

LEAD INDUSTRIES ASSOCIATION

480 LEONSTON AVENUE

NEW YORK 17, N. Y.

Pigments and Chemicals Division

CONFIDENTIAL

RED LEAD TECHNICAL COMMITTEE

New York, N. Y.

February 13, 1953

A meeting of the Red Lead Technical Committee was held on February 13, 1953 in the offices of the Lead Industries Association.

The following individuals attended the meeting.

<u>Name</u>	<u>Representing</u>
Mr. R. P. Bates	National Lead Company
Mr. George Diehlman	National Lead Company
Dr. J. O. Johnstone	Hammond Lead Products, Inc.
Mr. O. F. Shobe	The Glidden Company
Mr. Paul Whitford	The Eagle-Picher Company
Mr. E. K. Zimmermann	National Lead Company

Dr. L. L. Carrick, Director of Red Lead Research, Meeting Chairman
 Mr. Manfred Bowditch, Director of Safety and Hygiene Division, Lead Industries Association
 Mr. C. J. Vander Valk, Technical Director, Pigments and Chemicals Division, Meeting Secretary

L.I.A. PROJECT No. 20 - Evaluation of Vinyl Metal Conditioners and Anticorrosive Primers.

The c No. 20 on vinyl coatings were in process of preparation at Sayville and that the project would probably be on exposure in the early spring.

After reviewing the number of metal conditioners (9) and Anticorrosive paints (12) it was decided to apply the coatings in the proper combinations to obtain the following systems;

1) All anticorrosive paints applied over Metal Conditioner No. 600 (standard basic zinc chromate type) followed by an aluminum-vinyl finish coat for tide range exposure and by a cuprous oxide-vinyl anti-fouling coat for the sea water immersion exposure.

2) All metal conditioners applied under Anticorrosive Paint 609 (Red Lead) and Anticorrosive Paint 417 (Basic Zinc Chromate). These are to be finish coated as stated in the paragraph above.



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It was also agreed that duplicate panels of each system should be prepared for each of the two types of exposure. This requires the application of each chosen metal conditioning composition and each chosen anticorrosive composition to four (4) panels -- two to be topcoated with aluminum paint and two to be topcoated with the antifouling paint.

The project as outlined to date will require a total of 120 test panels.

REPORT ON PROGRESS OF THE STEEL STRUCTURES PAINTING COUNCIL

The technical director reported on the progress of the Steel Structures Painting Council of which the Lead Industries Association is a supporting member. The committee was given a resume of the highlights of both annual Council Meeting and the Research Committee Meeting.

An attendance list and minutes of both the Council Meeting and Research Committee Meeting are attached to these minutes as Appendix A.

DISCUSSION OF PROBLEM OF TOXICITY OF LEAD FUMES GENERATED DURING ARC WELDING OF LEAD PAINTED STEEL

The committee members were informed that some difficulties had been encountered in efforts to have the Navy Department adopt Bureau of Ships Formula No. 116 as an after-pickling primer on new ship plates because of the possible toxic effects of lead fumes generated during arc welding.

The problem of the degree of toxicity of fumes generated during the welding and flame cutting of lead painted steel surfaces has been raised frequently and will become increasingly important with the more widespread use of welded construction.

The Lead Industries Association sponsored an intensive investigation of this problem by the Industrial Hygiene Foundation in 1946. The final report on this investigation showed extremely high concentrations of lead evolved during the arc welding of lead coated steel. However the integrity of this report was questioned when several anomalies were discovered by the Red Lead Technical Committee. Among these were concentrations of lead in the air samples far in excess of those theoretically possible on the basis of the paint compositions. In some cases significant concentrations of lead were found in fumes originating from lead-free paints.

When the lead fume problem was raised recently by a Navy contract shipyard it was decided that the whole problem should be reviewed thoroughly to determine what might be done to remove this obstacle to the use of red lead base primers.

