convinced that much of the disease among its members was the union's own fault. Dr. Plumlee told me that his eyes had really been opened. Even Lattimer, the Mount Sinai lawyer, blamed the union for much of the problem. Nicholson, who had been very restrained during the entire tour, also kept his mouth shut during the lengthy and heated discussion of the union. Horres still thought he and everyone else in the country was going to die, but the rest of the tour group was on our side after the tour and against the union.

In conclusion, the seminar was directed primarily to a medical audience and was, therefore, of little real interest from a public relations standpoint. Dr. Selikoff was rather restrained during the seminar, probably because of the nature of his audience. Most of the attendees, however, were unquestionably concerned and frightened by the various presentations, and we should expect that they will convey this feeling to their various hospitals, companies and government agencies. We did gain some points on the tour of construction sites, but it is hard to say if any real good will come from it.

Matt Swetonic

Environmental Affairs
Denver GHQ
May 18, 1973

F
000111A

W. R. Goodwin	E. F. Marriner, M.D.
J. B. Jobe	J. A. McKinney
F. H. May, Jr.	H. B. Moreno
R. P. Carter	F. L. Pundsack
R. H. Cuje	W. B. Reitze
E. M. Fenner	Ivan Sabourin
W. F. Goodwin	F. J. Solon, Jr.
N. W. Hendry	W. C. Streib
J. E. Hesse	W. L. VanDerbeek
D. E. Hillier	W. C. Winblad
J. R. M. Hutcheson	G. W. Wright, M.D.
A. B. Marchant	

REPORT ON RECENT PRESENTATION IN TORONTO BY DR. SELIKOFF

Dr. Irving J. Selikoff of Mount Sinai Hospital, New York, made two presentations recently in Toronto.

First Presentation

On May 2nd at 8:00 P.M., at a meeting advertised as open to the public, he addressed some 75 or so people on the subject, "Health Hazards of Asbestos".

At this presentation, Dr. Selikoff used every slide I've ever seen him use before, covering every subject designed to interest and arouse a public audience -- the dangers of asbestos spray, classroom molding compounds, filtered vaccines, talcum powder, sugar filtered through asbestos, rice polished with tremolite - containing talc, beer, liquor, gin filtered by asbestos-- and on and on.

At the end, his plea was for cooperation between industry, labor, government and medical researchers to solve the asbestos-health problem.

In reply, I thought both Ivan Sabourin and Dr. Mike Pelnar did an excellent job. Ivan pointed out the differences between the health experience of asbestos mine and mill workers in Canadian chrysotile mines versus the experience of Dr. Selikoff's groups of insulation workers. He stressed Dr. McDonald's study. He also brought out the effects of cigarette smoking which Dr. Selikoff had not done in his presentation.

REPORT - DR. SELIKOFF - TORONTO
Page 2
May 18, 1973

Dr. Pelnar pointed out that Canadian mine and mill workers had pure chrysotile exposure whereas the insulations workers had been exposed to various types of asbestos -- a mixed exposure.

A union official from our Port Union Plant by the name of Stewart, spoke headlines into the floor microphone, saying that many employees of the J-M plant had died, many more would die and that J-M officials were not cooperating by giving the union adequate medical facts on the Port Union employees. Stewart must have been interviewed later by the press, gave them more untrue but juicy facts which they used. Again, a case of the sensationalizing press.

Second Presentation

On May 3rd at 9:30 A.M., in a much more clinical atmosphere -- again in the Medical Science Building of the University of Toronto, again sponsored by the Yorke-Toronto Tuberculosis and Respiratory Disease Association and the University's Department of Preventive Medicine -- Dr. Selikoff lectured a mixed audience of pre-med students, a few general public types and we from industry on the "Epidemiological Aspects of Asbestos Exposure".

It was a presentation quite in contrast to that given the evening before. It was not sensational in style and so was quite convincing to those in the audience who, though serious about the subject, were not very knowledgeable.

One fact -- of considerable import to the industry -- came through loud and clear. Dr. Selikoff is going to fight hard on the chrysotile, crocidolite, amosite matter. He said quite directly that until there is much more positive evidence that chrysotile is less dangerous than crocidolite and amosite, he is not going to "buy" it.

Marc Gosselin of AFD, at my request, taped both the Selikoff presentations. We've made verbatim transcripts of his comments on this matter (which he talked about at both presentations). Dr. Wright is researching and analyzing these scripts with a view to giving us refutations as they exist, so we can in turn go to Selikoff and present the other side of the story.

REPORT - DR. SELIKOFF - TORONTO
Page 3
May 18, 1973

This is one of our key projects now because it is important to us to refute him quickly and soundly whenever we feel he is "off the reservation". The chrysotile matter is too important to us and we intend to hit hard with every available argument.

One or two other things -- the QAMA group handed out at the door of the meeting room --

1. Asbestos and Your Health (blue folder) -- you already have.
2. Lyon Report -- you have.
3. Press release on Lyon Report (attached).
4. Clips from Globe and Mail with comments by Dr. J. E. Cowle, (attached).
5. List of industry attendees.

I'm also attaching a copy of Paul Filteau's report on the two Toronto presentations so you will have another point of view besides mine as the only attendee from the U.S. Also, clips of the meetings.

The TB Association gave out several leaflets on penumoconiosis plus a bibliography on Dr. Selikoff. Scanning it will give you some idea of what a prolific publisher he is.

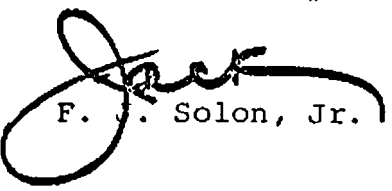
In summary, in contrast to the feelings expressed by some, I believe the industry put up a valiant fight at the Toronto presentation but that doesn't necessarily mean we were the winners.

The man, Selikoff, is an excellent presenter; he is in constant command of the situation and he is convincing.

If you'd like to hear how convincing -- I'll gladly let you have a set of tapes to listen to.

I will keep you advised of developments on the chrysotile-crocidolite-amosite argument front.

Meantime, if you have any questions, please call me.



F. J. Solon, Jr.

00111H

QUEBEC ASBESTOS MINING ASSOCIATION

580 GRANDE-ALLÉE EST — SUITE 320

May 10th, 1973.

QUEBEC 4, QUE.

Telephone 529-8168

TO: Mr. Michael J. Messel
Mr. R.S. Coleman
Mr. W.W. Doughtred
Mr. M. Dorais
Mr. J.R.M. Hutcheson
Mr. M. Prus

CC: Mr. I.C. Campbell
Mr. A.H. Bagenstose
All attendants

FROM: Paul-A. Filteau

SUBJECT: Dr. Irving Selikoff, guest speaker before the
York-Toronto TB and RD Association and the
Department of Preventive Medicine, University
of Toronto - May 2nd and 3rd, 1973.

At the Medical Sciences Bldg., University of Toronto, Dr. I.J. Selikoff delivered on May 2nd at 8:00 p.m. an address on the "Health Hazards of Asbestos" and on the next day at 9:30 a.m. a lecture on the "Epidemiological Aspects of Asbestos Exposure". There was an attendance of some 80 to 90 people for the evening session and a class of around 60 people for the morning lecture. The names of the people related to the Canadian asbestos industry who attended these meetings are shown on the attached list. Dr. R.W. Morgan, Department of Preventive Medicine, University of Toronto, acted as chairman.

As agreed at a special meeting of QAMA directors held on April 19 in Montreal, publicity material was distributed at the entrance of the meeting rooms, courtesy of the Association. The package included a copy of:

1. Asbestos and Your Health (blue folder);
2. Report and Recommendations of the Advisory Committee following the Lyon Conference;

3. A press release on the major conclusions of the above Advisory Committee;
4. A news clipping from the Globe and Mail of April 30, 1973, in which Dr. J.E. Cowle submits that press reports on diseases resulting from exposure to asbestos have been exaggerated.

Everyone was given a set and some, as in the case of Union representatives and University staff, asked for large numbers of additional copies.

A) Health Hazards of Asbestos

In his usual self-confident, easy-going approach, Dr. Selikoff, seemingly delivering a well rehearsed or oft-repeated talk, first commented on the unique value of the mineral asbestos, its increasing production since the Second World War and the large consumption in the U.S.A. Through a series of slides he reviewed early occurrences of asbestosis and lung cancer in England, South Africa, U.S.A., etc.

