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Matters of fact

Various assertions made in the course of the debate in the National Assembly on the Bill to set up the Société nationale de l'amiante are indicative of the persistence of a number of misapprehensions concerning the asbestos situation which are making it very difficult to arrive at an informed opinion on the subject.

Thus, the affirmation that the asbestos mined in Québec helps to create hundreds of thousands of jobs in the United States, Europe and elsewhere in the manufacturing industry, whereas in Québec the manufacturing sector employs only about 1 200 people, represents a considerable distortion of the facts.

Indiscriminate addition

These astronomical figures result from the indiscriminate addition of all direct and indirect activities, permanent or irregular, related not only to manufacture but also to handling, installation, transportation and sale of asbestos containing products. For example, using this method of calculation, any American tile-layer who handles asbestos-vinyl tiles, even if no more than once a year, is counted as an asbestos worker.

Similarly included in these figures are the total numbers of employees working in companies for which the manufacture of asbestos products is only one of many sectors of activity.

If the same method of calculation were applied to Québec, the 1 200

asbestos workers would swell to more than 20 000, not counting the 6 500 persons involved in mining activity.

In fact the number of jobs directly related to transformation and to the manufacture of asbestos-based products in the United States is less than 10 000, and in the whole of the western world the figure does not exceed 35 000, including 3 000 for Canada.

Assurance of supplies

Furthermore, the observations concerning fibre deliveries to the plants of the parent-companies of the Québec producers create the false impression that a very substantial proportion, if not the major part, of the Québec production is directed to this market.

In reality, the total sales made to the enterprises with which the mining companies are affiliated have never really exceeded 15 per cent, and in 1977 they amounted to no more than 12.6 per cent of fibre deliveries.

Thus Canadian Johns-Manville sold 19.4 per cent of its production to the Johns-Manville group; Lake Asbestos sold 2.2 per cent of its production to the Asarco group; Carey Canadian Mines sold 5 per cent of its production to the Jim Walter Corp. group, and the Bell Asbestos Mines company sold 22.7 per cent of its production to the Turner & Newall group, part of which went to its Montréal manufacturing subsidiary Atlas Asbestos.

The remaining 87.4 per cent of deliveries went to hundreds of manufacturers spread around the world.

It should therefore be quite clear that the idea of a closed-circuit network capable of endangering the supply to independent manufacturers, and in particular to manufacturers in Canada and Québec, has no basis in reality.

Economic benefits

On another level, the assertion that Québec is not the principal beneficiary of asbestos mining activity is absolutely unfounded. Not only does the asbestos industry reinvest 95 per cent of its net income in Québec, it actually contributes more to the Québec economy than all other mining sectors put together. Thus 60 per cent of the total income of the Québec Treasury from the mining industry comes from asbestos production.

Finally, as regards the supposed feelings of the population which are so often invoked the only scientific assessment of opinion which has been made on the subject is that which was carried out by CROP shortly before the government announced its policy. The results of this survey showed that 88.7 per cent of those consulted in the whole of Québec, and 91.2 per cent of the respondents in the asbestos producing region, did not favour the path which the government subsequently chose.

New group dedicated to industrial hygiene

An industrial hygiene association has recently been formed in Québec by a group of specialists working in the industrial, trade union, government and university sectors.

The association, which will be holding its founding convention on May 27th at Mont Saint-Hilaire, intends to foster development of knowledge regarding industrial hygiene through the exchange and popularization of information on all questions concerning occupational hygiene. Promotion of the study and control of factors affecting the health and well-being of workers is one of the association's main objectives. In addition, it intends to establish an information exchange program between all specialists interested in the various aspects of industrial hygiene.

Research

Members will pay particular attention to legislation on occupational hygiene and intend to make a critical study of its content and to present recommendations, if necessary.

The association also wants to encourage research in all specialties related to industrial hygiene.

