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Health and safety at work

During the current session the National Assembly will apparently be presented with a Bill concerning health and safety at work in Québec. Before any Bill has even been made public, the press has been discussing various drafts whose authenticity can only be guessed at, and which are even less certain to be definitive, but which nonetheless give reason to believe that the Bill could, on certain basic issues, diverge from the general orientation set out in the White Paper which the Minister of State for Social Development offered for the consideration of all interested parties.

The AMAQ position

The Association des mines d'amiante du Québec expressed support for the objectives set out in the Paper issued by Minister Marois, subject to the resulting law and regulations being viable and realistic, defining fairly the responsibilities and obligations of all parties and also their rights, not giving rise to an excessive degree of bureaucratic intervention, and taking into account the particularities of the mining industry.

The Association has no hesitation in acknowledging the need for an outline law in the area of health and safety at work, and the relevance of reform measures removing the current multiplicity of laws and regulations and the fragmentation of administrative responsibilities, and setting up a more coherent system and a unified set of norms.

Reservations

This is not to say that the Association endorses all the proposals and recommendations to be found in the White Paper, some of which are singularly lacking in realism and might possibly,

if accepted, hinder rather than help in the achievement of the basic objective, which is the health and the safety of workers.

In particular this would be the case if the safety parity committees, instead of being voluntary and advisory, subject if need be to establishing incentives for their setting up and efficient operation, were imposed by outside authority. Indeed such committees, if they do not express the wish of the workers and the employers to join together to find the solution to the problems of health and safety, are likely very rapidly to become hotbeds of confrontation and conflict, making the very object of the committees impossible to achieve.

Industrial medicine

In the same way, the principle that the working environment should itself take in hand the problems of health and safety at work, which is fundamental to the White Paper's approach, would be singularly compromised if the recommendation that industrial doctors, part of or very closely associated with an enterprise or an industry, should give way to a network of medical bureaucrats responsible to some outside authority and having no attachment to the work environment, were to be put into effect.

The offering of health services to workers is part of the responsibility of the company management. It is best placed to decide its own needs as regards medical examinations and files, the frequency of these examinations and the nature of the services required to ensure the best possible performance in prevention and solution of problems of health and safety.

Certain structures, already existing in a number of industries, can be defin-

ed whereby doctors, nurses, health experts, toxicologists and epidemiologists work in close collaboration with the parity committees and with the workers' representatives. The independence and integrity of the professional medical workers can be guaranteed by means of service contracts approved by the professional corporations or even by the Commission for health and safety at work proposed in the White Paper.

The inspectorate

Elsewhere, the White Paper's proposal aimed at unifying all the health and safety inspection services is formulated in such a way that it raises more problems than it solves, due among other things to the confusion of authority among the Community Health Departments, the Commission for health and safety, the plant committees and the inspection services.

In any event, inspection in the mining sector is of a particular nature in view of the special characteristics of mining operations. There is not a shadow of doubt that the monitoring of the health and safety conditions of mining workers can be most efficiently carried out by specialists from a department which is in direct contact with the mining industry. The Mine Inspection Department has until now fulfilled this function very adequately, while seeing to the application of the Mining Act, and is the obvious choice to take on inspection responsibilities in mining installations under the proposed new system.

These are some of the changes that the Association des mines d'amiante du Québec would like to find in a Bill concerning health and safety at work, complying with the objectives and general orientation of the White Paper.

Editorial

Cigarette smoking and occupational diseases

"If it were not for cigarette smoking, lung cancer would not be a significant occupational disease problem among asbestos workers".

This statement is contained in a section devoted entirely to the issue of asbestos and health in the Annual Report of the Johns-Manville Corporation, of Denver, Colorado, and brings out the importance of the part played by cigarette smoking in the

incidence of lung cancer among this category of workers.

As noted in the Johns-Manville report, it was only recently, during the 1960s, that researchers were able to establish an epidemiological link between cigarette smoking and this asbestos-related disease.

Scientific demonstration

It was in fact only in the middle of the last decade that scientists were able to demonstrate an increased incidence of lung cancer among cigarette smokers who were occupationally exposed to asbestos. And

even today there is still no common agreement among scientists as to whether asbestos is a direct cause or whether it is merely a modifier in smoking-induced lung cancer.