Then flashing tables showing onset of exposure in various age groups of U.S. asbestos insulation workers, workers of a textile plant in U.S.A. and an asbestos-cement plant, Dr. Selikoff insisted on the number 20 (years) since onset of exposure as a significant figure for appearance of radiological abnormality. It was startling to notice throughout the projecting of these tables, however, that one table would refer to asbestos insulation workers, the next to asbestos workers, this being repeated several times for the same group of workers, possibly intended to produce generalizing effect on the spectators by omitting specific references.

This was followed by various specific examples showing the hazardous nature of asbestos. Attention was thus subtly drawn to the danger of using talcum powder, of eating sugar strained through asbestos, rice and chewing gum coated with talc, drugs, beer and liquor filtered through asbestos, wearing coats made of asbestos material, using papier-mâché by children and asbestos paper in the cannon rendering by an orchestra of the 1812 Overture, etc. etc. All these instances to impress on the audience the pervasive nature of asbestos and the generalized contamination of the public at large, regardless of exposure.

Finally, Dr. Selikoff appealed to the collaboration of Industry, Government and Medical Research in an effort to find a solution to the asbestos-health problem so that "society, which needs asbestos, won't throw the baby out with the bathwater", as he concluded.

Comments from the Floor

Without diminishing Dr. Selikoff's expertise, I. Sabourin pointed out emphatically that a distinction must be made between the experience of the asbestos insulation workers in U.S.A. and the asbestos mine and mill workers in Canada and that some of Dr. Selikoff's claims in his U.S. research studies are not justified by medical data published in Canada. Moreover, improvement of in-plant dust control, it was emphasized, was initiated and pursued for more than 35 years.

Dr. Peinar submitted that the Canadian asbestos exposure was to pure chrysotile, whereas insulation workers had been exposed to a mixture of various types of asbestos.

A union official, named Stewart, referred in sensational overtones to, what he claimed, a lack of cooperation on the part of the employer at the Port Union plant.

Dr. J.E. Cowle simply asked Dr. Selikoff to confirm his position suggesting that people do not incur asbestosis unless occupationally exposed, and that lung cancer occurs more often in people with asbestosis. Dr. Selikoff generally agreed.

B) Epidemiological Aspects of Asbestos Exposure

In a classroom atmosphere, Dr. Selikoff delivered a technical lecture with a professorial touch, again making an abundant use of slides.

Referring to the approach and method in conducting an epidemiological study, Dr. Selikoff insisted repeatedly on three essential conditions, namely:

- a) adequacy of sample (large cohort of workers);
- b) locating and examining all members, if possible;
- c) assessing all circumstances, such as onset and duration of exposure, detailed occupational history, smoking habits, etc.

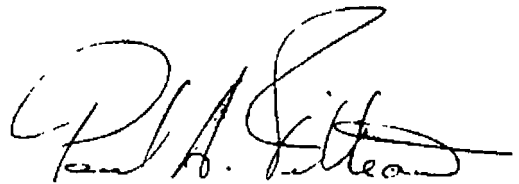
This was somewhat in contrast with his own approach in his remarks of the previous evening, when, from random and often rationalized examples and circumstances, he repeatedly drew broad inferences and speculative predictions regarding persons having been occupationally exposed to asbestos as well as regards exposure to minute amounts of asbestos in community air as a hazard to the general public.

Again by means of a series (slide presentation) of tables, X-ray changes and views of lung sections, Dr. Selikoff pointed out and concluded that radiological evidence of asbestosis and lung cancer appeared frequently in individuals examined more than 20 years from onset of exposure and less frequently in individuals after less than 20 years of exposure. He also

showed very vividly the multiplicative effect of asbestos exposure and cigarette smoking, pointing out that no case of lung cancer had been found among the non-smoking asbestos insulation workers.

Dr. Selikoff's lecture took most of the time allotted for the session, which left only a few minutes for technical (sic) questions to be posed. Dr. Selikoff, we were told, had to catch a plane shortly after his talk.

On the whole, it would seem that Dr. Selikoff came out on top, but that the position and the differing experience of the Canadian asbestos industry were clearly asserted and possibly with a mitigating effect on some of Dr. Selikoff's allegations. Obviously the ideal confrontation would be with a qualified medical person with equal speaking ability and willing to present the industry point of view.

A handwritten signature in dark ink, appearing to read "Paul-A. Filteau". The signature is fluid and cursive, with a large initial "P" and "F".

Paul-A. Filteau.

LIST OF PARTICIPANTS

ON BEHALF OF

THE CANADIAN ASBESTOS INDUSTRY

Messrs.:	André Beguin	Dr. Roland Guy
	Jack Berry	J.R.M. Hutcheson
	S.K. Brigham	K.V. Lindell
	Ph. Casgrain	G.P. Loubert
	J.D. Christian	T.S. Patterson
	Marcel Dorais	Dr. P. Pelnar
	Jean Dupéré	L.C. Piuze
	P.A. Filteau	I. Sabourin
	M.A. Gosselin	F.J. Solon

* * * * *

ATTENDING TORONTO PRESENTATIONSJohns-Manville

J. R. M. Hutcheson
Chairman - CJM

Pat Loubert
President - CJM

Marc Gosselin
Director of AFD Public Relations

Tom Patterson
Director of Advertising and Public Relations
(Environmental Affairs Coordinator)
Canadian Products Division

Ivan Sabourin
Canadian Counsel to J-M

F. J. Solon, Jr.
Vice-President
Environmental Affairs

Quebec Asbestos Mining Association

Paul Filteau
Director-Manager

Karl Lindell
Consultant

P. Pelnar, M.D.
Secretary
Institute of Occupational & Environmental Health

Philip Casgrain
Attorney to QAMA

Jean Dupere
Attorney to QAMA

Cassiar

Jack Christian
President

Jack Berry
General Manager

S. K. Brigham
Chief Engineer

Andre Beguin
Engineer

Bell Asbestos

Marcel Dorais
President

Lake Asbestos

Lionel Piuze
Vice-President-General Manager
(Chairman QAMA Environmental Committee)

Special Consultants

Dr. Roland Guy
Pathologist
Montreal

Death rate up

Hazards of asbestos cited by N.Y. doctor

By JOAN HOLLOBON

A medical lecture on health hazards of asbestos turned into an impassioned debate last night between the New York doctor giving the talk, defenders of the Canadian asbestos industry and a Toronto union man.

Dr. Irving J. Selikoff said that industrial exposure to asbestos greatly increases the death rate 15 or 20 years later. Studies of former workers dying prematurely, have shown between seven and 10 times the usual rate of deaths from lung cancer; three or four times the expected rate of deaths from cancer of the stomach and intestines; a much greater likelihood of death from a rare tumor of the lining of the chest and abdomen called mesothelioma and a high rate of death from asbestosis, which is not seen among non-industrial workers.

In some cases, individuals worked only a few weeks in an asbestos plant, sometimes during the Second World War, only to succumb 20 or more years later, he told a meeting sponsored jointly by the University of Toronto Preventive Medicine Department and the York-Toronto Tuberculosis and

Respiratory Disease Association.

Dr. Selikoff said lung cancer is found only in asbestos workers who also smoke. He criticized construction methods which allow asbestos dust to escape, producing hazards for all other workers on a site, as well as contaminating the general public. He said all samples of New York air show asbestos particles now. Fibres have been detected in the lungs of every individual autopsied during the past year at Mount Sinai School of Medicine, New York, where he is a professor of community medicine.

He said no one knows if this slight exposure of the general public will pose hazards in 15 or 20 years. He pleaded with industry to accept responsibility, so that "society, which needs asbestos, won't throw the baby out with the bathwater."

At this, Ivan Sabourin, counsel for Johns Manville Corporation of Canada, made an impassioned response, claiming that the asbestos mining industry for over 30 years has sought top medical and engineering experts to protect mining and industrial workers.

