DIRECTORS' MEETING

New York, N. Y. June 8, 1932.

A meeting of the Board of Directors of the Lead Industries Association was held at the Down Town Association, New York City, on Wednesday, June 8th, at 1:00 P. M.

Present:	Representing:
Clinton H. Crane, Chairman	St. Joseph Lead Company
E. H. Hothorn	American Metal Co. Ltd.
E. A. Behr	American Smelting & Refining Co.
R. M. Roosevelt	Eagle-Picher Lead Co.
T. H. Zappert	Euston Lead Company
Ivan Reitler	Federated Metals Corp.
F. M. Carter	National Lead Company
I. H. Cornell	St. Joseph Lead Company
J. A. McCarthy	United Metals Selling Co.
F. Y. Robertson	United States Smelting Refining & Mining Co. Inc.
A. A. MacLean	USL Battery Corp.

F. E. Wormser, Secretary-Treasurer.

President Clinton H. Crane occupied the chair.

The minutes of the previous meeting were approved.

The resignation of the El Potosi Mining Company from membership was received and accepted.

The Treasurer's Report was read and approved as follows:

TREASURER'S REPORT

January 1, 1932 to June 1, 1932

Cash On Hand in Bank, January 1, 1932			$11,975.55
Receipts			
Membership Contributions, 1931	$238.50		
Membership Contributions, 1932	18,193.50	$18,432.00	
Less; Contributions Outstanding		877.50	17,554.50
Interest			56.23
Book Sales			13.52
Total Receipts			17,624.25
Total			$29,599.80
Disbursements			
Furniture & Fixtures	$92.75		
Salaries	7,731.00		
Rent & Light	955.99		
Office Expense Miscellaneous	446.28		
Traveling Expenses	436.16		
Telephone & Telegraph	208.78		
Books & Subscriptions	119.46		
Printing	4,549.22		
Mailing	1,895.45		
Illustration	123.55		
Total Disbursements			$16,558.64
Cash on Hand and in Bank, June 1, 1932.			13,041.16
Total			$29,599.80

The Secretary's Report was presented and approved as follows:

LIAC0066

Secretary's Report

The following principal developments have occurred since the last Board meeting:

1. Membership - The El Potosi Mining Company has submitted its resignation as follows: "As a foreign producer of lead, marketing all of our product in Europe, we feel that while the activities of the Association are very worthy, our own activities lie outside of this country." Although it is true that most of our activities have been confined to stimulating the use of lead in the United States, still there has been a strong demand for our literature and cooperation abroad, especially in England and Germany.

2. Statistics - The third annual Statistical Review appeared in April and is noteworthy for the fact that it now contains data relating to metallic lead products and secondary lead.

3. Educational - The March and May issues of "Lead" continue to call attention to some of the newer uses of the metal. The July issue is now in press and, like its forerunners, only contains material that is fresh, original and deserving of publicity. Our circulation is now 19,000 but we desire to increase this somewhat by virtue of some work we expect to do among paint dealers in the near future.

We have continued to take advantage of the opportunity, open to us through the technical press, of contributing articles of decided practical interest to readers of trade journals. For example, an article in the "Sheet Metal Worker" described Sheet Lead Welding Procedure; two articles in "Metalcraft" described Lead Roofs and Ornamental Lead Work respectively

As a third method of reaching interested parties we have lectured on lead, presenting an address on The Possibilities of Lead in Construction, before the National Convention of Sheet Metal Distributors in Philadelphia last month. The American Welding Society wishes to have us address their annual convention in Buffalo next fall, and it is quite likely that we shall prepare a paper, on request, for the American Water Works Association on calking lead.

Our booklet "Lead Pipe" met with an extraordinarily fine reception, so far as we can judge. We have received requests for the booklet from Europe as well as the United

States, in fact, one German firm would like to have us distribute an edition in German. Several of our members have ordered reprints for distribution to their customers, particularly as we only printed 10,000, which is too small a number to reach all of those who have a present or potential interest in lead pipe. One result of our publicity has been to stiffen the resistance toward substitutes of those who favor lead pipe. It has bolstered the morale of those who inwardly feel that lead is a superior metal for many applications but who have been almost persuaded otherwise by the deluge of propaganda from competing materials.