There is one point however on which they all agree: "but for cigarette smoking, lung cancer would not have been a significant health factor among people occupationally exposed to asbestos". This is a simple, but crucial, fact about which the medical community has created a great deal of confusion and which, in the opinion of Johns-Manville, continues to be ignored by the media and the government authorities.

Asbestos Cement Pipe Producers Meeting

At its 7th Annual Meeting and Conference, the Asbestos Cement Pipe Producers Association directed its attentions to the three principal themes which are central to the preoccupations of this important industrial asbestos sector, namely health, demand and market.

This year, Vancouver, British Columbia, was the venue of the annual meeting, which lasted from April 29 to May 2. The Association, comprising the world's leading manufacturers of asbestos-cement pipe, had invited representatives of the industry, of the scientific and medical community and of public services to discuss various aspects of the chosen themes.

Topical issues

Corrosive waters, asbestos in drinking water, current norms and anticipated regulations regarding manufacture and use, market profiles in the construction industry in

the United States, Canada, Mexico or in Europe these, and all the other major issues that the asbestos-cement pipe industry is faced with, and which are likely to influence its growth, were dealt with at the Vancouver meeting.

Canadian point of view

The guest of honour at the opening luncheon of the Conference was Michael Messel, President of Lac d'amiante du Québec, Limitée, whose speech described the situation of asbestos in Canada, and particularly from the point of view of the mining companies.

"Asbestos-cement pipes constitute an extremely valuable market for Canadian asbestos producers", Mr. Messel pointed out. "They are keeping a close watch on developments in this sector of the industry and, as suppliers, are concerned about the proposed regulations that may come into force in the United States and in Western Europe, and at the negative impact they could have on the sales of asbestos-cement pipes on these markets."

Stressing that 70% of Canadian fibre production goes toward the manufacture of asbestos-cement products around the world and that

asbestos-cement pipe amounts to about 40% of this manufacture, Mr. Messel noted that fibre producers obviously wished to maintain their present share of this market while building up new markets in the developing countries.

Research and development

"The producers", the President of Lac d'amiante continued, "are making a serious effort to develop fibre grades more suitable for asbestos-cement pipe and other asbestos products. For their part, the manufacturers must and are making progress in search of improving existing asbestos products and developing new ones. This effort must go on vigorously if we are to prevent any decline in the use of asbestos products and to attract investment capital."

Referring to the major topics discussed at the Association's annual meeting, Mr. Messel made it clear that the problems facing the asbestos-cement pipe producers are common to the whole asbestos industry, and that finding solutions demands a joint and concerted effort, at both the national and international level, by all those concerned with the future of the asbestos industry.

The French asbestos industry is holding up

European asbestos manufacturers, faced with a sustained campaign aimed at discouraging the use of the fibre and at dramatizing the dangers of asbestos, are having to expend enormous amounts of energy and effort to combat the threat that such campaigns, together with the stiffening of the laws and regulations concerning asbestos use and the vigorous competition of substitute products, represent for the manufacturing industry.

The repercussions of the anti-asbestos campaigns and the regulations concerning the manufacture and use of asbestos-based products vary according to the size of the companies involved and to the nature of the production; there are also considerable differences from one country to the next.

"Asbestos is holding up"

An analysis of the situation of asbestos producers, published recently in "La vie française" and entitled "L'amiante résiste" (Asbestos is holding up), tends to show that in France asbestos is being more successful in withstanding the aggressions to which it is being subjected than in many other European countries.

In fact, with the exception of two companies which folded after being unable to afford the technological

conversions made necessary by the application of the norm of two fibres per cubic centimetre air-borne during processing, French asbestos manufacturing firms are maintaining their performance at a satisfactory level.

Slack sector

The article in "La vie française" notes however that "the sector which has suffered most is that of fire-resistant materials for the construction industry, due to the high cost of dust-removal equipment which renders them prohibitive for many installers". The article continues: "Furthermore, the trade unions in a large number of public services have been systematically opposed to the application and installation of this product in whatever form. This fall in business to the installing companies (~15%) has been partly compensated by increased sales on the general market."