The founding committee includes 25 people, among whom are the interim president, Paul Bélanger, Regional Director — Montreal — for industrial hygiene control, Environment Protection Service, government of Québec, and the interim secretary, Marc Trudeau, Research Consultant for the Québec Asbestos Mining Association.

Quality of life

According to Mr Bélanger, the necessity for an industrial hygiene association has been felt for several years in Québec where, for example, courses in the specialty do not exist at the university level. "Among other things, we propose to instigate specialized courses and to offer all workers in this field the opportunity to exchange their knowledge and experience. We hope that the final result of our initiatives and work will be to contribute to improving the quality of life at work."

The Q.A.M.A. board of directors

M. J. Messel, President of Lake Asbestos, of Black Lake, Québec, was elected for a second consecutive term as President of the Québec Asbestos Mining Association, at the Association's general annual meeting.

The other officers of the Association are the Vice-President, Marcel Dorais, President of Bell Asbestos Mines, of Thetford Mines, the Treasurer, A.W. King, Controller of Carey-Canadian Mines, of East Broughton, Québec, and the Secretary and Executive Vice-President, Paul A. Filteau.

The other directors are M. Prus, President and General Manager of Carey-Canadian Mines, of East Broughton, and J.R.M. Hutcheson, Chairman of the Board of Canadian Johns-Manville, and General Manager of the Asbestos Fibre Division, Asbestos, Québec.



The Tyndallometer allows the taking of instantaneous samples to check the cleanliness of the air in specific environments.



Part of the bag house equipment.



The APM continuous monitoring instruments.

The environment at Johns-Manville

The Department of Environmental Control of Canadian Johns-Manville is carrying on an accelerated industrial hygiene program in order to lower the dust emission level to $21/\text{cc} > 5 \mu\text{m}$ in all its installations and to ultimately reduce it, if possible, to an average of $1.2/\text{cc}$. The current government standards impose a $51/\text{cc} > 5 \mu\text{m}$ maximum.

Further faster

"We would like to go further faster", points out Ray Woods, Environment Coordinator for the company, whose plants process some 900 tons of crude ore per hour. "However, continues Mr Woods, we have to consider several factors. Thus, all the while stressing hygiene and air cleanliness, we must also concentrate on energy conservation from the ecological viewpoint."

The company recently conducted a detailed and exhaustive analysis of the 580 sampling stations spread throughout its plants. The dust level registered in 431 stations was $21/\text{cc}$ or even less. The dust level average of all the stations in no. 5 and 6 mills, the open pit mine and related departments was $1.79/\text{cc}$. The readings were $51/\text{cc}$ or less in 107 stations. Temporary problems were discovered in 42 stations and have since been solved in 11 of these stations. The few areas where dust conditions are not yet satisfactory are the ones being paid particular attention to by the Department of Environmental Control. An additional team of 18 men is gradually being assigned to the permanent staff of the department. The team will supervise maintenance of equipment from the strict point of view of hygiene and cleanliness of the air.

Research and innovation

The Engineering Department is

responsible for carrying out constant research to find new solutions to the dust emission problems. Efforts are being applied as much as possible, namely in automatizing all operations felt to be critical. In several cases, the solution to problems of hygiene requires creation and development of new equipment which allows a given operation of the mining process to be carried out effectively, while reducing dust emission and the exposure of workers.

Thus, drilling which precedes blasting, and the separation of boulders following blasting are two operations which have captured the particular attention of the company's engineers.

In order to improve working conditions, the cabins of workers assigned to primary drilling are gradually being replaced by air-conditioned environmental cabs. In addition, the replacement of bag filters of the rotary drills is now carried out on a modular basis.

In order to eliminate secondary drilling of boulders, the Engineering Department has developed a mobile type of tandem rockbreaker to be installed on a 35 ton truck fitted for that purpose. If the equipment operates as well as expected, secondary drilling will disappear.