Encouraged by the success of the "Lead Pipe" booklet we are planning to prepare additional booklets on Sheet Lead, White Lead and other lead products. We selected lead pipe originally as we thought it was one of the toughest lead products to sell and the dullest one on which to prepare any kind of helpful literature, and therefore a good one on which to test the merits of the experiment.

4. Technical Research - Numerous cable companies have been very much interested in learning of the work we did on the creep strength of lead which, you may recall, caused us to change the lead pipe standards in the United States and for the very same reasons should ultimately bring about a change in the cable sheath thicknesses as now used in certain high tension oil-filled power cables.

We have supplied the laboratory of the Johns-Manville Company with soft, chemical and antimonial sheet lead for test purposes in an effort to ascertain just what property of lead is most desirable in brake linings. We are also planning to cooperate with that company in developing an alloy should it prove desirable in brake lining material.

At the last meeting of the Board, the Secretary was directed to investigate the costs of establishing a definite technical research program for the Lead Industries Association and my report on this subject follows:

Technical Research of the Lead Industries Association

There are several ways in which an association program of technical research might be conducted:

(a) Establishing the Lead Industries Association's own laboratory.

(b) Using existing laboratory facilities, such as:
1. Member company laboratories,
2. Bureau of Standards, Washington, D. C.,
3. Private consulting laboratories,
4. Private research institutions such as the Battelle Memorial Institute or Mellon Institute,
5. Fellowships at various universities.

The most expensive procedure is the first, namely, establishing the Association's own laboratory. Numerous associations have done this, for example, the American Gas Association, National Canners Association, American Paint and Varnish Manufacturers Association and many others. In addition, one non-ferrous metal industry with which the lead business is competitive in more than a few branches - the aluminum industry - has one of the finest technical research laboratories in the world. The cost of these laboratories, so far as I have been able to ascertain, varies from $25,000 to $1,000,000. The annual upkeep and operating expense is $10,000 to $200,000 for the association laboratories. The cost to the Lead Industries Association of a private laboratory would depend upon the size of the research program adopted but a minimum would be about $25,000, probably more. In addition, of course, there is the annual cost of operating the laboratory.

The use of a member company laboratory has the advantage of providing facilities already established. Company laboratories are mainly operated on production problems related to the company's products but generally have a wealth of valuable experience and technical competence on lead research which is a useful basis for research looking to the creation of new uses for lead. It should be possible to make an equitable arrangement for conducting technical research at a company laboratory, using either the present laboratory staff or adding special technicians as needed.

It is noteworthy, however, that the general plan adopted by most collective research efforts has been to use university, government and commercial laboratory facilities, presumably to avoid the heavy initial capital expense which the erection and staffing of a private laboratory would involve and to divorce the work completely from a direct contact with member companies. The element of detachment seems to be prized.

The procedure in the case of the Government, university and institution laboratories is more or less allied. In each case a research worker is furnished by the Association, with the cooperation of the research agency, and he devotes his entire energies to the research problem of the Association, conducting his investigations at the laboratory in question. He has, of course, the advantage of consultation and association with other research workers as well as the use of the mechanical facilities of the laboratory. His salary is paid by the Association and in addition at some private research institution a fee for the use of the laboratory facilities.

Conducting work at a private laboratory has the advantage that any results obtained are the property of those who support the work whereas results obtained through research at the Bureau of Standards in Washington, cannot be patented and ultimately become the property of the general public.

The Battelle Memorial Institute advises us that the ordinary small research project costs about $7000, per year and that some are of such a nature that they can be carried on for considerably less. They invite consultation on our problem.

When work is undertaken at commercial laboratories in New York, Boston and elsewhere, the research problem as a whole is turned over to the commercial laboratory under a prearranged agreement. For some reason or other the use of a commercial laboratory has not been as popular among trade associations as the use of university and Government facilities.