Though it is not possible to determine precisely what effect this fall in sales of fire-resistant materials has on the whole of the French companies, the author points out that in the case of the three asbestos majors in France, Elernit, Everitube and Ferodo, this particular branch of activity amounts to no

more than one to two per cent of the overall business volume of each.

Asbestos-cement

In the case of asbestos-cement, production is divided between two large companies: Elernit (62% of production) and a subsidiary of Saint-Gobain-Pont-à-Mousson, Everitube (38%). This production accounts for 70% of fibre imports, the rest being distributed among Ferodo (8%) and various small companies. The tonnage of imported fibres has fallen by approximately 15% since 1974. The manufacturers, according to the article, attribute this decline essentially to the decrease in construction activity over the last few years and to the fact that the water distribution system, traditionally a big consumer of asbestos-cement, "now needs little more than maintenance".

Despite this fall and the drive for substitutes, the commentator of "La vie française" considers that the future of the asbestos industry in France is secure "as regards the medium term".

Quality and price

"At the present stage of research", he explains, "there is no natural or synthetic fibre which can offer all the qualities and characteristics of asbestos. Thus even steel fibre does not always offer the same mechanical resistance as asbestos. And though certain substitute fibres manage to correspond in certain limited specific uses, they never combine all the desired attributes."

In addition, for the present, the cost of the raw material for asbestos is between one-sixth and one-tenth that of fibre-glass, for example, which qualitatively comes closest to chrysotile fibre, "furthermore, labour costs for this substitute are between 5 and 10 times higher".



Storage of asbestos-cement sheets in France.

Open pit operation particularities

It may seem at first sight that the operation of an open pit mine is a relatively straightforward matter. It is however an extremely complex activity, requiring highly detailed planning with constant updating, special equipment usually designed for or adapted to specific operational needs, and great flexibility in making adjustments to meet the varying demands of production, to overcome the rigours of the climate and to comply with safety standards.

The particularities of open pit mining operations were discussed in a paper by G.B. Coulombe, Production Superintendent at the Jeffrey mine owned by Johns-Manville Canada, presented to the participants at the 81st Annual General Congress of the Canadian Institute of Mining and Metallurgy held in Montréal at the end of April.

Characteristics

Mr. Coulombe's paper, entitled "Open Pit Operation Particularities", was not intended to cover in detail each stage of the functioning and operation of a mine, but rather to bring out, by way of example, certain typical characteristics of the safe and efficient operation of an open pit asbestos mine, such as the Jeffrey mine which is the largest in the western world.

Located at Asbestos, Québec, in the Eastern Townships region, the Jeffrey mine is as much as 350 metres deep, over a length of 2 200 metres and a width of 2 000 metres. The town of Asbestos runs alongside the pit over a distance of about 1 000 metres.

A particularly large stock of equipment is used in this mine. 15 shovels, 12 bulldozers, 5 spreaders,

63 haulage trucks, 12 scoops, 6 rotary drills. There are 425 employees working in the mine itself, and some 200 others working in the mobile equipment garages and workshops.

Planning

There are three types of production planning: long term (10 years), medium term (5 years) and short term (yearly). In the first two instances the plans are drawn up almost exclusively by the engineering department using the geological data and the market forecasts as guides. This department is also responsible for preparing the yearly mine plan, but it does so in consul-

tation and in collaboration with the open pit team, the geological department, and the mill and marketing teams.

The yearly plan is used to draw up a mining schedule for the year, which has to be approved by the mine manager at least four months before the beginning of each year. A map of the mine is prepared showing the expansion sequences in the various zones of the deposit and indicating the pit configuration at the beginning and at the end of the year. The map gives an overall picture of operational progress, and is essential for the planning ahead of the location of pumps, water lines and power lines, haulage balancing, etc.

There is also a monthly schedule, finalized three days before the end of each month, to take account of production delays, the condition and maintenance of equipment, and seasonal weather influences. A monthly pit map is also prepared on the basis of this schedule. It is used mainly by the surveyors and pit supervisors.

Communications

Communications play a vital role in the operation of a mine. Instruction memos are issued each day to the general supervisors, and passed on with each change of shift; these memos keep them informed of the measures to be undertaken in the various zones of the deposit with re-

gard to production as such, to the condition of the haulage roads, to dumping or to any other aspect of operations.