Johns-Manville Corporation

Greenwood Plaza
Denver, Colorado 80217

F. J. Solon, Jr.
Vice President
Environmental Affairs

March 16, 1973

CONFIDENTIAL

Prof. Irving J. Selikoff, M.D.
Mount Sinai School of Medicine
The City University of New York
5th Avenue and 100th Street
New York, New York 10029

Dear Irving:

Here are the three CBC radio broadcast transcripts I mentioned on the phone Saturday.

You tried to be circumspect most certainly - but not they! No delineation of the one million figure, for example, giving the breakdown you gave in your Washington testimony.

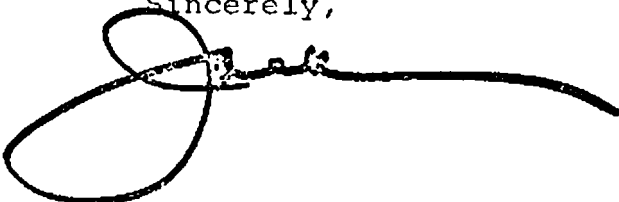
And the business of "doesn't pay to get up in the morning anymore!" Wow!! as I said in the marginal note.

So many times it isn't what we say but what they do with what we say - what they interject. But this is the technique with the media today - use the interviewee all you can to make your point. Get him to ad lib - then add to or twist. It's a shame, isn't it?

So be it - but I thought you should have these transcripts - and so should our confidential friend, Ivan.

I am pleased with our recent exchanges - and I hope you are, too.

Sincerely,

A large, stylized handwritten signature in black ink, appearing to be 'F. J. Solon, Jr.', with a long horizontal stroke extending to the right.

cc-Ivan Sabourin

Continued from previous page

So the engineer has to study the problem very thoroughly, and has to be prepared to check and make alterations if necessary until the required control is achieved. This is where we are fortunate in having around the Group many engineers who have spent most of their working life with asbestos and know a great deal about its peculiarities.

One ingenious way of testing whether dust control equipment is in control is by using a light beam. This produces the same sort of effect as a sunbeam shining through a window showing up dust in a house—but of course it shows up all dust, whether it is asbestos or not. Our dust monitors can tell by sampling if the equipment is successful in reducing the dust level, but they cannot tell why, if it is not.

OBSERVATION

By using the light beam (known as the Tyndall beam), however, the engineer can observe the otherwise invisible fine dust and see where it is escaping from the equipment.

In the past, although our

engineers made a great contribution to dust control, they had to rely on visual judgement—on the elimination of visible dust—they did not have the two invaluable guides of dust measurement and Tyndall beam. These techniques, developed and applied during the last ten years, have been of enormous assistance in concentrating attention to the vital points of control.

Of course, however ingenious and effective is the design of the equipment, it will be useless unless it is used properly and maintained at peak performance. Regular weekly inspection is laid down in the Regulations, as well as a very thorough annual inspection by a suitably qualified engineer, but installations should be watched constantly by those who work with them and the slightest leak or other defect must be reported immediately. It seems too elementary to say, but experience shows that it is necessary, that no machine should be switched on before the extraction system is working, and, of course, the extraction should be the last thing to switch off when closing down.

Personal protection and hygiene

Only as a last resort, when means of sufficiently reducing the dust level have not been found possible, should the use of respirators be accepted as the means of protection. There are, of course, some operations, such as maintenance of the dust extraction filters, where this is unavoidable, and the Group's practice is to label these as "Protected Areas". No one must enter such areas unless they are wearing the prescribed respirator and protective clothing. Everyone who has to do such work, however infrequently this may be, must be properly trained in the use of the equipment, and the equipment must be issued to him exclusively for his own personal use. The equipment must also be carefully stored when not in use—not left lying about in the work place—and must be properly and regularly cleaned and serviced.

Cape has always provided respirators to the pattern currently approved by the Factory Inspectorate. There are some occupations where, under the 1931 Regulations and the new ones, it is required that these should be supplied and worn. But it has always been Company policy to make them also available to anyone who wishes to wear this additional personal protection, even in operations where dust extraction is provided and the wearing of respirators is not considered necessary under the Regulations for protection. This, it must be admitted, sometimes leads to confusion as to when respirators are necessary and when not. The rule is, nowadays, quite clear—they **MUST** be worn in

places where the notice



Respirators must be regularly cleaned and checked; John Gaughan looks on while George Allan reassembles a respirator at Germiston.

been used in varying degrees over the years.

Lagging work was not covered by the Asbestos Industry Regulations of 1931, neither were ladders included in the list of people who were required to be regularly medically examined by the Pneumoconiosis Medical Panel. Efforts by the Company to arrange medical examinations for men working on lagging contracts were frustrated by the fact that ladders move from one employer to another, according to which company uses a partic-

ular regular medical examination, but this only represented part of the total number of ladders employed all over the British Isles.

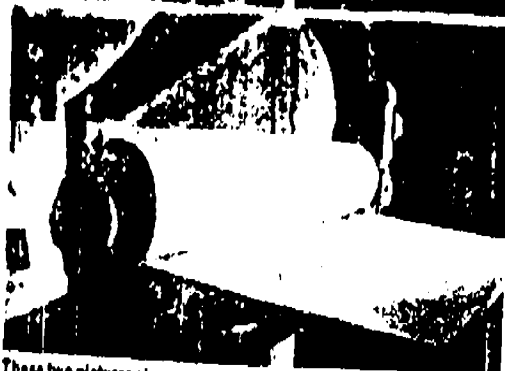
High Standards

The nature of lagging work makes it impossible in most situations to control dust by ventilation, so the emphasis here must be on personal protection, high standards of cleanliness and the avoidance of work methods which create dust.

than not, contains asbestos. Strict rules have been drawn up to ensure the greatest possible avoidance of dust in such work by, for example, thoroughly wetting the old lagging before and during stripping operations. Spread of dust to other areas can be avoided by enclosing the work in polythene sheeting, regular cleaning with vacuum cleaners and properly controlled disposal of stripped material. Men engaged in this type of work must be equipped with suitable high efficiency



2110011



These two pictures give a good example of the way in which a "Tyndall" beam is used to check the effectiveness of a dust extraction system. The picture on the top left shows a cloud of dust coming from a board sanding machine. This picture was taken when the dust exhaust was switched off. The other picture shows what happens with the dust extraction plant working properly—the control is complete and no dust is allowed to escape. These pictures, taken at Germiston, one of our factories, were used by the Factory Inspectorate to illustrate their publication "Control of Asbestos Dust". It should be pointed out that the beam shows up and amplifies all dust; it is necessary to take dust samples in order to measure how much of it is asbestos.

Protected Area

Hygiene

Avoidance of dust by engineering methods is the first and a most important step, but much of the benefit can be lost unless a high standard of cleanliness is also attained. It is not always easy to preserve a clinical appearance in a workshop, but waste materials and accumulation are potential dust hazards, especially if the occasional spring clean is carried out with an enthusiastically handled broom. Regular and frequent cleaning up is the answer and, of course, using vacuum cleaners or what the Asbestos Regulations call "other dustless methods".

Regularity, too, is the key-word in collection and removal of working waste and any materials likely to produce dust. Dusty waste must be collected in containers which prevent dust escaping and removed regularly for disposal under properly controlled conditions.

Laggers—thermal insulation and control of dust

The organization of monitoring working atmospheres, and of dust control by engineering ingenuity which has been described in these articles is related chiefly to factories. There is one section of the Group's activities where the problems of control are somewhat different. This is in the Insulation Contracting side, traditionally known as "lagging".

For many years the most popular lagging materials were, either completely or in part, made from asbestos, and all three types—amosite, crocidolite (blue) and chrysotile—have

been used in the course of years, a man may have been employed by a lot of different companies in various parts of the country. Where there was any degree of continuity (for example at the old Cape factory at Barking where a group of laggers based on the factory carried out work in the London and Eastern Counties), the Company was able to arrange



responsible.

Regular Medical check-ups

The mobility of laggers between jobs and employers still makes it to organize medical supervision as effectively as has been made in consultation with Trade Unions concerned. It is hoped that before arrangements can be made for regular medical check-ups for all men who may, in the course of their work, be involved in the use of asbestos.

Left: A Cape development for preventing spread of dust for lagging work. Suction provided by a pump so the movement of air is through the polythene enclosure that any dust created inside does not escape.