A list recently published by the National Research Council, on the amounts annually expended by trade associations for technical research, shows that these sums range from a minimum of $3,000 by the Wire Cloth Manufacturers Association to a maximum of $200,000 by the American Gas Association.

University fellowships have much to recommend themselves and many great industrial corporations use the fellowship as an adjunct to their own well equipped laboratories. The cost is comparatively low. For example, if six fellowships were to be established at $1500 each annually, the total cost per year would be $9000 plus the expense of any special apparatus and related items, making a total of probably $12,000. These six fellowships might be divided into three groups of two each, and each group placed at a different university. The association would thereby get the benefit of not only the work of six fellows but also the benefit of the consultation and contact of these fellows with the faculty, professorial and

technical staff at three universities. Furthermore, friendly institutional rivalry should act as a spur to procuring results through fellows, not to mention the scientific competition among the pairs at each university. Later on, if the Lead Industries Association should decide to establish its own laboratory the fellowship holders should furnish a useful nucleus from which to build a staff.

From the standpoint of economy the fellowship approach to the technical research problem of the Lead Industries Association has much to recommend it. Inexpensive fellowships placed at some of our leading universities should here and there sprout into some technical creation that will more than repay the entire cost of the work and lead to a wider use of our metal. It would be too much to expect that every fellowship should be productive of valuable practical results. Smaller sums might be set for the fellowships but the more generous the amount the more apt are they to attract the best type of research worker.

The type of problem usually selected for research among the various associations comprises questions as to the proper use of products, development of standards and by-products, new uses and overcoming difficulties in the use of the product.

Applying the experience which other associations have had with technical research to our problem, it would appear that a research program can be outlined costing anywhere from $2,000 annually to the maximum which it might be desirable to appropriate. The difficult question is ascertaining the most effective means for conducting the research. Probably the first thing to do would be to analyze what there is in the lead business which might be improved by a program of technical research. If nothing is wrong then obviously a technical research program is out of place. To justify itself economically results in dollars and cents must be obtained from group technical research. A survey of what particular technical questions, the answer to which would help lead, and are of most pressing interest to the industry or are likely to yield the most profitable return, would be helpful. Is it the development of new alloys, standardizing methods of coating metals with lead, or many other kindred problems? Such a survey would bring the problem of research from the abstract down to the concrete.

It would be useless to erect a laboratory, fully equipped and manned, feeling that the problem of research is thereby solved and that all the members have to do thereafter is to sit back and await results. It would seem far better to start modestly on a few questions of decided group interest

and, if the solution of these problems should be forthcoming, the result would stimulate further technical research.

In any event, regardless of the method to be pursued, a program should be drafted for a period of time long enough to insure thoroughness in execution. Three to five years work will most likely be necessary before any tangible results are received. It would be better not to enter upon the project at all rather than to venture on a short and poorly planned program.

A tabulation of the National Research Council is appended showing the amounts expended by numerous trade associations for technical research, also the fellowships of interest established at various institutions.

Tobacco By-Products and Chemical Corp., Columbia Bldg., Louisville, Ky. Fellowship at Rutgers University, for the study of the effect of nicotine in the control of injurious insects. $2700.

Upjohn Co., Kalamazoo, Mich.
Scholarship at Kalamazoo College, for research in chemistry. $750.
Scholarship at University of Michigan, for research in pharmacy. $750.

U. S. Industrial Alcohol Co., 60 East 42nd St., New York, N. Y. Fellowship at Johns Hopkins University, for the study of chemistry. $1000.

Utilities Research Commission, Inc., 72 West Adams St., Chicago, Ill.
Research associate at Bureau of Standards. Project: Fundamental characteristics of liquid dielectrics.
Ten projects on various engineering problems at the Experiment Stations of the University of Illinois, Purdue University, and Massachusetts Institute of Technology, and at The Johns Hopkins University.
Three similar projects are placed in the laboratories of the individual companies which sponsor the commission.

