

LEAD INDUSTRIES ASSOCIATION, INC.

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COMINCO USES ITS OWN PRODUCTS

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The title of my talk today is "Cominco Uses Its Own Products". Each of you might say, "So what, don't we all?" and you are quite right. Not only do we of the lead and zinc industries use our own products, but so does every industry and every individual in our modern civilization, either directly or indirectly, use the products of our industry. Modern civilization, as we know it, could not exist without the products of our mines. It is to our discredit that most of us in the primary lead and zinc industries have only limited knowledge of the variety of existing and potential uses to which our products are or could be put. It is this phase about which I wish to speak today. In making a sincere effort to exploit the use of its products, Cominco is not unique in our industry. However, you may be interested in knowing how we at Cominco are attempting to expand the uses of lead and zinc - not necessarily in exotic ways, but in our normal day-to-day activities of building and maintaining our mines, refineries and chemical plants. I will mention how we are organized to make greater use of our products and the degree of success we have attained. I will also tell you some of the direct benefits we have received from the practice of using our own metals.

Before telling you about our programs, I must give you some background information on our company. Merged from a number of mines and a smelter at Trail, British Columbia in 1906, The Consolidated Mining and Smelting Company of Canada Limited today has its major mining operations at Kimberley, British Columbia with a half dozen smaller operating mines across Canada and in the U. S. A. The concentrator at Kimberley treats 50,000 tons of ore weekly. The concentrates are transported to Trail for smelting and refining into 1,000 tons of metal each day. Also at Trail are the main chemical and fertilizer operations, producing about 2,000 tons per day of nitrogen, phosphorus and potash fertilizers, as well as other related heavy chemicals. Fertilizer plants are also located at Kimberley and Calgary, Alberta. A 100 ton per day pig iron plant is at Kimberley. Close to Trail are six hydro-electric plants generating about 650,000 H.P. Of the 7,000 employees, about 4,000 are in the Trail area, 1,500 in Kimberley, with the remainder in various mines, factories and offices across the continent.

It was in the decade following the war when strong and successful bids were being made to take over our markets by producers of other materials that various people in our company became aware of the need for greater product promotion. Cominco management, in 1954, organized a Metal Use Research group and a Metal Sales Development group.

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These were established to provide service to our customers and to ultimate users for the purpose of promoting greater consumption of our products. To encourage the use of lead in our own operations, in 1955 a committee was set up called the Lead Use Committee, headed by the Superintendent of our Engineering Development Department and composed of our lead burner foreman, a man long dedicated to promoting the use of lead, and representatives from our Design, Operating and Research Divisions. Similarly, in the summer of 1956 a Zinc Use Committee was established, again chaired by the Superintendent of our Engineering Development Department, and with representatives from our Design, Operating and Research Divisions. We thus had several groups of individuals charged with the responsibility of promoting the use of our products to both our own people within the organization and to customers and others outside the company. It is now obvious the jobs were similar. The same information was needed to convince those charged with building and maintaining our own factories to use lead and zinc as was needed to sell their counterparts in other industries. The lessons we could learn from experiences in our own plants would be used to promote our products to others. We were all working for the same objective.

How did we make out? In the early stages, interest in using our own products was limited to those groups who were directly charged with the assignment. However, by 1960 general interest had been aroused amongst the majority of our employees. Our internal publicity people who publish the employee magazine had been looking for articles about our products. We arranged for them to receive the literature published by the LIA and other industry associations. This literature was also sent to key engineers in the construction, maintenance and operating divisions. In addition, our field service engineers were writing up reports describing the most interesting uses of lead and zinc which they encountered. These reports were used, not only as a basis for our metal advertising programs, but were also sent to our magazine editors. By 1960 17% of the contents of the employee magazine were about our products. Ten years ago no product use articles had appeared. Currently this has settled down to about 12% of the contents and the editors are holding it at about this level. Our internal publicity people developed other variations of product publicity. A prize essay contest was held on how lead and zinc were affecting the daily lives of our employees. A feature article in our employee magazine reported on the merchandise to be found in the local stores which in some way or other utilized the products of our plants. This, of course, called for the co-operation of local merchants and emphasized to them the basic source of their income. Currently, a contest is underway whereby each employee has been given a small sheet of zinc - a prize is offered to those developing the most interesting uses.

