

## BOARD OF DIRECTORS MEETING

Chicago, Ill.

April 14, 1950

A meeting of the Board of Directors of the Lead Industries Association was held on Friday, April 14, 1950 at 9:30 A.M., at the Drake Hotel, Chicago, Ill.

### PRESENT

Norman Hickman  
S. D. Strauss  
J. B. Haffner  
  
J. P. Ruth  
F. E. Wormser  
G. H. LeFevre

### REPRESENTING

American Metal Co., Ltd.  
American Smelting & Refining Co.  
Bunker Hill & Sullivan Mining  
& Concentrating Co.  
The Glidden Co.  
St. Joseph Lead Co.  
United States Smelting Refining  
& Mining Co., Inc.

Robert L. Ziegfeld, Secretary-Treasurer

It was regularly moved, seconded and carried that Mr. Felix E. Wormser be elected chairman of the Board of Directors.

Mr. Wormser then occupied the chair.

The minutes of the previous meeting of March 10, 1950, were approved.

### TREASURER'S REPORT

The treasurer submitted financial statements covering the first quarter of 1950 which were accepted, (Attached as Exhibit "A").

### ELECTION OF OFFICERS

The chairman stated that it was in order to elect officers of the Association, whereupon the following nominations were made, and there being no further nominations, the secretary was instructed to cast one ballot for the election of these nominees and they were declared elected:

Felix E. Wormser, President  
K. C. Brownell, Vice President  
J. A. Martino, Vice President

### ELECTION OF EXECUTIVE COMMITTEE

The secretary called the Board's attention to the fact that inasmuch as the annual meeting of the Association had left two vacancies on the Board of Directors, one of which had formerly been filled by a member of the Executive Committee, only five of the six former members of the Executive Committee were eligible for reelection.

The Board then reappointed the following to the Executive Committee:

Felix E. Wormser, Chairman  
J. M. Bowlby  
K. C. Brownell  
J. A. Martino  
George Mixer

and decided to leave one vacancy on the committee temporarily or until the vacancies on the Board had been filled so that a western mining member might be added to the Executive Committee.

#### MEMBERSHIP

Membership Eligibility - The request from Philipp Bros., for information about membership in the Association of its foreign principals was again discussed, supplementing discussion at the previous meeting. The secretary reported that he had received a letter from the State Department, indicating that that Department had no objections to membership in the Association by Trepcia Mines, attached as Exhibit "B".

The Board still expressed reservations about the advisability of having a foreign government as a member of the Association, inasmuch as Trepcia Mines is owned and operated by the Yugoslavian Government, and also had reservations as to whether it would be willing to supply statistical information to the Association similar to that supplied by domestic producers, or whether domestic producers would be giving it statistical information without receiving any in return.

The secretary was instructed to have a frank talk with Philipp Bros. to determine to just what extent Trepcia Mines would be willing to go in co operating with the Association statistically and otherwise, if it desired to join.

Kahn Bros. - The secretary reported that he had written Kahn Bros. that the Board could not make an exception to the minimum membership subscriptions in its case as requested, but had received no reply. Kahn Bros. was, therefore, formally dropped from membership in the Association and the secretary was instructed to attempt to collect back subscriptions.

#### CONSTITUTION AND BY-LAWS

The secretary explained that since the Constitution and By-Laws had been printed a number of changes had been made on several different occasions. He recommended that inasmuch as it appeared that there would be no new amendments in the near future, the Constitution and By-Laws be reprinted incorporating all amendments, and copies be supplied to all members. The Board approved the reprinting.

#### WHITE LEAD PROGRAM

The secretary reported that at a meeting of the White Lead Division, held earlier in the same day, the Proposed White Lead Promotion Program, attached as Exhibit "C", had been approved by the Division.

The Board formally approved the program and budget and instructed the secretary to publicize the action among the membership of the Association. It was felt that this could be done through the next issue of the Information Bulletin.

#### SURVEY ON CABLE SHEATHING

The secretary submitted a report of the survey he had made to date on the status of lead sheathed power and telephone cable, attached as Exhibit "D". The secretary felt that it would be desirable to continue this study in order to try to develop some means of protecting this market for lead. It was also suggested that he contact the British lead interests for information about developments abroad. The Board instructed the secretary to circulate his interim report of this survey to all members of the Association.