Tailings

Another sector included in the hygiene program deals with the transportation of tailings which is currently being performed by railway cars. Mill rejects are water sprayed at the loading point to prevent dust emission. The proposed new system would permit water spraying to be carried out at five different points.

The wet suppression procedure for mill rejects proves to be quite effective, in terms of hygiene, but it

leads to other problems during the winter. The rejects, under the action of water and cold, stick to the insides of the rail cars, thus making their unloading almost impossible. More than ten new anti-adherence materials for the lining of the rail cars were tested during the winter months. The Department of Environmental Control has selected one which it feels should solve the problems caused by freezing.

Air filter bags

Due to the replacement of almost all of the 95 000 air filter bags at mill no. 5, the filtration system has now attained a capacity of 5 million cubic feet of air per minute. Since January 1, the rates of penetration and resistance to dust of the bags have been the object of constant checking by teams who alternate day and night when the plant is in operation. Samples of the air are taken at two-hour intervals, using an APM measuring instrument which was recommended for continuous monitoring by the design subcommittee of the Québec Asbestos Mining Association, following six months of testing carried out by technicians of the Association's member companies. Another measuring instrument, the Tyndallometer, allows instant samples to be taken in the bag house.

The conveyors, sifters and dryers of Canadian Johns-Manville are now completely covered, and mill no. 6, built in 1973-74, is entirely automatized.

The production capacity of the company, which employs 2 500 persons, is 700 000 tons per year.

Asbestos and its many uses

Asbestos-cement: a combination which proved itself throughout the world

A small amount of asbestos is sufficient to make fibrocement a product with high resistance to tension, corrosion and numerous erosive agents. Asbestos-cement products contain, on average, only about 12% asbestos dispersed in all directions and throughout the thickness of materials, thereby reinforcing them uniformly.

On the other hand, with regard to thickness/resistance ratio, fibrocement is very effective. The impact of a two-pound steel ball with a diameter of more than two inches, dropped from a height of eight feet, does not leave a mark on a half-inch thick asbestos-cement sheet.

Numerous assets

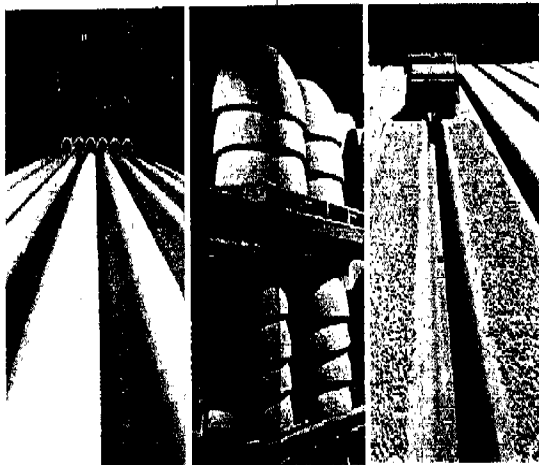
Due to the characteristics arising from its asbestos content, fibrocement is particularly well-suited for manufacturing several products, such as pipes, acoustic tiles, finished sheets, shingles, corrugated and flat sheets, window panels and curtain walls. When these products are made of asbestos and cement alloy, they do not crack and are incombustible and resistant to freezing and thawing, as well as to humidity.

Another important feature of asbestos-cement is that it prevents rainwater penetration while still allowing water evaporation. This is a considerable advantage for exterior coverings. It explains why asbestos-cement material has been preferred to other materials for quite some time now in construction projects where there is a high level of humidity, as for example in pulp and paper plants, tobacco factories, industrial laundries.