Similarly the geological department puts out a daily report which, along with the hourly report from the mill laboratory, is a valuable guide for obtaining the best possible mix from the various ore sources, thus facilitating the preparation of the blends required for the mills.

Communications are also a vital element in matters of safety. The supervisor of each shift receives a daily check list which he must fill in as he ascertains the safety of a number of essential points, and where he must indicate the steps taken to correct faults.

Efficiency

With experience and the passing of time substantial improvements have been made in certain specific operational procedures, so as to increase their efficiency and performance. For example, Jeffrey has been using the non-electric sequential method of blasting for the last three years. This method, in which the majority of the drill holes are initiated and delayed before the first hole detonates, has the advantage, among others, of helping to reduce the number of misfires, which were particularly troublesome in winter, when the frozen ground surface shifts laterally during the blasting.

A few years back a new system was set up in order to improve the performance of the haulage trucks. It was named the "5-4 System", since it consisted in assigning five operators to four haulage trucks. By this means the trucks remain in service without interruption during the shift, since the operators are able to take turns when taking time off for periods left to their own discretion.

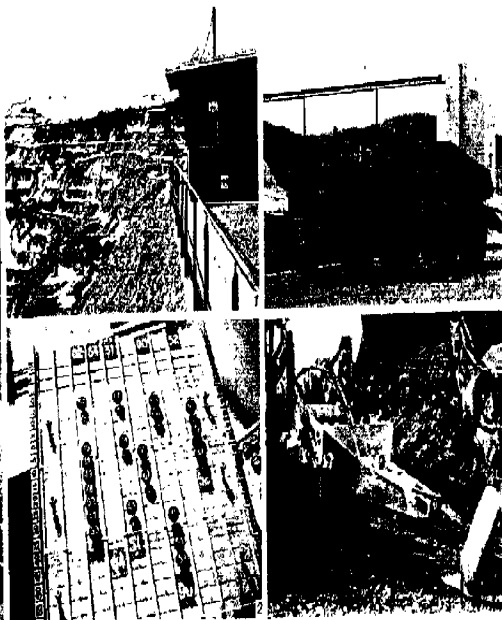
On the same principle, each shovel is operated by two men, an operator and a groundman. Eight of the 15 shovels available are thereby in constant use. This system not only permits preventive maintenance, it also brings down to eight the number of active faces in the mine, thus facilitating the work of the supervisor in charge.

Coordination

The haulage dispatching, i.e. the assignment of trucks to shovels and their routing when loaded, is one of the key activities of the mine's operations. This dispatching is carried out by radio communications from



The site of operations at the Jeffrey mine. The main haulage road in the centre of the photo leads to a primary crusher adjacent to a 300 000-ton ore reserve. On the left of the haulage road (bottom) is the main mobile equipment garage. Top left is a new building housing the open pit office, the supervisors' offices, the main store and the electric, machine and shovel shops. The buildings to the right of the road are the mills and an asbestos-based products factory.



- 1- The dispatchers' cabin located on the North wall of the mine, from which the whole pit is visible.
- 2- Dispatching board on which the numbered markers represent moving trucks. The rectangular plates represent the shovels at their respective loading points.
- 3- The home-made low truck towing a broken-down haulage truck.
- 4- The RHINO, built in the mine's machine shops, cleaning the shovel buckets.

Open pit operation...

the dispatcher's cabin. The dispatchers are responsible for the coordination of movements, according to priorities given to them at each shift. For this purpose they use a dispatching board, on which



A laser apparatus for measuring distances, one of several instruments used at the Jeffrey mine to monitor the stability of the slopes of the pit

each shovel and each truck is designated by a number, and which is in fact a simplified model of an analog computer.

There are two radio communications per trip. The first occurs when the loaded truck leaves the shovel. At this point the material loaded is identified and the truck directed towards its appropriate destination: the primary crusher, the ore reserve or the waste dumps. The source and the destination of the load are recorded on cards which are used in drawing up the daily production report. The second communication occurs when the truck returns to the pit; the operator then receives a new assignment.

Maintenance

Several other systems and devices have been installed at the Jef-

frey mine to limit the effect of breakdowns and to counter terrain difficulties. An example is the homemade low truck, designed and built in the mine's machine shop, which can tow a broken-down haulage truck and also, by means of hydraulic and air hoses, enable it to unload. Another device named RHI-NO is used to clear the build-up of clay and frozen earth inside shovel buckets.