Warner and Co., Inc., William R., 113 West 18th St., New York, N. Y. Fellowship at Johns Hopkins University, for study of chemistry. $1000.

Wiley and Sons, Inc., John, 440 Fourth Ave., New York, N. Y. Fellowship at Johns Hopkins University, for the study of chemistry. $1000.

Wisconsin Utilities Association, Electric Section, 135 West Wells St., Milwaukee, Wis. Fellowship at University of Wisconsin, for the study of electrical engineering research. $750.

LIA00076

5. Commercial Research - Believing that an opportunity exists to interest paint dealers in preparing pure white lead paint ready for the brush, either white or in colors, under the dealer's own label, we are planning to bring the possibilities of developing this business gradually before some representative dealers. As an experiment, we have been in touch with an important paint dealer in Jamaica, Long Island, acquainting him with our views, and he has agreed to try them out. In persuading him to do so we were guided by the experience of Finnaren and Haley of Philadelphia with prepared white lead paint over a period of 17 years and which has been described in the May issue of "Lead". By acquainting a machinery company manufacturing mixing equipment with the possibilities of expanding its business, we have succeeded in getting this company to supply a mixer on approval to the Jamaica paint dealer. It would appear that we have an interesting possibility in expanding white lead consumption along the line indicated.

6. Welfare Work - The State of Pennsylvania called a Safety Conference in Harrisburg on May 11th and 12th, which I attended on behalf of our members having interests in Pennsylvania for the chief topic brought before this conference was Occupational Diseases and the desirability of passing legislation which would include lead poisoning as a compensable disease. It was gratifying to find that, although lead poisoning is still considered an important industrial hazard in Pennsylvania, it is being subordinated by the great hazard from silicosis in dozens of important Pennsylvania factories and industries. No formal action was taken at the Conference but Governor Pinchot stated that he was going to appoint a Commission to investigate the whole subject. Inasmuch as 11 States already have occupational disease laws making lead poisoning compensable I believe it would be wise for the Board to discuss this whole subject so that I may be guided in the future by their views, for undoubtedly, the question will be brought up in other industrial States in the Union.

7. Miscellaneous - I devoted some time in Washington in the interests of lead on some important Government construction projects. I am pleased to report there is a growing interest in its use in federal projects.

Respectfully submitted,

F. C. Warner

Secretary.

LIA00079

The Secretary asked for the advice of the Board in the conduct of the Association's work on behalf of white lead, particularly as to the progress of the commercial research among dealers outlined in the Secretary's Report and its effect on the position of white lead manufacturing members. Mr. Zappert described the step his Company was taking in making available to the general public a ready-mixed white lead paint and suggested that the Lead Industries Association might be able to help by giving white lead paint publicity through booklets and otherwise. It was the consensus of opinion of the Board that the Association should publish literature on white lead.

Discussion next took place about the prospect of Workmen's Compensation legislation in the State of Pennsylvania relating to Occupational Diseases. The situation in the State of New Jersey was also discussed, where the administration of the Workmen's Compensation laws were giving some members much trouble. The Chairman stated that he felt the Association should do all it could to represent the interests of members in those States having Workmen's Compensation problems that were of a group nature. He appointed a Committee of representatives of all member companies with establishments in New Jersey to investigate the situation in New Jersey. The Committee consists of the following members:

Messrs.	E. H. Hothorn	American Metal Co. Ltd.
	E. A. Behr	American Smelting & Refining Co.
	R. M. Roosevelt	Eagle-Picher Lead Company
	Ivan Reitler	Federated Metals Corp.
	F. M. Carter	National Lead Company
	G. L. Hehl	Sherwin-Williams Company
	J. A. McCarthy	United Metals Selling Co.

or alternates appointed by them.

The Secretary requested authority to proceed with his efforts to have two model houses for the forthcoming Chicago Exposition of Progress painted with white lead, which was granted.

It was regularly moved and seconded that the Quarterly Meeting, scheduled for the fourth Wednesday in August, be postponed to the fourth Wednesday in September.

Motion carried.

The meeting was then adjourned.

Chairman.

Secretary.

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