In the future . . .

The monitoring reports produced for each factory, and the periodic sampling visit paid by Ken Hey and John Jarvis from Group Environmental Services show that steady and consistent progress in the reduction of dust levels has been maintained since the system of regular reporting was introduced.

This does not mean, however, that our efforts can be relaxed. Although there is a standard set by the Factory Inspectorate

for a safe level of dust, our aim is to reduce asbestos dust in our factories to the lowest possible level.

Constant vigilance is necessary to ensure that improvements are kept up and not whittled away by neglect of equipment through bad maintenance or careless use, by lack of attention to good housekeeping, by lack of training and information. The worst enemy of good and consistent standards, however, is complacency.

The fact that much excellent progress has been made is not to delude us into thinking the work of dust control has been completed, or will ever be complete. New and better methods of working will continually be sought. Continued research will give us better information about the effects of asbestos, and indeed of other materials, can have on the human body, so that the measures taken can be better directed and even more effective.

Leave the brooms to those who fly them
We have vacuum cleaners—try them!

Above one of the posters reminding Group employees to use vacuum cleaners.

Special supplement on asbestos

TAKING CARE OF YOUR HEALTH



A statement by the Group Chairman

EVERYONE who works for this company will know of the hazard to his health that can be caused by exposure to asbestos dust. Unhappily, in spite of all the efforts of doctors, scientists, engineers and others who have striven to prevent it, there are still those who develop symptoms of disease, often many years after exposure.

on medical and engineering research.

One might well ask why continue to use asbestos if the slightest risk remains. This difficult question applies to many other hazardous substances used in industry. The answer must lie in the degree of risk, the value of the product to humanity, and the possibility of using suitable alternatives.

All those considerations receive constant and earnest thought by the management of your company and research into the use of non asbestos substitutes is continually being carried out.

Nevertheless for fire resisting materials for use on land and sea, which have demonstrably saved many lives, and for brake-



Blow for Sister

Thomas Seymour tests his lung capacity by breathing in to the lung function machine, while Sister Gasson notes the measurement made by the indicator on the chart.

been with Cape for over twenty five years and has extensive personal experience of asbestos manufacture. He is also Chairman of the Environmental Control Committee of the Asbestos Research Council.

HOW IT AFFECTS YOU

You will want to know just what is being done to achieve safe working conditions in our factories. These four pages of Cape News have been set aside to tell you this. Mr Cross describes how safety limits have been arrived at and how they are applied. In another article, Dr Smither (Cape's medical consultant, who is a widely recognised authority on the medical aspects) explains in simple terms, exactly what the health risks are and what is behind the medical examinations to which all workers are subjected.

You will see that new and much more rigorous standards have been introduced and are enforced by law. The air we breathe in the factories is tested regularly and close medical supervision of all workers who come into contact with asbestos continues.

There is still more to be done but with the results of many years of scientific research behind us, the experts believe

Your health and your work

DR RICHARD GAZE — Cape Director and Chief Scientist — introduces two pages of information about asbestosis and what is being done to safeguard the health of all workers in the factories that use asbestos.

Those of you who, like myself, have worked in or been closely associated with Cape's factories for many years, are well aware of the considerable progress that has been made in improving working conditions since the time of the last war. There was of course great pressure for production during the war years, followed by an equally busy period with new processes being set up and general reorganisation in the factories. Much heavy ventilation equipment had already been installed

MORE RESEARCH NECESSARY

Perhaps the greatest step forward was made during the 1950's. Recognising the need to acquire more scientific and medical knowledge of the causes and prevention of asbestosis, the managements of the main asbestos companies in the U.K. (Turner and Newall, BBA Group and Cape) decided to share all their knowledge of the question and jointly to undertake an extensive programme of

As Doctor Smither explains elsewhere in this section, the effect of improvements in working conditions has not been immediately apparent because of the long period that elapses before symptoms of asbestosis develop. For this reason, knowledge has been hard to come by and it is only in very recent years that scientists and doctors have been able properly to measure the very fine fibres in the air and to make a more precise assess-

been believed at the time.

Certainly for the past twenty-eight years, employees have been medically examined on entry, and at regular intervals thereafter. Notices advising them of the risks (as required by law), have been exhibited in work-places and large sums have been spent on dust exhaust equipment, other safety precautions, and

everyone exposed to it must take the precautions recommended. These are not complicated or difficult for employees, but they do call for care.

If the precautions are observed, I sincerely believe that the risk to health is very small indeed and no greater than the ordinary hazards of everyday life.

R. H. DENT

the managers and engineers talking of the conditions as they had been in the early thirties (when they first became aware of the danger to health associated with breathing asbestos dust), saying how much things had improved as a result of the extensive installation of ventilation equipment in the factories. Much had indeed been done and much damage to health averted but had present day knowledge been available, more extensive precautions would certainly have been taken and with hindsight, we now know that these were necessary.

of this subject together with engineering and other questions associated with environmental control. In another article, Alex Cross describes this research much of which is today being carried out at the National Coal Board's Research Foundation in Edinburgh.

tant to ensure that the best knowledge available is carried through to working conditions on the shop floor. With this in mind, Cape set up a Group Environmental Services Department in January 1958 and appointed Mr Alex Cross to be in charge of this. Mr Cross has

departmental supervisor or

the personnel department. Should you wish to discuss a medical question in connection with your work, then make an appointment to see your factory doctor.

I hope you will read all the articles and that you will find them helpful.

R. GAZE

Control by Regulation

Following a report in 1930 by two members of the Factory Inspectorate, Merewether and Price, the Asbestos Industry Regulations 1931 were formulated. These were designed to protect workers in the asbestos textile industry, mattress making and the opening, preparation and mixing of asbestos fibres.

In 1969, new regulations were introduced which were not only more comprehensive in their range, but were designed for the protection of people working with asbestos, wherever and however this occurred, if harmful quantities of dust were likely to be produced. Furthermore, these regulations were supported by technical data which, for the first time, laid down specific standards for dust levels which were believed to ensure safe working conditions.

THE LESSONS OF THE PAST

It was first realized in the early 1950's that the 1931 Regulations had not resulted in the

elimination of asbestosis. For the first time cases were diagnosed among workers whose only exposure to asbestos dust had been since the 1931 Regulations had been applied. This could only mean that the protection afforded by these Regulations was inadequate.

RESEARCH

Co-operation and consultation on an informal basis between the major asbestos companies in the U.K. led to a more formal plan to pool information and organize research by the formation in 1957 of the Asbestosis Research Council.

Working closely with such non-industry organizations as the Pneumoconiosis Research Unit and the Factory Inspectorate and with research projects farmed out to various centres of scientific study (Cambridge, Reading, Manchester, Leeds), many avenues of enquiry were pursued. At first, the outcome of research was disappointing—the more we learnt, the more we

realized we needed to know. The unanswered questions multiplied. How does asbestosis happen? How do asbestos fibres cause fibrosis? Why does working with asbestos only affect some people, while others working in the same place remain unaffected? Does all asbestos fibre have the same effect? What is an asbestos fibre, anyhow?

How can one recognise a dangerous level of dust—how and what should we measure?