Water trucks with a capacity of 72 800 litres, also home-made, are used for dust abatement on the haulage roads.

In addition all graders and small scoops are fitted with points in order to carve grooves into the frozen surface of the roads, which together with the spreading of a layer of crushed barren rock prevents the haulage roads from becoming slippery in winter.

Projects and prospects of the Société nationale de l'amiante

"So long as 'definitive' regulations for the use of asbestos and its substitutes have still to be introduced, particularly in Europe and in the United States, developing new asbestos deposits, large or medium-sized, is bound to be a gamble on the future".

Daniel Perlestein, interim President of the Société nationale de l'amiante, expressed himself in these terms to the participants in the discussion group on industrial minerals at the 81st Annual General Congress of the Canadian Institute of Mining and Metallurgy.

would be directed to different markets and different products, so that the two projects are therefore compatible and not in competition, except from the financial point of view.

Pointing out that these projects have been in the air for quite some time, Mr. Perlestein acknowledged that their success depended largely on "an increase in the sales possibilities for asbestos fibres on the world markets in the next five to twenty years".

Uncertain trends

"In fact, at the present time, there are opposing views as to future consumer trends on the world asbestos markets: on the one hand, the traditional markets to asbestos-cement, asbestos paper and friction material seem likely to continue expanding for some time; but on the other hand the consequences to health of certain techniques or certain asbestos products which were badly controlled or badly used in the past may well induce a certain number of countries and users to consider the use of substitutes and to impose tight restrictions on manufacturers of asbestos-based products.

Such being the case, the President of the SNA feels that it is difficult at the present time to speak with any certainty of a future growth in world demand which would make it possible to introduce hundreds of thousands more tons of asbestos onto the markets from 1985 onwards.

Manufacturing activities

With regard to the SNA's manufacturing activities, in addition to known projects such as the conversion of a paper machine for the production of commercial flooring felt, Mr. Perlestein announced that negotiations were currently being held with Québec, European and US firms with a view to setting up projects directly and indirectly related to the manufacture of friction material.

Referring to the various problems involved in expanding the production of asbestos-cement in view of either market saturation, competition from other products or, in the case of the developing countries, competition from the large European and American producers who are able to offer turnkey projects, Mr. Perlestein considers that the SNA "must first prove its mettle in this substantial but long-established and difficult market". The SNA is therefore starting production tests for prototypes of compound asbestos-cement products on a special pilot machine.

Open Pit Operators Conference

The Third Open Pit Operators Conference, organized by the Thetford Mines section of the Canadian Institute of Mining and Metallurgy, will be held from June 11 to June 13, 1979 in the asbestos region of Québec.

The technical program prepared by the Conference Organizing Committee, under the Chairmanship of Clément Bernier, President of the Thetford Mines section of the CIM, will consist of four technical sessions and a number of visits to mining installations.

Technical sessions

Each of the four technical sessions, which will be held on June 11 and 12 during the morning, will be presented by one of the four asbestos mining companies which operate open pit mines, namely la Société Asbestos, les Mines Carey-Canadiennes, Lac d'amiante du Québec and Johns-Manville. They will deal with subjects ranging from environmental control, rejects disposal and the milling process to mine planning, geological aspects, and so on. All the technical sessions will be given both in French and in English.

The afternoon of June 11 and 12 will be devoted to visiting the installations of les Mines Carey-Canadiennes at East Broughton, of Lac d'amiante du Québec at Black Lake, and of la Société Asbestos at Thetford

Mines. June 13 will be spent visiting the installations of Johns-Manville at Asbestos.

The closing dinner will take place at Asbestos on the same evening, and the guest of honour and speaker will be E.H. Caldwell, President of the Canadian Institute of Mining and Metallurgy. At the opening dinner on June 11 at Thetford Mines, a talk entitled "Asbestos, its past, its present, its future" will be given by Lionel Pluze, outgoing Chairman of the AMAQ's Committee on the Environment.

Members, guests and friends of the Canadian Institute of Mining and Metallurgy are invited to attend this conference. However, since accommodation is limited at Thetford Mines, the number of participants has been restricted to 300. Those who are interested should register as soon as possible.