#### GOVERNMENT SECURITIES

The treasurer explained that \$34,000 of the General Promotion Fund was currently invested as follows:

\$34,000 in Certificates of Indebtedness of the U. S. Government,  
@ 1 $\frac{1}{4}$ %, due June 1, 1950, and

\$50,000 in Savings Notes of the U. S. Government, Series C,  
due June 1, 1950.

He explained that in view of the approval of the White Lead Program it would be necessary to use some of these funds during the coming year.

The Board ordered that \$50,000 be reinvested, upon maturity of the present securities, in one year Government notes, and that the other \$34,000 be held in cash for use.

#### MINE TAXATION

The secretary presented a letter from Mr. Evan Just, Editor of Engineering & Mining Journal, written on American Mining Congress stationery, attached as Exhibit "E", asking the cooperation of the Association in an endeavor to obtain tax relief for the mining industry in accordance with the recommendations of the American Mining Congress and National Minerals Advisory Council to the Department of the Interior.

The Board felt that the tax relief suggested would be beneficial not only to the mining members of the Association but also to the consuming members by encouraging a greater amount of exploration for new ore deposits, development of new mines, and a steadier supply of metal at reasonable cost.

The secretary was, therefore, instructed to send copies of the American Mining Congress bulletin on Mining Taxation to all members of the Association, urging that they write their Congressmen and Senators of their support of these proposals.

ANNUAL MEETING

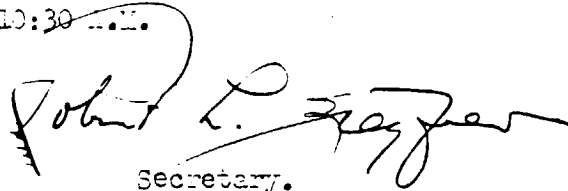
The secretary explained that large meetings held in hotels, such as the Association had held during the last two years, had to be planned about a year in advance in order to get satisfactory hotel accommodations and dates. He, therefore, asked the Board for guidance as to whether it wished to hold a meeting in 1951 similar to the 1949 and 1950 meetings, and if so, where.

It was felt that the meeting had been valuable in promoting understanding among the various segments of the industry and that a similar meeting should be held in 1951. He was instructed to make the necessary arrangements, particularly to have the dates either immediately preceding or immediately following those of the 1951 annual meeting of the American Zinc Institute so that members could attend both meetings on the same trip. Chicago was felt to be the most centrally located place for such a meeting.

STATISTICS

A suggestion was made that all the statistics of the Association should be reviewed with the idea of eliminating any unnecessary statistics and possibly changing the period of publication of some of the statistics. It was agreed that the weekly Pig Lead Sales Report, Form A, should be the first statistical report to be reviewed. The president suggested that he call the reporting members together in New York at an early date to discuss this series of reports.

The meeting adjourned at 10:30 A.M.

  
Secretary.

Board of Directors  
Meeting Minutes

Exhibit  
April

FINANCIAL STATEMENT

RECAPITULATION OF ALL DIVISIONS (a)