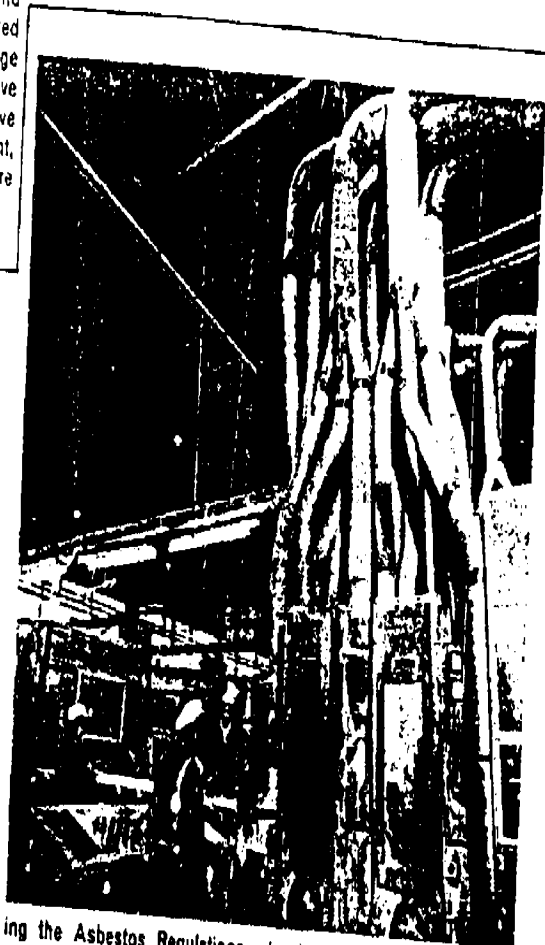
Many of these were blind alleys, but more reliable information began to emerge as to how and where the cause of the disease might occur. After a number of reports, surveys, provisional codes of practice, etc. the British Occupational Hygiene Society considered there was enough evidence to recommend a hygiene standard for use with asbestos dust. From this has been devised the standard for a safe working level which the Factory Inspectorate has adopted when apply-

ing the Asbestos Regulations 1969. The standard is based on the average dust level measured over a normal period of work. Where the average is less than 2 fibres per cubic centimetre no further action is considered necessary. If the level is higher than 12 fibres per cc, then full personal protection, including the use of respirators, must be used. If concentrations occur greater than 40 fibres per cc, then a more sophisticated type of respirator such as a positive pressure or air line respirator is required. Where average dust

levels are between 2 and 12 fibres per cc, then the control methods which the Factory Inspector requires depends on a combination of the time during which the condition occurs and the extent by which it exceeds 2 fibres per cc.

Apart from providing a means of measuring the atmosphere to decide when controls were sufficiently effective, the big difference between the 1931 Asbestos Industry Regulations and the new Asbestos Regula-

Continued overleaf.



LEFT:

Some equipment for the control of dust is very elaborate. This picture (below right) which formed the cover of the Cape Magazine seven years ago, shows a newly installed multiple duct for removal of dust from a saw at Acre Mill. A more up-to-date installation is seen in the photograph showing a sander at Uxbridge fitted with a very elaborate, but effective, arrangement of exhaust ducts which remove the dust sanded off the surface of the board.

Cape



Continued from previous page

tions was that every person whatever their job or wherever they worked was covered by these safety requirements. If asbestos dust could be present in harmful quantities then the Regulations applied.

There was, therefore, little, if any, opportunity for any category of workers to slip through the net. The definition of asbestos dust provides the means of deciding, by scientific measurement, whether controls are effective.

It is not an exaggeration to say that this revolutionized the approach to the control of asbestos dust in the working environment—the effect of which is confidently expected will be seen in the course of the next 10 years to have virtually eliminated asbestosis from the list of industrial hazards.

Will the 1969 Regulations be any more effective than were the 1931 Regulations?

One of the biggest problems that medical and environmental researchers have to contend with in dealing with some types of industrial or occupational hazards is the length of time it takes in most cases for the effect to become apparent. Ideally, as has been frequently demanded by people concerned for the protection of workers, all materials, especially new products, should be carefully examined to be sure that they have no harmful effects either for those who work with them or for those who use them. Unfortunately, there seems to be no short cut to determining with complete certainty whether any new material contains such a

Medical arrangements in the Group

DR WALTER SMITHER has been the Group Medical Adviser since 1955. He is also Medical Consultant to the Asbestosis Research Council, a member of the Research Committee together with Dr Alan Hodgson, and is an expert on asbestos-related disease of international repute. As well as his responsibilities for the Group as a whole, he looks after the people who work in the area around London

—primarily Uxbridge and Watford.

For the other Cape factories where asbestos-containing products are manufactured, local arrangements are made for medical examination of people employed there. Each factory is visited separately by a local doctor who has a thorough understanding of the health problems associated with inhalation of asbestos dust. Facilities

are provided at the factory for the doctor to carry out medical examinations and consultation and for maintenance of medical records. Usually the doctor is helped by a nurse who, apart from this aspect of her work, deals with the day to day first aid treatments which may occur.

Anyone who is anxious about the effect his work may have on his health should ask to see his works Medical Officer. In case anyone should be in doubt who this is, we have included a reference list below. You can find out when your own factory doctor is available through your personnel department.



Harry Flood, feeding Asbestolux board into the multi-dial has his breathing zone tested for cleanness by Basil Fos who with Ian Pasco does most of the dust monitoring Uxbridge, Tolpits and Harefield.

C.C.L. and C.U.B.P.

Uxbridge

Tolpits

Harefield

C.C.L. Chadwell Heath

Bowburn

Dr R. N. Hill. (North of England Industrial Health Centre)

Germiston

Dr W. J. Weech

C.I.L. Stirling

Dr D. A. White

S. & P. Hendham Vale

Dr I. McPherson

T.D. Brislington

Dr G. A. Mills

EMAS

Employment Medical Advisory Service
Department of Employment
Baynard House, Chertsey Place, London W2

MS (A) 2

ASBESTOS AND YOU

Medical supervision of asbestos worker

Asbestosis is a kind of scarring and thickening of the tissues of the lung. Although this kind of scarring, called "fibrosis", can occur in many other diseases not connected with industry, the main concern of the asbestos industry is to prevent our workers from becoming disabled due to inhaling too much asbestos dust.

The thickening of lung tissue affects the way the lung works, so that a sufferer from asbestosis cannot breathe so efficiently and his lungs cannot take up all the

is not able to use all the protective breathing equipment provided, or who already has some degree of disability affecting his chest or breathing functions. That is why first employment is conditional upon "passing the doctor", who will use physical examination, lung function tests and X-ray reports to assist his decision.

This initial examination form

appreciation of the who-hearted co-operation I have received from every man who I have asked to participate in important research).

There is a final advantage medical supervision which less obvious. Men are given the opportunity, under conditions of strict medical confidentiality,

what happen when friction being are exposed.

Standards recommended

Ironically, the past record of occupational health damage to people working with asbestos may have resulted in it being one of the safer materials to use since there is such a weight of information available from past activities, exposures and the effects on health, that organizations like the British Occupational Hygiene Society have felt confident in recommending a standard by which the effectiveness of safety measures can be judged. It takes time, unfortunately, for such measures to be reflected in an improved health record. The survey which the Employment Medical Advisory Service of the Department of Health has put in hand with the help of the medical advisers to the member companies of the Asbestosis Research Council, will provide a more precise record of the effects and controls than has ever been available in the past, and that is almost without parallel in the history of occupational health. Some people are already expressing concern that some of the materials which have been recommended for use instead of asbestos may, themselves, involve some hazards which will not become evident until many more years have passed

Past record

In the light of all this the Company's policy in dealing with this particular problem consists of a number of related steps.

In those cases where a person's capacity is impaired as a direct result of his past employment in a situation where the dust level has not been sufficiently controlled, the Company accepts its duty to provide every assistance in ensuring that he or she

This leaflet is about the risks involved and the way in which they can be reduced to a minimum.

How asbestos affects the body

Asbestos fibres can be inhaled, and may be deposited in the lungs. Only fibres of very small size — too small to be seen with the naked eye — can get into the lungs. However, where there is a visible cloud of dust, containing larger fibres, it can be expected that invisible, possibly harmful, fibres may also be present.

In the ordinary way small amounts of asbestos fibres which reach the lungs are walled off in such a way that they are no longer harmful. However, if inhalation of fibrous dust is excessive and prolonged, damage may occur. The lungs are then involved in a scarring process which prevents the proper uptake of oxygen, causing breathlessness. This condition is known as asbestosis. The process is a gradual one and affects people only after many years in work involving asbestos.

People affected by asbestosis run a greater risk of contracting lung cancer than the general public. We now know that this increased risk is made worse — far worse — by cigarette smoking. Workers in this industry would be well advised to reduce smoking of cigarettes to a minimum, or stop smoking altogether.

In some people the outer covering of the lung (the pleura) is involved by a scarring process, while the lung itself may be unaffected. This seems to cause no disability. However, in a small proportion of people a rare tumour, known as mesothelioma, may develop on the outer surface of the lung. It seems that crocidolite (blue asbestos), from a particular mining area, is most frequently involved when this tumour develops. Blue asbestos is no longer in normal use in this country, but is still encountered in lagging and demolition work.

receives whatever financial benefit or compensation may be available.