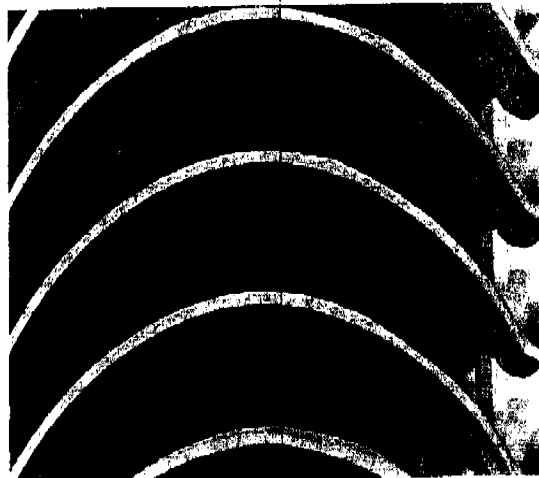
New uses

Formerly used almost exclusively in the construction of industrial buildings, fibrocement materials are now found more and more in commercial buildings, office towers and community and business centres, in the United States and elsewhere.

Today, with new casting techniques it is possible to create a multitude of forms and textures to meet the requirements of architects and builders: shells, decorative fins, ribbed and profiled sheets, fascias, etc. Consequently from aesthetic and variety standpoints, there is absolutely no reason to limit the use of asbestos-cement materials to industrial construction especially as fibrocement is also very economical. Its light weight (10 per cent of the weight of prefabricated concrete) in fact allows substantial savings to be realized in infrastructures and structures.



Pipes, flower pots and textured sheets (this is part of the covering of the new O'Keefe building in Montréal) are some of the asbestos-cement products made by Atlas Asbestos, which also manufactures parts (below) for the toboggan-runs presently very popular in several resorts.



In Canada

However, in Canada and particularly in Québec, the asbestos-cement product market has always remained marginal whether it be

for pipes or construction material. The demand for this type of products has also been much less than for competitive products, while this is not the case in Europe, one of the

largest consumers and manufacturers of asbestos-cement products in the world.

Whereas 70 per cent of Québec's annual production of chrysotile fibre is used in the manufacture of fibrocement products, Québec consumption represents barely 0.5 per cent, or a little more than 7 000 tons out of 902 000 tons used in fibrocement.

In Europe

Western Europe, in contrast, uses some 600 000 tons of fibre in the manufacturing of pipes, regular and polished sheets and shingles, whereas the United States uses more than 150 000 tons for its overall fibrocement production.

Québec production

The production of the only manufacturer of asbestos-cement products in Québec, Atlas Asbestos of Montréal, represents about 35 per cent of the Canadian production. The other manufacturers are Canadian Johns-Manville and Turner Building Products, whose fibrocement plants are located in Ontario and British Columbia respectively.

The Atlas Asbestos pipe manufacturing plant operates at 90 per cent of its capacity, while the construction material section operates at barely 50 per cent of its potential

The company exports 71 per cent of its asbestos-cement pipes outside of Québec, mainly to western Canada, due to the preferential rates which Canadian railway companies are able to offer because they receive government subsidies for the transportation of goods. As for construction materials, only 35 per cent are sold in Québec. The plant's capacity would allow 135 per cent more fibres to be used than are currently being utilized.

Export market

The market for Québec fibre to be used in fibrocement therefore remains essentially an export market, the main users being in Europe, the United States, Japan and the Middle East where the demand is increasing.

In Canada, the use of profiled and molded asbestos-cement products is a recent phenomenon. However, with the current development of new products, architects and engineers who want special shapes and forms, which are exceptionally resistant and durable, are likely to turn increasingly to asbestos-cement.

For, in addition to being perfectly safe (the fibres are sealed in the cement during the fabrication), asbestos cannot be replaced by any substitute product for reinforcing such high performance products.

Comprehensive study on asbestos and health around the world

The Asbestos International Association, whose head office is in London, has asked a panel of experts to gather all the available information on the incidence of asbestos-related diseases in all countries which use the fibre, and to make a critical analysis of this information.

The Asbestos International Association, comprising all the European manufacturers of asbestos products, also includes the Québec asbestos producers among its members.