January 1 to March 31, 1950

|                          | ORDINARY    | SAFETY AND<br>HYGIENE | METALLIC<br>LEAD<br>PRODUCTS | EDUCATIONAL<br>SERVICE | RED LEAD    | WHITE LEAD<br>RESEARCH | GENERAL<br>PROMOTION |
|--------------------------|-------------|-----------------------|------------------------------|------------------------|-------------|------------------------|----------------------|
| Balance, Jan. 1          |             |                       |                              |                        |             |                        |                      |
| Cash.....                | \$51,578.29 | \$ 3,263.46           | \$ 5.42                      | \$3,031.98             | \$ 5,663.83 | \$10,024.00            | \$ 2,134.00          |
| Government Securities.   |             |                       |                              |                        |             |                        | 84,000.00            |
| TOTAL BALANCE, Jan. 1.   | 51,578.29   | 3,263.46              | 5.42                         | 3,031.98               | 5,663.83    | 10,024.00              | 86,134.00            |
| Receipts:                |             |                       |                              |                        |             |                        |                      |
| Transfers.....           |             |                       | 3,002.00                     |                        | 10,024.00   | -10,024.00             |                      |
| First quarter, subscrip. | 16,056.25   | 7,750.00              | 5,805.50                     |                        | 5,650.25    |                        |                      |
| Less: Outstanding.....   | 1,960.00    |                       | 75.25                        |                        | 2.00        |                        |                      |
| Net subscriptions.....   | 14,096.25   | 7,750.00              | 5,730.25                     |                        | 5,648.25    |                        |                      |
| Credit Applied.....      |             |                       |                              |                        | -9,767.00   |                        |                      |
| Misc. Receipts.....      | 1,550.00    |                       |                              | 520.00                 |             |                        |                      |
| TOTAL AVAILABLE          | 67,224.54   | 11,013.46             | 8,737.67                     | 3,551.98               | 11,569.08   |                        | 86,134.00            |
| Disbursements.....       | 14,786.56   | 8,217.16              | 3,967.12                     | 750.00                 | 3,229.19    |                        | 6.00                 |
| Advances & Deposits....  | 2,875.00    | 300.00                | 250.00                       |                        | 600.00      |                        |                      |
| Total                    | 17,661.56   | 8,517.16              | 4,217.12                     | 750.00                 | 3,829.19    |                        | 6.00                 |
| NET BALANCE, April 1,..  | 49,562.98   | 2,496.30              | 4,520.55                     | 2,801.98               | 7,739.89    |                        | 86,127.00            |
| Cash Balance, April 1..  | 49,562.98   | 2,496.30              | 4,520.55                     | 2,801.98               | 7,739.89    |                        | 2,134.00             |
| Reserves.....            | 4,000.00    | 3,500.00              |                              |                        | 4,871.60    |                        |                      |
| Government Securities..  |             |                       |                              |                        |             |                        | 84,000.00            |
| TOTAL BALANCE, April 1.  | 53,562.98   | 5,996.30              | 4,520.55                     | 2,801.98               | 12,611.49   | -                      | 86,134.00            |

(a) See individual fund Financial Statements for details.

ORDINARY FUND

Financial Statement

January 1 to March 31, 1950

|                                   | <u>Expenditures</u> |                  |
|-----------------------------------|---------------------|------------------|
| Furniture, Fixtures and Equipment | \$ 237.45           |                  |
| Salaries                          | 9,009.12            |                  |
| Social Security Taxes             | 123.87              |                  |
| Rent and Light                    | 1,615.94            |                  |
| Office Supplies                   | 439.94              |                  |
| Miscellaneous                     | 178.29              |                  |
| Travel Expense                    | 1,057.82            |                  |
| Association Dues                  | 141.70              |                  |
| Entertainment and Luncheons       | 276.22              |                  |
| Meetings                          | 346.87              |                  |
| Telephone and Telegraph           | 265.02              |                  |
| Books and Subscriptions           | 59.31               |                  |
| Mailing                           | 988.42              |                  |
| "LEAD"                            | 37.73               |                  |
| Illustrations                     | 8.86                |                  |
|                                   | <hr/>               |                  |
| Total Expenditures                | \$14,786.56         |                  |
| Balance, January 1, 1950          |                     | \$51,578.29      |
| Subscriptions (first quarter)     | \$16,056.25         |                  |
| Less: Outstanding Subscriptions   | <u>1,960.00</u>     | 14,096.25        |
| Metal Powder Association          |                     | <u>1,550.00</u>  |
|                                   |                     | \$67,224.54      |
| Less: Expenditures                | 14,786.56           |                  |
| Advances and Deposits             | <u>2,875.00</u>     | <u>17,661.56</u> |
| Cash Balance, April 1, 1950       |                     | \$49,562.98      |
| Reserve for Lead Handbook         |                     | <u>4,000.00</u>  |
| Total Balance, April 1, 1950      |                     | \$53,562.98      |