Every practical measure must be taken to ensure that Group employees are not exposed today to environmental conditions at their work which might in the light of present knowledge impair their health. To this end a combination of medical supervision, measurement of the working environment and regular checking of the working arrangements and equipment is carried out as a matter of firm routine and every effort is made to ensure that all employees who work with asbestos are informed of the nature of the diseases associated with asbestos against which these protection controls have been developed.

In the following sections some of the people involved with this work explain how these various steps for the protection of Cape employees are organized.

A. A. Cross
Group Environmental
Consultant

The above leaflet has been produced by the Department of Employment for issue to all people whose work is subject to the Asbestos Regulations 1969. (Page 1 only is shown).



A Casella sampler being used to measure the general atmosphere in our Uxbridge factory.

discuss problems connected with their work or for that matter, any other problems. In return the doctor can emphasize the absolutely definite benefits of giving up cigarette smoking.

Scientific proof

Scientists have proved beyond doubt that cigarettes are particularly dangerous for asbestos workers, and that non-smoking asbestos workers are no more likely to suffer from lung cancer, the most dreaded complication of severe asbestosis, than the general population.

W. J. SMITHER

LEFT:

George Birkett (on left) records details of the operation being carried out at Hendham Vale by Andrew McTaggart who is wearing a Casella personal dust sampler. The sampling head can be seen on Andrew's shoulder.

conditions. There is reason to believe that the early signs of asbestosis can be detected by X-ray and lung function tests, often before any symptoms have occurred.

Many years ago the doctors who first studied the cases of asbestosis occurring in this country believed that only those workers in particularly dusty jobs, called "scheduled occupations" were at risk. Such workers were legally required to undergo medical examinations at stated intervals performed by a group of government appointed doctors who were expert in various forms of industrial dust diseases, called pneumoconiosis. Unhappy experience has taught that workers outside these scheduled occupations could also be at risk, and for many years Cape has extended medical supervision far beyond the legal requirements.

The objects of medical supervision are three-fold. The first is to avoid the employment of any worker who for physical reasons

signs of any lung impairment. Sophisticated modern tests have been available in the past few years to assist the doctor in his diagnosis. With their co-operation men can be removed early from any further risk, and their progress observed.

Long-term supervision

The long-term observation of our workers is the third object of medical supervision. There are many unanswered questions about the natural history of asbestosis; besides the research programme mentioned elsewhere in this section, the major companies in the industry of this country have worked closely with the Department of Employment to set up and start a survey of our workers' health from the time they join us for the rest of their lives. Changes of occupation and environmental measurements will be compared with records of illness, smoking habits, medical examination and X-ray results. (On a personal note I must record here my own

Checking to see if the air is clean

At every factory in the group where asbestos is being used whether it be in the manufacture of asbestos cement sheets or in brake linings, there will be found, as part of the scientific team, someone or some team regularly measuring the purity of the atmosphere in which people are working. Samples of the air are taken in all parts of the factory and on all operations on which people are engaged where there is a possibility of asbestos dust being found.

The method which is used both for collecting samples and for finding out whether or how much asbestos dust may be in the air is the same as that which is now used by the Factory Inspectors when they visit a factory. The instruments and apparatus employed and the method of collecting samples and counting the fibres are the result of many years of experiment and study and comparison of results by the experts. The Asbestosis Research Council played a leading part in this work which is so highly regarded that the International Labour Organization has recommended to its member States that the system, as described in the ARC's Technical Note, should be adopted as the standard method for measurement throughout the world. It has already been adopted by most European countries, in the United States and Canada and elsewhere.

PERSONAL SAMPLES

The most important checks

measured period of time (usually 10 minutes) and then the sample is removed for examination. The foreign bodies—there are plenty of these in any air we breathe—are collected in the sampling head on a small disc of filter paper. The first thing the sampler has to do is to "fix" the impurities on to the disc so that they can be examined under a microscope. When the "mem-

brane", which is what we call the circular disc, has been "fixed" it is examined under a microscope equipped by a form of lighting which shows up the asbestos fibres and enables them to be counted. There is no guesswork in this method of sampling. The person carrying out the sample and measurement is able to see any asbestos fibres which are collected and to distinguish

provided with dust extraction or other control in order to keep the dust down to a safe level. In areas where series of tests have shown that the process is such that under no circumstances will the dust level, exceed this it is only necessary to confirm at longer intervals that this situation is unchanged. Attention is thereafter concentrated on areas in which it has been found that dust control in some form is necessary. Samples of the air in these areas or these operations are taken every month for report to the local Works Management and in addition to the Group Medical Adviser and Group Environmental Consultant. In addition, a visit is paid at least twice a year by a member of the Group Environmental Services to take samples independently of the local monitoring staff. This enables us to ensure that the methods of sampling are consistent throughout the Group and are also consistent with other expert dust monitors in the industry and in the Factory Inspectorate.

The people responsible for dust samples and calculating the



A cameraman films the asbestos bag opening machine at Tolpits for the Asbestos Research Council film on dust control — "Asbestos at Work".

Protection from risk

When the dust samplers find situations where there is dust above the hygiene standard, then the engineers move in. There are various methods of reducing the dust which may be tried. First and fundamental is to see whether it is possible to change the process so that dust cannot be produced, or at least that it is less dust producing. A simple example is by wetting—wet processes produce little, if any, dust. When this is not possible the method of the

man-handling is a good way of avoiding personal contact and exposure. An example of this is the turnover at Germiston. Boaros have to be turned at the end of the sanding and cutting line. Originally this was done by hand. Now it is done mechanically and the turnover device is completely enclosed.

Enclosure itself is very effective but complete enclosure is often impossible. Partial enclosure together with dust extraction is the most commonly used



coming to do dangerous work they are what we call "personal" samples. The purpose of such samples is to find out as closely as possible the condition of the air which the person engaged in the work actually breathes. To do this a sampling head, i.e. a small drum-like object, is positioned as near as possible to the nose and mouth of the person being tested. This, by means of a small pump, sucks in air in much the same way as one inhales air in the normal process of breathing. Air is taken in for a



Mrs Audrey Barlow is wearing a face mask respirator while recording dust levels when Len Thomas changes the dust collection bag on a dust filter at Trist Draper's works at Brislington.



these from any other kind of dust of which there are often very many which may or may not have their own particular harmful effects. If there are any asbestos fibres in the sample, then these are counted according to the system which the experts have worked out. From this count can be determined whether the operation is so controlled that the number of fibres is within the safe level or whether the number of fibres exceeds this. If the count indicates that the level is too high, improvements in the control must be devised. If it is not found possible so to improve the method of work or the method of dust extraction or whatever other method of control has been tried, then it is necessary for the person doing the work to be provided with personal protection consisting of a suitable form of respirator and protective clothing which prevents asbestos dust being collected on the person's own clothing.

amount of asbestos dust in those samples are all experienced and knowledgeable not only in the methods of dust sampling, but in identifying that part of the work most likely to produce dusty conditions. The aim is to measure the worst conditions or most dust producing condition likely to occur in any process or during the cycle of processes on any machine. The records of the measurements are carefully watched both by the local management and by the Group Consultant and should any situation appear to be higher than that permitted under the Asbestos Regulations then an immediate explanation and investigation is called for.

As a result of this continuous and painstaking study, dust levels in all the factories have been steadily dropping, and few now exceed the recommended standard.

GUIDANCE FOR THE ENGINEERS

As already mentioned, the persons throughout the Group who are engaged in monitoring are experienced and well trained in the techniques of sampling and measurement, but in addition they are also by now knowledgeable about the precautions and control measures which should be taken, and they record any observations of inadequacy



John Jarvis, of Group Environmental Services, checks the atmosphere around Dennis Winwright, working on the pad sander at Uxbridge.

ling dust (of any kind) and is indeed a firm requirement of the Asbestos Regulations 1969 wherever asbestos dust is emitted in quantities which "might be harmful to the health of employed persons".