In 1960, in a effort to arouse general interest, a panel discussion was held in Trail by senior members of the Sales, Sales Development and Research Divisions who spoke on various sales, sales promotion and product research subjects. Over 400 supervisors voluntarily attended this evening meeting and showed by their questions the tremendous interest they had in product sales. In March, 1960 the Lead Use Committee and the Zinc Use Committee were consolidated into a single organization called the Internal Lead-Zinc Use Committee. The supervisor of our Metal Use Research group became Chairman and his assistant became Secretary. On the committee are

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representatives of the engineering, production, materials engineering, publicity and sales development. It has become increasingly evident to our field service engineers that if we are to effectively promote the use of our metals in competition with other materials, we require detailed information on the service life of our products under various actual use conditions. We also need to know the criteria used by our own engineers, in choosing or rejecting our products, as well as competitive products. With our plants stretching from the Atlantic to the Pacific and from Montana to the Arctic Circle, we can provide a wide variety of service conditions. In addition, we know that our own staff of engineers and tradesmen can improve the service life of our own products, particularly in construction applications. We also want to test new applications. The widespread geography of our plants and the diversity of our processes provides us with a testing ground to satisfy the most discriminating researcher. To record the results of our applications, make economic studies and seek out new uses, we recently appointed an engineer as full-time Secretary of the Internal Lead-Zinc Use Committee. As a member of our Engineering Division, he is familiar with the activities of our design engineering staff and is in a position to influence design decisions. Now as a matter of company policy, our engineering and maintenance departments endeavour, wherever possible, to use our own products or modifications of them - even though the cost may appear higher than for competing materials.

To further enhance our knowledge of lead and zinc, we are seriously planning a major metal working laboratory. Our research into zinc extrusion, cathodic protection anodes and the anodizing of zinc have all resulted from this desire to extend the uses of zinc.

You may ask "Has this activity resulted in greater use of your products in your own operations?" I will attempt to answer this by briefly outlining some of the more evident and successful applications. The effective use of zinc dust paints in reducing maintenance costs in our own factories resulted in the successful recommendation by our Engineering Division to the British Columbia Department of Highways to use zinc rich paint on the Columbia River Bridge at Trail. Many problems were encountered in this application and these are helping us in promoting future applications. The lead clad flue from our lead sintering machines replaced a plywood flue. One hundred tons of lead were used. Zinc anodes applied to our thickeners reduce maintenance costs and the use of zinc anodes on the steel dock at our Pacific Coast Terminals subsidiary is giving full protection against corrosion. Buildings at our various mines, for the most part, had been sheathed in asbestos cement. Our most recent installation on Vancouver Island has utilized prepainted galvanized steel, while our pig iron plants, originally designed in asbestos cement, have been built in asbestos coated galvanized sheet. Galvanized siding has been installed on our Zinc Melting Plant extension, our Antimony Plant, our Zinc Roaster Building and in the fertilizer storage warehouse of a subsidiary company in Trentwood, Washington. The new monorail system for charging our blast furnaces has been installed in galvanized steel. The "Cominco 60" fertilizer applicator made extensive use of zinc die castings. Lead copings have been installed on the Kimberley iron plant and on the Warfield caustic-chlorine building. Lead flashings are serving the new Trail sinter plant. An experimental lead roof has been applied to the lead burner shop. Lead stair treads, a lead cap on the 400 ft. zinc plant stack and lead ends to cocoa matting

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are all in use. These are in addition to the lead sulphuric acid towers, launders, pipes, agitator linings, bench coverings, tank linings, cast lead valves, lead base paints and literally hundreds of other applications that have been used for a generation.