SAFETY AND HYGIENE DIVISION

Financial Statement

January 1 to March 31, 1950

|                             | <u>Expenditures</u> |
|-----------------------------|---------------------|
| Salaries                    | \$3,150.00          |
| Social Security Taxes       | 47.22               |
| Travel Expense              | 341.85              |
| Printing                    | 135.10              |
| Office Supplies             | 10.31               |
| Mailing                     | 47.34               |
| Telephone and Telegraph     | 37.68               |
| Books and Subscriptions     | 101.92              |
| Research                    | 4,200.00            |
| Meetings                    | 7.00                |
| Association Dues            | 2.00                |
| Illustrations               | 28.30               |
| Entertainment and Luncheons | 80.56               |
| Miscellaneous               | <u>27.88</u>        |

Total Expenditures \$8,217.16

|                               |                 |
|-------------------------------|-----------------|
| Balance, January 1, 1950      | \$ 3,263.46     |
| Subscriptions (first quarter) | <u>7,750.00</u> |
|                               | \$11,013.46     |

|                    |               |                 |
|--------------------|---------------|-----------------|
| Less: Expenditures | \$8,217.16    |                 |
| Advance            | <u>300.00</u> | <u>8,517.16</u> |

|                             |                 |
|-----------------------------|-----------------|
| Cash Balance, April 1, 1950 | \$ 2,496.30     |
| Reserve for Printing        | <u>3,500.00</u> |

|                             |             |
|-----------------------------|-------------|
| Total Balance April 1, 1950 | \$ 5,996.30 |
|-----------------------------|-------------|

METALLIC LEAD PRODUCTS DIVISION

Financial Statement

January 1 to March 31, 1950

|                                 | <u>Expenditures</u> |                 |
|---------------------------------|---------------------|-----------------|
| Salaries                        | \$1,975.02          |                 |
| Social Security Taxes           | 29.64               |                 |
| Travel Expenses                 | 1,004.27            |                 |
| Mailing                         | 33.84               |                 |
| PLUMBERS' FORUM                 | 322.08              |                 |
| Association Dues                | 118.50              |                 |
| Entertainment and Luncheons     | 84.18               |                 |
| Meetings                        | 113.25              |                 |
| Convention and Exhibits         | 52.50               |                 |
| Telephone and Telegraph         | 3.81                |                 |
| Illustrations                   | 149.34              |                 |
| Miscellaneous                   | 62.92               |                 |
| Books and Subscriptions         | <u>17.77</u>        |                 |
| Total Expenditures              | \$3,967.12          |                 |
| Balance, January 1, 1950        |                     | \$ 5.42         |
| Transfer from Sheet Lead Fund   |                     | 3,002.00        |
| Subscriptions (first quarter)   | \$5,805.50          |                 |
| Less: Outstanding Subscriptions | <u>75.25</u>        | <u>5,730.25</u> |
|                                 |                     | \$8,737.67      |
| Less: Expenditures              | \$3,967.12          |                 |
| Advances                        | <u>250.00</u>       | <u>4,217.12</u> |
| Cash Balance, April 1, 1950     |                     | \$4,520.55      |

RED LEAD DIVISION

Financial Statement

January 1 to March 31, 1950

|                                                                               | <u>Expenditures</u> |                  |
|-------------------------------------------------------------------------------|---------------------|------------------|
| Salaries                                                                      | \$2,134.02          |                  |
| Social Security Taxes                                                         | 32.04               |                  |
| Travel Expense                                                                | 588.35              |                  |
| Telephone and Telegraph                                                       | 14.11               |                  |
| Meetings                                                                      | 104.65              |                  |
| Entertainment and Luncheons                                                   | 135.27              |                  |
| Printing                                                                      | 132.60              |                  |
| Illustrations                                                                 | 16.83               |                  |
| Office Supplies                                                               | 1.28                |                  |
| Books and Subscriptions                                                       | 17.50               |                  |
| Miscellaneous                                                                 | 21.01               |                  |
| Mailing                                                                       | 31.53               |                  |
| Total Expenditures                                                            | \$3,229.19          |                  |
| Balance, January 1, 1950                                                      |                     | \$ 5,663.83      |
| Transferred from White Lead Division                                          |                     | <u>10,024.00</u> |
|                                                                               |                     | \$15,687.83      |
| First quarter subscriptions                                                   | \$5,650.25          |                  |
| Less: Outstanding Subscrip.                                                   | <u>2.00</u>         | \$5,648.25       |
| Credits due subscribers against<br>1950 subscriptions as a result of transfer | <u>-9,767.00</u>    | <u>-4,118.75</u> |
|                                                                               |                     | \$11,569.08      |
| Less: Expenditures                                                            | \$3,229.19          |                  |
| Advance                                                                       | <u>600.00</u>       | <u>3,829.19</u>  |
| Cash Balance, April 1, 1950                                                   |                     | \$ 7,739.89      |
| Reserves: Printing                                                            | 4,071.60            |                  |
| Mailing                                                                       | <u>800.00</u>       | <u>4,871.60</u>  |
| Total Balance, April 1, 1950                                                  |                     | \$12,611.49      |