The mandate

The Association's mandate to the experts centres on the following points: collection of all available data on the biological effects of asbestos in all countries where the mineral is used, making as much differentiation as possible between the types of activities and products (textile, insulation, friction products, asbestos-cement, etc.); critical analysis of the criteria used for diagnosis in each of the countries in question, collation of all available information on the incidence of cancer, and lung cancer in particular, having no link with asbestos; a summary and commentary.

In a preliminary note addressed to the directors of the Association, Dr. Robert Murray, Secretary of the Permanent Commission and Association of International Occupational Medicine, stressed some of the problems that the panel of experts is having to face in carrying out its mandate. Thus, when trying to determine clearly the progression of the effects of asbestos on health during the last thirty years, according to country, type of industry and type of fibre, the difficulty arises from the fact that the cases being studied today are the result of exposures

going back several years. A further complication comes from the fact that the diagnosis are of differing validity according to the time when they were made, since medical science in this area, as in the area of epidemiological techniques, has developed enormously.

The other major difficulty facing experts who try to determine the relative incidence of asbestos-related diseases is due to the fact that not all the countries under consideration started using asbestos at the same time, and that the development of the industry and the length of time that it has been operating vary considerably from one country to the other.

Varying statistics

Statistics also reflect diagnostic criteria which are different from one country to the next, with working standards which are no less variable. A further characteristic of these statistics is that they tend to be directed towards justifying a particular interest, rather than establishing objective facts. It is significant in this connection that there has been no literature on the incidence of diseases related to a good wet spinning process, when it is known that in Great Britain the asbestos textile industry has been under statutory control since 1931.

These problems would be met by any expert wishing to tackle the kind of work which the Asbestos International Association is undertaking, and they make it difficult to present a full and balanced picture of the situation with a view to analysis by the medical panel. But in spite of these restrictions, Dr. Murray considers that a survey of this kind should produce useful results.

The Association before the Parliamentary Committee on Natural Resources

Applying pressure to world asbestos buyers for them to invest in Québec processing, and conditioning fibre suppliers to such investments could only speed up research and development of substitute products and favour competitive producers on the international market.

This was the opinion expressed by representatives of the Québec Asbestos Mining Association appearing before the Parliamentary Committee during its hearings in Québec City to study Bill 70 aimed at setting up the Société nationale de l'amiant. Yves Berubé, Minister of Natural Resources, had suggested to Q.A.M.A. representatives the possibility that fibre producers might only sell on condition "that the buyers make certain investments in Québec processing".

Sorès statement

The Minister received a similar reaction before the Committee from the Sorès Group representatives, authors of the study dealing with asbestos product processing in Québec. Spokesmen for Sorès, recalling the importance of current research to discover asbestos substitutes, attributed the situation to two main causes: propaganda concerning health and the fact that manufacturers of asbestos-based products do not like being dependent on exclusive supply sources for primary resources. According to the representatives of Sorès, the negotiating strength that goes with holding a

certain degree of control over a primary resource is offset by the risk of encouraging the users to look for substitute products.

In reply to a question about the perception of asbestos by European buyers, Paul Filteau, Executive Vice-President of the Q.A.M.A., who led the Association's delegation appearing before the Committee remarked that the situation concerning health problems related to the use of asbestos results more from bad publicity than from scientific studies, and that it is even being encouraged, to a certain extent, by manufacturers of substitute products.

Markets

Discussing world markets, Mr. Filteau stressed that there is no shortage of asbestos at this time and there will not be any for many years to come. Québec industry is only producing at 85% of its capacity and in 1977 accumulated stock-piles exceeding 130 000 tons, a situation which had never occurred before. This drop in demand, he said, can be attributed to the economic situation in the United States and in Europe, but may also be due to the effects of adverse publicity.

In its report presented at the start of the meeting, the Québec Asbestos Mining Association stressed that the asbestos industry reinvests more than 95% of its net revenues in Québec and contributes more to the economy than all other mining sectors combined, alone supplying 60%

of the overall revenue which the Québec Treasury draws from the entire mining industry.