When we decided to move our Montreal offices into a building about to be constructed, our management, who are the real force behind this movement to utilize our own materials, instructed us to work with the interior designers to incorporate our own materials in the new office.

We had very little influence on the building as a whole. In the normal course of construction, 61,000 feet of galvanised conduit were used, along with 1,500 tons of galvanised floor decking, 560 tons of galvanised sheet, pipe, and ducts, and 15 tons of lead caulking, 4 tons of lead in porcelain enamel, 8 tons of lead in anti-vibration pads, and 1350 gallons of red lead paint, as well as various other miscellaneous uses. In our own two floors, however, for interior decorative and functional applications, we concentrated on materials using our own metals. We approached many of you present here this afternoon for suggestions and I now want to thank you for the interest you displayed. In the lighting fixtures we substituted for the normal aluminum grid about two tons of zinc alloys (nickel silver, yellow brass). Extruded zinc shapes are being used in angle trim for the lighting, wall fabric joint covers, in a standing screen and in door stops. Door kickplates are being made from zinc alloys and rolled zinc sheet. Rolled zinc sheet is also used for the wall base and for boot trays. Zinc die castings are being used for door levers, cabinet pulls, floor electrical outlets and in the reflector rims of the pot lights. Zinc and zinc alloys are being used for decorative wall panels. In addition, of course, galvanised flanges, tracks and hangers were used in the lighting, the conventional ceiling, electrical wall boxes, electric cable and conduit and many other conventional applications. Lead is being used in porcelain enamel trim for walls, as extrusions for the glass block wall around the mailing service rooms, and in the walls for sound attenuation.

The two most costly and at the same time most interesting applications are the zinc alloys for the lighting fixtures and the lead sheet in the walls. From both of these applications, we have had, even at this date, positive results. The firm manufacturing the lighting fixtures had used only aluminum until they made our fixtures. When we suggested zinc alloys, they were enthusiastic since they were looking for other colours to satisfy the various colour schemes now demanded by architects. They recently sent a travelling promotional display across Canada and to the U.K. in which they showed only the zinc alloys they had used in our offices. They have reported enthusiastic interest among architects and are confident orders in these metals will be forthcoming.

Regarding the lead walls, there are several beneficial results. In conjunction with the LIA and ERP staffs, we were able to find a type of wall that could be adapted to include lead. The problems of installing lead sheet were not difficult and the resulting wall was more easily handled than a similar wall without lead. Since we did not have the necessary time to make a complete study of all design features before the plans had to be frozen, we are still uncertain as to the precise extent of sound attenuation we will achieve, but we are confident it will be appreciable and that this type of wall construction has great commercial potential.

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Incidentally, we required 38 tons of lead for 22,000 sq. ft. of partitions.

What has been accomplished? This is difficult to answer.

As a sulphuric acid producer, Cominco has been using its own lead from the time the first acid plants were built in 1928. We are not using our own metals for the first time. However, we believe several things have been accomplished by this intensive internal promotion.

- (1) Our employees at all levels have been made aware of the importance of our markets and are identifying their jobs with our success in the market place. It has aroused new enthusiasm.
- (2) We have solved some of our maintenance problems and reduced maintenance costs through the use of our own metals.
- (3) We are now gathering data that is invaluable in promoting the use of our metals to others. We can speak with sure knowledge of the advantages of our metals.

Such a programme takes the active support of every employee. It cannot succeed without the inspiration and conviction of top management. This calls for more than lip service support - it calls for the kind of support that provides funds to carry out such a programme because money and staff are necessary.

Unless we ourselves are prepared to use the products of our mines and factories, then who else can be expected to do so? We have all laughed at the joke about the restaurant owner who hung up an "out to lunch" sign. Yet we ourselves have been guilty of the same folly when we use the inferior materials of others when we could use our own products to advantage. We have little to lose and much to gain. We must not lose our markets by default - we are playing this game for keeps.