FINANCIAL STATEMENTS - JANUARY 1 to MARCH 31, 1950

GENERAL FUND

Balance, January 1, 1950

Obligations of the United States:

Certificates of Indebtedness,

1 $\frac{1}{4}$ % due June 1, 1950

\$34,000.00

Savings note, Series C, due June 1, 1950

50,000.00

Cash

2,134.39

Total

\$86,134.39

Expenditures: Bank Custody Fee

6.52

Total Balance, April 1, 1950

\$86,127.87

EDUCATIONAL SERVICE DIVISION

Balance, January 1, 1950

\$3,031.98

Receipts: Sale of Equipment

520.00

\$3,551.98

Expenditures: Service Fee

750.00

Total Balance, April 1, 1950

\$2,801.98

WHITE LEAD RESEARCH FUND

Balance, January 1, 1950

\$10,024.00

Transferred to Red Lead Division

10,024.00

Balance, April 1, 1950

-

SHEET LEAD FUND

Balance, January 1, 1950

\$3,002.00

Transferred to Metallic Lead Products Division

3,002.00

Balance, April 1, 1950

-

Board of Directors  
Meeting Minutes

EXHIBIT B  
DEPARTMENT OF STATE  
Washington

April 14, 1950

In reply refer to  
ER

April 8, 1950

My dear Mr. Ziegfeld:

On March 30 you spoke with me and on March 31 you wrote the Department with respect to the membership of Trepca lead mines, now operated by the Government of Yugoslavia, in the Lead Industries Association. The Department perceives no objection to your Board of Directors' accepting Trepca as an associate member.

- It is understood from our conversation that membership in your Association will not facilitate acquisition of United States industrial techniques beyond what could be obtained through existing opportunities.

Sincerely yours,

Harlan P. Bramble  
Acting Assistant Chief  
Economic Resources and Security Staff

Mr. Robert L. Ziegfeld,  
Secretary, Lead Industries Association,  
420 Lexington Avenue,  
New York 17, New York

LIA00409

N 615.02

Board of Directors  
Meeting Minutes

Exhibit "C"

April 14, 1950

April 10, 1950

SUBJECT: PROPOSED WHITE LEAD  
PROMOTION PROGRAM

To Members of the White Lead Division:

At a meeting of the White Lead Division of L. I. A. on March 7, 1950, I was instructed to prepare a detailed program and budget for the promotion of lead pigments in house paints after consultation with advertising and technical personnel of member pigment manufacturers. This program was to embrace the following:

1. Trade paper advertising to paint manufacturers.
2. Booklets and direct mail directed to the same group.
3. Technical papers and articles for use before technical meetings of the paint industry and in the trade press.

All the foregoing was to be based on the fact that the white lead pigments plasticize and stabilize paints, thus making them more durable and fool-proof, without any differentiation between the several white lead pigments which are manufactured.

Since that time I have discussed the problem in detail with the advertising managers and designated technical personnel of the Eagle-Picher Co., the Glidden Co., and the National Lead Co. Also five advertising agencies and two public relations and publicity firms have given me their recommendations.

Substantial agreement on the program and budget to follow except publicity, has been obtained from the above mentioned representatives of our members although, if approved, a meeting of these groups will be necessary to work out detailed advertising copy, technical approaches, etc. In the field of publicity there is a difference of opinion with respect to the nature of publicity which should be undertaken and the size of the appropriation for it. One member company favors including some general, as well as technical publicity and increasing the appropriation to about \$10,000. Another member, while accepting the \$7500 item for technical publicity, feels that \$5,000 should be adequate.