It is in the design of such dust extraction equipment that the ingenuity and experience of our engineers is put to the test. Extraction equipment, to be successful, has to reckon with the special characteristics of the material it has to handle. Asbestos dust is different from most other dusts in which ventilation experts are experienced; most dusts consist of particles, whereas asbestos dust consists of tiny fibres. They tend to "float" in the air, whereas particles fall more rapidly. Furthermore, when they are collected in ducts or cyclones, their fibrous form tend to make them collect and clog unless the shape and air speeds of the systems are "spot on".

or incorrect working of control systems or any other factors which are liable to interfere with the effectiveness of the protective measures. Another commendable contribution they make is to check, by taking samples, whether any changes in machinery or the dust extraction equipment are resulting in the improvements anticipated. This is a most valuable feature which was not available in the past. In former days we had to rely on the appearance of visible dust. If an operation was seen to be dusty, dust extraction equipment would be designed and applied to the operation and if no dust was then visible the control was assumed to be satisfactory. Nowadays, the guesswork has been eliminated.

Continued overleaf:

KEEPING A CONSTANT CHECK

The pattern of monitoring which has been worked out in order to ensure that all potential danger areas are kept under watch is as follows. First of all a survey has been carried out in all factories to find out which areas or operations need to be

LEFT:

Dr Ian Pasco of Uxbridge takes a sample of the air where John Uzzell is working (above, left). He likes to wear a mask, even though the atmosphere was found to be properly controlled. In the accompanying picture, his mate, Pat Doran, who doesn't wear a mask, is wearing sampling equipment on his left shoulder so that the air he is breathing can be tested.

Johns-Manville

as WML
Internal Correspondence
2623A

To: All Environmental Com. Members Date: July 18, 1973
& Division Managers Group*

From: F. J. Solon, Jr. - 4 North

Copies: File and Chrono

Subject: I M P O R T A N T !
LETTER TO DR. SELIKOFF

*W. R. Goodwin	A. B. Marchant
F. H. May	E. F. Marriner, M.D.
W. P. Albe	P. A. Martinson
J. S. Autry	S. J. McDuff
J. F. Ball	J. A. McKinney
L. J. Bartolanzo	H. B. Moreno
R. M. Billings	R. E. Naylor
L. R. Blair	R. Nebel
E. P. Burke	P. C. Nikitovich
R. P. Carter	G. E. Parker
A. L. Cini	F. L. Pundsack
R. H. Cuje	W. B. Reitze ←
I. M. Dienstbach	Ivan Sabourin
J. B. Dorsey	S. W. Schulmeyer
E. M. Fenner	C. E. Shepperly
W. F. Goodwin	R. V. Smith
M. Harris	T. R. Smith
N. W. Hendry	F. J. Solon, Jr.
J. E. Hesse	J. J. Spangenberg
D. E. Hillier	W. C. Streib
W. A. Hindon	C. J. Sulewski
J. R. M. Hutcheson	W. L. VanDerbeek
M. B. Jamin	C. W. Wattson
H. R. Keefe	H. J. White
C. C. Keller	W. C. Winblad
G. P. Loubert	F. A. Winterhalter
D. H. Lyons	G. W. Wright, M.D.

You will be interested I'm sure in reading the attached letter from Dr. Hilton Lewinsohn and Stephen Holmes of Turner & Newall to Dr. Irving Selikoff, calling his attention to misleading statements he made, using Lewinsohn-Holmes material, at a presentation in Boston in late May.

For background, this letter is a direct result of our recent trip to England (see trip report attached). Dr. George Wright critiqued and commented on the various drafts leading up to this final version.

I call your attention to the first two paragraphs especially. The transcript came from Ed Fenner and Bill Reitze's tapes made at the conference which we forwarded to Dr. Lewinsohn and then followed with our visit to the British group to personally convey the request of George Wright and ourselves that a strong letter of dissent be sent to Selikoff.

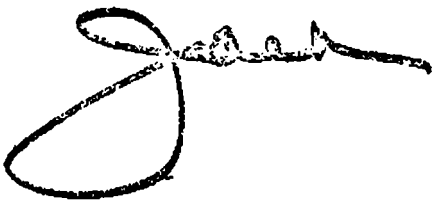
The second paragraph has statements as strong as any I've seen from professionals to professionals.

Note also that copies of the letter were sent to Dr. Marcus Key, Assistant Surgeon General and Director of NIOSH, and to the heads of AIHA and ACGIH, the two organizations who sponsored the Boston meeting at which Dr. Selikoff spoke.

AIA/NA will forward copies of the letter to Secretary of Labor Peter Brennan and Assistant Secretary in charge of OSHA John Stender.

All this by way of letting important people in government and the professions know the kind of misleading acts Dr. Selikoff continues to commit.

This is the kind of positive aggressive approach we intend to take on our environmental affairs problems.

A handwritten signature in dark ink, appearing to be 'J. Selikoff', with a large, stylized initial 'J' and a horizontal line extending to the right.

Enc. (2)

FILE MEMORANDUM

REPORT OF TRIP TO UNITED KINGDOM
June 23 - July 1, 1973

Subject trip was made in company with Ivan Sabourin, our Canadian legal-environmental counsel; John H. Marsh of Raybestos-Manhattan in his capacity as President of the Asbestos Information Association/North America; and Matthew M. Swetonic, Executive Secretary of the AIA/NA.

Purpose of the trip related almost entirely to the reopening of the OSHA Asbestos Standard in the U.S. We wanted to meet with members of the British medical group, with British government officials and British asbestos industry personnel to review the situation and prepare in advance for what we believe will be quite a rigorous confrontation at the public hearings on the asbestos standard which are coming up in the near future.

Following are brief comments on the meetings we held in the course of our stay in the United Kingdom.

1. Meeting (June 25, 1973) with Dr. Hilton Lewinsohn and Stephen Holmes of Turner Brothers Asbestos; Alex Cross of Cape Asbestos; Michael Howe and Wilfred Howard of Turner & Newall.

For background -- Dr. Lewinsohn had issued some preliminary figures on a re-study he is making of workers at the Rochdale, England plant of TBA. Dr. Selikoff had put these figures into a graph which he presented at the Annual Meeting of the American Industrial Hygiene Association in Boston last May. Selikoff said these new figures changed the entire picture on asbestos standards and that the present OSHA standard places "U.S. asbestos workers at serious risk of irreversible, often fatal disease and in my (Selikoff's) opinion, it should immediately be reconsidered."

We had forwarded to Dr. Lewinsohn a few days prior to our meeting, a verbatim transcript of Dr. Selikoff's presentation at Boston with a copy of the slide he had used there which he said had been made from Dr. Lewinsohn's data.

File Memorandum - Page 2
Report of trip
to United Kingdom
June 23 - July 1, 1973

We reviewed this at our meeting and handed out to attendees a copy of Dr. George Wright's memo to me on the Lewinsohn-Selikoff matter.

We suggested that Dr. Lewinsohn and Steve Holmes, who had worked with Dr. John Knox of TBA in the original study of Rochdale workers, prepare a joint letter to Dr. Selikoff on this matter. This they readily agreed to do. Matter of fact, their first draft was handed to us two days later for review and forwarding to George Wright for comment before final drafting and mailing to Selikoff.

The British group are more than unhappy about this action by Selikoff. The present British Asbestos Regulations are based largely on the original studies at the Rochdale plant of TBA. Selikoff's misuse of Lewinsohn's preliminary figures places the British regulations, the British Occupational Hygiene Society and H.M. Factory Inspectorate in an extremely poor light.

The British intend to take this matter right down to the wire -- matter of fact, David Hills, Managing Director of TBA, had a personal hand in drafting some of the most direct statements in the letter to Selikoff.

File Memorandum - Page 3
Report of trip
to United Kingdom
June 23 - July 1, 1973

2. Meeting (June 26, 1973) with Drs. David Muir and
John Davis, Institute of Occupational Medicine,
Edinburgh, Scotland.

We reviewed the Lewinsohn-Selikoff matter. Muir and Davis were glad to be informed and particularly pleased that a letter was being written directly to Selikoff. They drove us to their experimental farm on the outskirts of Edinburgh to see the animal experimental work they are carrying on, initially with amosite fiber, under sponsorship of the Asbestosis Research Council.