For further details concerning the conference, the program will be sent on request from the following:

Canadian Institute of Mining and Metallurgy
1130 Sherbrooke St. West, Room 400,
Montréal, Québec H3A 2M8
Telephone: (514) 842-3461

Mr. Clément Bernier
P.O. Box 454, Thetford Mines, Québec G6G 5S1
Telephone: (418) 423-4221

Mining projects

Asked to speak about the operation of the Société nationale de l'amiante and its projects, Mr. Perlestein indicated among other things that the SNA was looking into two possible asbestos mining projects, one in the Chibougamau region with the property of Mac Adam of Rio Algom, and the other, the property of Brinco, in the Amos region.

The SNA President explained that these are two very different projects, both with regard to scale and to the type of mining which is possible. They differ above all with regard to the types of fibre which

Canada Safety Council Award

The Canada Safety Council has created an award to be presented to those persons who have made a particularly distinguished contribution to health and safety at work and to the prevention of industrial accidents and diseases.

This "Achievement Award" will be bestowed for the first time in Oc-

tober 1979 at the Canada Safety Council's Annual Meeting. A selection committee has been set up to make a choice among nominees.

Anyone is eligible whose accomplishments represent or have represented a noteworthy contribution to the improvement of health and safety conditions or to the prevention of industrial accidents and diseases in the Canadian workplace. Nominations must reach the Council by June 1, 1979.

The Council will however only ac-

cept nominations made by organizations which are directly concerned with health and safety at work, either at the national or the provincial level, that is from governmental departments or agencies, from workers' organizations or from associations whose activities are partly or wholly directed towards this field.



CANADA SAFETY COUNCIL

George W. Smith (1898-1979)

It was with a deep sense of loss that the asbestos world learned of the death on April 17 of George W. Smith, and nowhere more so than in the Thetford Mines region where Colonel Smith devoted nearly 50 years of his life to the service of the asbestos industry.

The name of Smith has been closely associated with the history of asbestos development in Québec since the 19th century. Born in 1898 at Thetford Mines, in the heart of the asbestos region, George Smith was the son of a pioneer of the industry who was at that time managing the Bell Asbestos mine. He himself joined Bell in 1920. He became a Director and Secretary-Treasurer in 1936, and in 1951 became President, which he remained until his retirement in 1966. Even after his retirement he continued for several years to act as advisor to the company.

A patriot

George Smith, who served overseas in the Canadian Army during World War I and afterwards remained very active in the Canadian Reserves, took leave of his activities with Bell Asbestos (now Les Mines d'amiante Bell) during the Second World War to assume command of the Third Battalion of the Royal Canadian Engineers with the rank of Lieutenant-Colonel. He gained numerous honours during his military career, and in 1945 he was made an

Officer of the Order of the British Empire by King George VI.

During his Presidency at Bell, George W. Smith spent ten years as President of Relocation Limited, a company formed to oversee the relocation of hundreds of residences and other buildings, as part of a program aimed at expanding the mining operations of three mining companies, Bell, Johnson's and Asbestos Corp. Since then, a boulevard in Thetford Mines has been named after him.

Honour and merit

He took an active part throughout



George W. Smith

his career in associations devoted to the promotion and the defence of the asbestos industry and of the mining industry in general. He was for many years a director of the Association des mines d'amiante du Québec, and served as its President from 1955 until 1957. He was awarded the Asbestos Gold Ring, a distinction created in 1942 which has so far been awarded to no more than twenty eminent members of the asbestos mining and manufacturing industry. The Canadian Institute of Mining and Metallurgy of which he was for a long time a leading member, awarded him a medal in 1966 in gratitude for his outstanding services.

Historian and collector emeritus, Colonel Smith is the author of a unique history of Bell Asbestos from 1878 to 1967. The photographs used to illustrate the early days of the asbestos industry in the film "Rock Cotton" were provided from his personal collection. He was also one of the principal contributors to the "Asbestos Lexicon" published by the Association des mines d'amiante du Québec and dealing with the terminology specific to the industry.

George W. Smith was a humanist, and to the end of his days devoted a good deal of his time to community life and to social and humanitarian work in Thetford Mines, a town to which he was profoundly attached.

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