#### TRADE PAPER ADVERTISING

The trade papers reaching paint manufacturers can be blanketed with our advertising at low cost using each paper with full pages once a month and the leading paper with double spreads twice a month. The total cost, including estimated cost of preparation of advertisements and fees and commissions would be about \$15,000 per year as follows:

N 615.03

LIA00410

RECOMMENDED ADVERTISING SCHEDULE

|                                                       | <u>6 MONTHS</u><br><u>1 9 5 0</u> |            | <u>12 MONTHS</u><br><u>1 9 5 1</u> |             |
|-------------------------------------------------------|-----------------------------------|------------|------------------------------------|-------------|
|                                                       | Space                             | Cost       | Space                              | Cost        |
| American Paint Journal                                | 26 pages                          | \$1,950    | 52 pages                           | \$3,900     |
| Official Digest                                       | 6 pages                           | 510        | 12 pages                           | 1,020       |
| Paint and Varnish<br>Production                       | 6 pages                           | 540        | 12 pages                           | 1,080       |
| Western Paint Review<br>(Paint Industries<br>Section) | 6 pages                           | 540        | 12 pages                           | 1,080       |
| Paint, Oil and<br>Chemical Review                     | 6 pages                           | 607.20     | 12 pages                           | 1,214.40    |
| Paint Industry Magazine                               | 6 pages                           | 450        | 12 pages                           | 900         |
|                                                       |                                   | <hr/>      |                                    | <hr/>       |
| Space Cost                                            |                                   | \$4,597.20 |                                    | \$9,194.40  |
| Estimated Preparation Cost                            |                                   | 3,600      |                                    | 3,600       |
| Estimated Service Fee                                 |                                   | 900        |                                    | 1,800       |
|                                                       |                                   | <hr/>      |                                    | <hr/>       |
|                                                       |                                   | \$9,097.20 |                                    | \$14,594.40 |

Since advertising could not start before July, only part of this amount would be spent in 1950 and the full amount in 1951.

#### DIRECT MAIL ADVERTISING

A booklet should be prepared telling the advertising story in technical detail for distribution to our list of 4,000 paint executives and technicians. This should cost, mailed, about \$3,500, all of which would be chargeable to 1950 operations, leaving a sufficient quantity for use in answering inquiries in 1951. Another \$2000 should be allowed in 1950 for the cost of reprinting trade paper articles prepared by us and for circulation to paint manufacturers of periodical technical letters as data are made available to us by the technical departments of members. Twice this amount, or \$4,000, should be allowed for this in the full year 1951.

#### TECHNICAL PAPERS

As data are made available to us, technical papers would be prepared and presented before Paint and Varnish Production Clubs and other interested groups. It appears that the most economical way to handle this work would be to retain a recognized paint expert, such as Dr. L. L. Carrick, now retained in connection with our red lead work on a per diem plus expenses basis. If such an outside expert is not available, our own red lead technical director could present the papers, with the Red Lead Division reimbursed on a per diem basis. It is estimated that \$5,000 should easily cover this work for a full year and \$2,500 for the balance of 1950. The cost of reprints is covered in the preceding paragraph.

#### PUBLICITY

Additional technical publicity in the form of trade paper articles should be included. The cost of reprinting such articles is included under "Direct Mail Advertising." These articles could be prepared by the advertising or publicity agency from material provided them by us or by a technical writer on our own staff.

Such publicity could be handled for about \$7,500 per year or \$3,750 for the balance of 1950.

Please refer to the introductory paragraphs of this memorandum with regard to differences of opinion respecting the extent of publicity that should be undertaken.