3. Dinner Meeting (June 27, 1973) with Dr. J. Corbett McDonald.

We reviewed the Lewinsohn-Selikoff matter with Dr. McDonald who is on sabbatical leave from McGill University, Montreal. He was in full accord with our strategy and thought the idea of a strong letter to Selikoff from Lewinsohn-Holmes was excellent.

As a matter of information, Dr. McDonald's sabbatical involves international work on population growth, requiring extensive travel.

Even though on sabbatical, he still directs the work of his group at McGill. So, John Marsh told him of the pure chrysotile exposure at the R/M Stratford plant, asked if Corbett's McGill group, led by his wife, Allison, might tackle the study. He sparked to the idea and a meeting was arranged the week of July 8 between R/M and the McGill group to explore possibilities of such an epidemiological study.

4. Communications Meeting (June 27, 1973) between
Asbestos Information Committee of U.K. (Howe, Cross,
Howard, Wright) and Asbestos Information Association/
North America (Marsh, Swetonic, Solon, Sabourin).

We reviewed the Lewinsohn-Holmes draft of a letter to Selikoff and immediately dispatched a copy to George Wright for his review and comment.

AIC is increasing its budget next fiscal year from 50,000 to 80,000 pounds (130,000 to \$208,000 approximately). They plan to spend 26,000 pounds (\$68,000) for ads in their national dailies and in specialized publications on fire protection.

We had a preliminary discussion about a tri-partite conference of AIC, AIA/NA and QAMA sometime in the future.

The AIC is producing a new movie - "Asbestos At Work", which will be issued under the name of the Asbestosis Research Council.

We learned from Alex Cross that Stuart Luxon's job had changed with H. M. Factory Inspectorate. Formerly Director of Industrial Hygiene Service, he is now Deputy Chief Inspector -- a lateral and slightly upward move.

Dr. Walter Smither of Cape Asbestos who joined us for lunch, said he had received an invitation from Dr. Selikoff to become a member of the Steering Committee for a New York Academy of Sciences-sponsored meeting on the Biological Effects of Asbestos to be held October 7-11, 1974. Dr. Smither has mixed emotions about holding such a meeting only a year after the Lyon Meeting on the same subject. I suggested that Selikoff is calling this new meeting because he was unhappy about the Lyon Meeting not going his way. The group agreed this was probably so.

5. Meeting (June 27, 1973) with Stuart G. Luxon,
Deputy Chief Inspector, H.M. Factory Inspectorate
(his wife, Mrs. Maitland Luxon), Sabourin, Marsh,
Swetonic, Solon.

Luxon was the British government official who, at the request of Sabourin and Swetonic, appeared as an expert witness at the March 1972 OSHA Hearings on the Asbestos Standard.

At this dinner meeting, Luxon told me his recent promotion had been brought about largely by Great Britain's entry into the Common Market, and gives him international responsibility for Safety and Health for the U.K.

Luxon believes that he would still be the one British official to come to the U.S. public hearings on asbestos standard reopening should the testimony of H. M. Factory Inspectorate be needed.

He believes we in the U.S. should be actively seeking negative evidence to show why it is not necessary to go below 2 fibers per cc in our asbestos standard.

He dwelt at some length on the study being carried out by his Government of the entire British asbestos industry (10,000 workers) to determine if their goal-standard of two fibers is sufficient. Though they may get indications in the meantime, the final determination from the study is at least 20 years away.

When Luxon learned from John Marsh that the Raybestos-Manhattan 50-year old plant in Stratford, Connecticut was a pure chrysotile exposure except for the past 9 or 10 years -- and that the Bendix brake lining plant at Troy, New York was also pure chrysotile exposure, he urged us to "get the show on the road" as soon as possible and begin crash studies of workers at these two locations.

Luxon suggested, to set Selikoff back somewhat and to take the pressure off the asbestos industry, that J-M call the members of the industry together, set a time limit and say that by such-and-such date (long before the July 7, 1976 deadline), J-M will announce that all its plants are at the 2 fibers per cc standard or that workers are provided good protection at those locations we're still working on. He believes the press will be interested in such a story.

File Memorandum - Page 7
Report of trip
to United Kingdom
June 23 - July 1, 1973

Luxon says it's too bad we don't have a better dialogue with high labor union officials as they do in the U.K. In his work, he said, he has found his off-the-record dialogue with both industry and organized labor has been of inestimable value.

To get the total rationale behind the BOHS recommendation that the British asbestos standard not be changed at this time, Luxon suggested we write:

Dr. Dereck Turner, Secy.
British Occupational Hygiene Society
BP Research Center
Sunbury-on-Thames
London, England

and ask for documentation.

He said that H.M. Factory Inspectorate was taking the recommendation of the BOHS and was not reopening the British Asbestos Standard at this time.

Luxon said if we wanted him to come over for the upcoming OSHA Hearings, it would have to be done through:

John Garcia
Labour Attache
British Embassy
Washington, D.C.

6. Meeting (June 28, 1973) with Alex Cross (Cape) and Wilfred Howard (T & N) representing both AIC and Asbestosis Research Council (with Solon, Sabourin, Swetonic).

Purpose of this meeting was to review the various ways in which the British group might help us at the time of the OSHA Hearings on Asbestos Standard Re-Opening.

We reviewed the OSHA procedures on standard setting, told them we understood there would be no new criteria package on asbestos in connection with the reopening of the standard.

We said it would be a minimum of seven months until public hearing; that the new 15 man Advisory Committee could take 9 months to deliver its report to the Secretary of Labor; that meetings of the Advisory Committee would be public as far as listening was concerned but that participation in the Advisory Committee hearings was by invitation only.

Cross and Howard suggested that since the BOHS was instrumental in influencing H.M. Factory Inspectorate not to reopen the British Asbestos Standard at this time, it might be helpful to arrange for three people, all members of the Asbestos Subcommittee of BOHS:

Dr. Hilton Lewinsohn
Stephen Holmes
G. Berry (Statistician on Dr. Gilson's staff)

to appear before the Advisory Committee and present the rationale for their not changing the present British Standard of two fibers.

They also recommended that Dr. John Gilson was by far the most eminent medical scientist in the U.K. on asbestos and would be the best one to appear at the final OSHA public hearings should that be necessary.

File Memorandum - Page 9
Report of trip
to United Kingdom
June 23 - July 1, 1973

7. Meeting (June 29, 1973) with Dr. John Gilson and
Dr. J. Chris Wagner at the MRC Pneumoconiosis
Research Unit, Penarth, Wales (Sabourin, Solon,
Marsh, Swetonic).

We reviewed the Lewinsohn-Selikoff matter and stressed the fact that we looked on Selikoff's action as an attack on the British Asbestos Standard and on the reputation of H.M. Factory Inspectorate and the BOHS in the setting of proper standards to protect their workers. Dr. Gilson agreed it appeared to be so.

He said he was glad to be informed of these matters but had no interest in the medico-political area. He prefers to devote his time to pure medical research.

We talked about the reopening of the OSHA Asbestos Standard and again he stressed that he had no interest in the medico-scientific. However, I got the feeling that in light of his warm regard for George Wright, should Dr. Gilson be needed to testify in the upcoming OSHA Hearings and should his health permit it, he would react favorably to a request directly from Dr. Wright.

At the end of the meeting, Dr. Gilson asked that his secretary make a xerox of the following Lewinsohn-Selikoff material -

- Transcript of Selikoff's presentation at the AIHA Meeting at Boston.
- Copy of the slide material used by Dr. Selikoff at Boston.
- Copy of the article by Dr. Lewinsohn from which Dr. Selikoff claims to have taken the information he presented at Boston.
- Copy of Dr. George Wright's memo to me, commenting on the Lewinsohn-Selikoff matter.

He did not ask to xerox the Lewinsohn-Holmes letter draft to Selikoff because he said Mr. Berry had brought a copy back with him from Rochdale that morning and was giving it to Dr. Gilson.

Dr. Gilson was in full agreement with our strategy in the Lewinsohn-Selikoff matter.

File Memorandum - Page 10
Report of trip
to United Kingdom
June 23 - July 1, 1973

In closing this report, let me say that this entire trip, at my request, was planned by Ivan Sabourin. He did an outstanding job. We were able to spend time with everyone we had designated as important to a discussion of this subject of reopening the OSHA asbestos standard.

F. J. Solon, Jr.