Asbestos and employment

Mr. Filteau also recalled that during a period when the unemployment rate in Canada and in Québec reaches record highs and when industrial production is undergoing a general decline, causing repercussions on the economic health of the entire country, the asbestos industry is succeeding in maintaining a stable employment level even if in certain cases the production work week has been reduced from six to five days. Thus the salaries and wages paid out in 1977 to the 6 600 workers employed by the five Eastern Township mining companies reached more than \$110 million, not counting the companies' outlay in contributions to the various social benefit schemes which totalled some \$30 million.

The Association's delegation to the Committee also took the opportunity to clarify the situation concerning fibre consumption within the market comprised of the manufacturing companies which are affiliated to the Québec asbestos producers. The Association's representatives, armed with exact figures, were able to show that in 1977 sales made within the network of companies affiliated to the producing companies accounted at most for only 12.6 per cent of the Québec asbestos production. The remaining 87.4% of the

production is bought by hundreds of manufacturers around the world.

Similarly the Association was able to show the Committee that the supply of asbestos at preferential rates to Québec and Canadian manufacturers was common practice and that there was no problem in guaranteeing this supply.

Research

When members of the Committee raised the subject of research, the Association's spokesmen pointed out that the asbestos industry was well aware of the importance of stepping up research into new products and new applications. They stressed that the industry was therefore very receptive to any serious applied research project — whether in the private or in the public sector — provided that it can have a full say in the matter.

Mr. Filteau added that on several occasions the Association offered to give public authorities access to constantly up-dated data and to a team of experts whose knowledge, experience and expertise in asbestos are probably unequalled anywhere in the world. Mr. Filteau continued: "Until now this offer has very rarely been taken up. Apart from a few exchanges of information with civil servants, the dialogue and consultation that we have been hoping for have not really materialized."

Health, hygiene, environment

Exemplary measures of cooperation

The terms drawn up as part of the renewal of the collective agreements between the asbestos-producing companies in the Thetford Mines region and the unions representing the asbestos workers mark an important step forward in the field of hygiene and safety at work.

These are avant-garde measures, according to several specialists, from the point of view of occupational health and safety, which open up a new era of cooperation between employers and employees in the area of industrial security and health protection.

Bipartite meetings

In addition to the existing guarantee concerning the means and equipment necessary for preventive action, mechanisms have been set up for the holding of regular meetings between union and management representatives at which a continuous assessment, with amendments if necessary, will be made of the hygiene and safety conditions on the work sites.

Collaboration between both parties will thus be called for to remedy any situation which might present a health hazard. Apart from the provisions aimed at securing a joint effort in maintaining hygienic and safe working conditions, concerted action is envisaged in order to foster behaviour and attitudes conducive to prevention. Management and trade union delegates are to carry out regular inspections in the various departments.

In certain cases the companies undertake to provide the special training of employees, to be designated by the unions, who will act as industrial hygiene technicians during measurements and surveys of noise and dust levels throughout the plants. Provisions are also made for the carrying out, at the request of the unions, of spot checks in the plant.

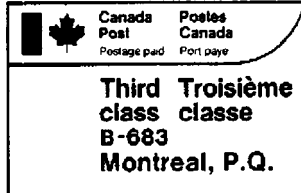
Guidelines

The guiding principles underlying these various arrangements are likely to have an impact not only in the mining sectors but also in all industrial areas where hygiene is a matter of particular importance. Several items could even be taken up by the Québec government in its forthcoming project for global reform of the health and safety at work.

Among the monetary items, salary increases have to be submitted for approval to the Anti-inflation Board. The provisions concerning social benefits include numerous improvements as regards holidays, life-insurance and pension plans.

Workers whose salaries are subject to revision at regular intervals are protected against rises in the cost of living, as calculated according to the Consumer Price Index, and the cost of living allowance is fully integrated annually.

The asbestos producing companies in the greater Thetford Mines region employ some 4 000 people.



Announcements

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