RECAPITULATION

|                                   | <u>6 MONTHS</u><br><u>1 9 5 0</u> | <u>12 MONTHS</u><br><u>1 9 5 1</u> |
|-----------------------------------|-----------------------------------|------------------------------------|
| Trade Paper Advertising Space     | \$4,600                           | \$9,200                            |
| Preparation and Fees              | 4,500                             | 5,400                              |
| Booklet and Mailing               | 3,500                             | -                                  |
| Reprints, Other Printing, Mailing | 2,000                             | 4,000                              |
| Field Work                        | 2,500                             | 5,000                              |
| Publicity                         | 3,750                             | 7,500                              |
| Contingencies                     | <u>1,150</u>                      | <u>2,400</u>                       |
|                                   | 22,000                            | 33,500                             |

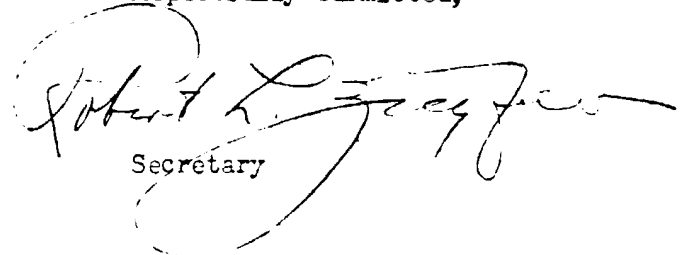
On the foregoing basis, the existing funds would be sufficient to carry the program through approximately  $2\frac{1}{2}$  years.

All material issued by the Association should be provided to all member company representatives contacting paint manufacturers so that they may effectively tie in their efforts with the industry campaign.

It is recommended that the foregoing budget be approved, using funds of about \$86,000 now in hand, without any new subscriptions being required until results can be appraised after a period of time.

If approved, a technical committee of lead pigment manufacturers should be appointed immediately to dig out available data from member company files and pass upon data to be used in the campaign. Likewise, an advertising committee should be appointed to work with the secretary and agency in preparation of the data for presentation to the public.

Respectfully submitted,

  
Secretary

Survey of Substitution for Lead Cable Sheath

Part I - Power Cable

Power cable in recent years has accounted for perhaps one-third of the total amount of lead used for cable sheathing.

In surveying the developments with respect to sheaths for power cable, the following have been interviewed:

Mr. Dave Allen, sales manager, Anaconda Wire and Cable Co.  
Mr. Edward P. Dunlaevy, vice president, Phelps Dodge Copper Products Co.  
Mr. Pettee, General Cable Co.  
Messrs. R. K. Spofford, purchasing agent, and Richard Hays, advertising manager, Okonite Co.  
Mr. C. T. Hatcher, assistant chief distribution engineer, Consolidated Edison Co.  
Mr. J. A. Pulsford, Public Service Companies of New Jersey, Sponsor, Underground Group of Transmission and Distribution Committee of the Edison Electric Institute.

For the purpose of this survey it is well to divide power cable into four separate classifications:

- (1) low voltage net work cable up to and including 600 volts,
- (2) medium voltage cable from 600 up to and including 5,000 volts,
- (3) high voltage cable over 5,000 and up to and including 69,000 volts, and
- (4) very high voltage cable 69,000 volts and higher.

In Group 1, substitution has been developing over the last 20 years or so. First rubber and more recently neoprene have been substituted for combinations of rubber and lead and impregnated paper and lead. This substitution was the result of lower cost for the substitutes which have been found largely satisfactory for these low voltages. Some utilities are still using lead sheathed cables in this field for very special reasons, such as New Orleans, under extremely wet conditions. It is roughly estimated that this class of cable amounts to about 20% of the total volume.

In Group 2 the same type of substitution has been proceeding for some years but here the substitution is not yet as complete. This group accounts for a smaller volume than Group 1.

In Group 3 there has as yet been little or no substitution for impregnated paper insulation and it is still recognized that a lead sheath must be used where impregnated paper is used for insulation. This is because metal provides the only absolutely impervious sheath. It is probably the most important field tonnagewise. It appears that there is likely to be little, if any, substitution until some more economical and effective dielectric is found than paper, or until some metal is found which may be economically substituted for lead. Experiments are being made in Europe on aluminum sheath but they have not penetrated to this country as yet. Alupeth, a combination of aluminum and polyethylene has been tried with unsatisfactory results to date because of the effect of the heat generated in the cable on the polyethylene and the tendency of the aluminum joints to open up.

The only loss of lead business in this group would be through a reduction of the thickness of the lead sheath and this is taking place to some extent. Reductions of from 20 to 33% in the lead thickness have been tried, the reduced lead sheath being jacketed with neoprene. There are differences of opinion as to the advisability of this reduction. The neoprene supplies additional corrosion resistance but some manufacturers and utilities feel that much reduction in the cable sheath may cause failures where the cable is bent. Some utilities are still insisting on the full lead thickness even though they also use a neoprene jacket for corrosion protection and protection against scoring.

In Group 4 steel pipe, filled with oil or gas under high pressure, is rapidly substituting for lead sheathed cable because of the high oil and gas pressures involved. The trend here will probably be a continued displacement of lead.

In summary, it appears that until better insulation than paper, or a better cable sheath than lead is developed, such substitution as will take place in power cable has already very largely taken place. In the low voltage field some utilities still use lead, particularly if the price differential is not too much higher than the non-lead cable.

Since there are some differences of opinion and practice both among cable makers and users, there is a possibility that some carefully prepared technical promotion might be developed to keep the present lead sheath business and perhaps to regain some of the lost market. Since this is an engineering problem and will be decided by engineering facts, it is recommended that we continue our survey to develop, if possible, points which might be brought to the attention of users of power cable to convince them that they should use lead sheathed cable. This would require interviews with a fairly large number of utility engineers who are still convinced that they should use lead, to develop in detail their reasons. These might then in turn be used to convince others.

## Part II - Telephone Cable

The situation with respect to telephone cable is quite clearly outlined in the papers to be presented by representatives of the Western Electric Co. at the Lead Industries Association Annual Meeting on April 13, 1950.

Briefly it appears that Alpeth sheath has displaced approximately 25% of all telephone cable lead requirements and that Alpeth production capacity is being increased to displace about another 10%.

Lead is competitive with Alpeth at varying prices depending upon the particular size and type of cable the price at which lead is competitive varying from as low as 6 $\frac{1}{2}$ ¢ per lb. to as high as 11¢ per lb.

Western Electric Co. frankly admits that they do not know how long Alpeth sheathed cable will last but their research leads them to believe that it will last a satisfactory length of time. Because there is a possibility of moisture working through the polyethylene jacket and the joints in the aluminum sheath, they are developing a new cable, Stalpeth, which has a corrugated terne coated steel sheath over the aluminum and polyethylene over the steel. The joint in the terne metal is soldered and lead sleeves and wiped solder joints are used for connections. This cable will be a little more expensive than Alpeth so probably lead will be competitive at slightly higher prices than for Alpeth. Shipping of both Alpeth and Stalpeth is considerably less expensive than lead.

Unofficial opinions expressed indicate that there will be a continuing trend towards the Alpeth or Stalpeth sheaths but that lead will also be an important part of the business for a long time to come.

It does not seem likely that the lead industry can do anything to promote lead in telephone cable because of the extensive research facilities and the close coordination of all units of the Bell Telephone System.

Board of Directors  
Meeting Minutes

C O P Y

Exhibit "E"  
April 14, 1950

AMERICAN MINING CONGRESS

RING BUILDING

WASHINGTON 6, D. C.

March 31, 1950

Mr. Robert L. Ziegfeld, Secy.  
Lead Industries Association  
420 Lexington Avenue  
New York, New York

Dear Bob:

As a means of furthering the campaign to get action on an improved tax climate for mining, under separate cover, we are sending you 100 of the Mining Congress pamphlets on "Mining Taxation" and of the E&MJ reprint on "Take Action on Taxation."

Additional copies can be obtained at the actual printing cost of \$43.00 per thousand for the Mining Congress pamphlet and \$20.00 per thousand for the E&MJ reprint (smaller quantities in proportion), plus shipping costs.

We sincerely hope that you will do everything possible to arouse interest in this important campaign and will not be deterred by the improbability that action will be taken by Ways and Means. Our hope is to get the Senate to do something when the tax bill comes over from the House. We believe that if the mining industry will really muster its strength on this job it can get results, but obviously it is going to take that kind of energy to get a job done.

We are looking forward to your valued cooperation in arousing a grass roots movement on this subject.

Sincerely yours,

/s/ Evan

Evan Just, Editor  
Engineering and Mining Journal

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