Mr. Ziegfeld and the technical director held a conference with Drs. Schrenk and Hatch of the Industrial Hygiene Foundation on January 27, 1953 at Mellon Institute in Pittsburgh. Although neither of these men were employed by the Foundation at the time of the L.I.A. sponsored program they were familiar with the final report of that investigation. After familiarizing themselves

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with the current problem raised by the Navy, they said they would give the matter additional consideration and submit a written proposal containing a plan of attack. A copy of Dr. Sahrank's letter is attached to these minutes as Appendix B.

The whole problem of the possible hazards of lead fumes was thoroughly discussed by the committee (Mr. Bowditch attended this part of the meeting); It was agreed that a background of information should be accumulated on toxicity experiences on all types of priming paints where welding or flame cutting operations are involved. It was hoped that this would strengthen the position of the Lead Industries Association in any future discussions of this problem with Navy personnel.

It was also suggested that Messrs. Bowditch and Vander Valk discuss this problem with Professor Drinker of the Harvard Medical School and Dr. Harvey Elkins of the Industrial Health Department of the Massachusetts Department of Labor. This was considered an appropriate action since Professor Drinker is retained as a consultant on industrial health problems by the United States Navy and Dr. Elkins has had extensive experience in lead toxicity problems.

PROPOSED RED LEAD TECHNICAL LETTER NO. 8 ON PRIMER PAINTS FOR RAILROADS

The committee reviewed the proposed copy for a new Red Lead Technical Letter on primers for railroad structures and rolling stock.

It was decided to include the following formulations in the new bulletin.

Identification	Description
Fed. Spec. TT-P-86a, Type I	100% (18#) Red Lead - Linseed Oil
Southern Railway Spec. 408	75% (7#) Red Lead - Linseed Oil
Chicago & Northwestern Railway Spec. No. 2	45% (3.5#) Red Lead - Linseed Oil
Beth. Steel Spec. 7525-FSC-51	75% (13#) Red Lead - Oil/Alkyd
Fed. Spec. TT-P-86a, Type II	65% (7#) Red Lead - Oil/Alkyd
Fed. Spec. TT-P-86a, Type III	100% (13#) Red Lead - Alkyd
Bur. of Ships Formula 116	55% (4#) Red Lead - Alkyd
Military Spec. MIL-P-15929	100% (2.2#) Red Lead - Vinyl

It was also agreed that one or two low cost red lead primers suited for the priming of freight cars should be included. The technical director was asked to select these from among several containing ester gum type varnish vehicles that have shown good service life in Red Lead Technical Committee tests.

DATE FOR SPRING INSPECTION MEETING

It was decided to hold a two-day inspection meeting of the committee at Sayville in April. April 2 and 3 were set as the tentative dates for this next meeting.

The meeting was adjourned at 5:00 P. M.

C. J. Vander Valk
C. J. Vander Valk

Minutes of Red Lead Technical Committee - February 13, 1953

Appendix ASTEEL STRUCTURES PAINTING COUNCILATTENDEES AT MEETING
January 27, 1953NameRepresenting

J. E. Jackson
O. O. Sward
S. Werthman
V. D. Beard
W. H. Walter
J. E. O'Leary
R. P. Hobson
R. P. Ball

American Institute of Steel Construction, Pgh., Pa.
National Paint, Varnish & Lacquer Assn., Wash., D. C.
American Zinc Institute
(Dr. Webb, AISC) American Society of Civil Engineers
American Bridge Division, U. S. Steel Corporation
Past Pres. Steel Plate Fabricators Assn., Pgh., Pa.
U. S. Army Corps of Engineers
(O. M. Tescott) Federation of Paint & Varnish
Production Clubs, Philadelphia, Pa.

R. W. Morgan
L. V. Gent
R. L. Ziegfeld
C. J. Vander Valk
I. E. Boberg
E. E. Michaels
F. W. Shanks
A. J. Liebman
A. J. Eickhoff
O. M. Young
V. V. Kendall
C. P. Larrabee
J. B. Garner
S. C. Frye
R. P. Ball
R. O. Mill
E. J. Ruble
J. O. Jackson

Bureau of Public Roads, Wash., D. C.
American Zinc Institute, New York, N. Y.
Lead Industries Association, New York, N. Y.
Lead Industries Association, New York, N. Y.
Chicago Bridge & Iron Company, Chicago, Ill.
Chicago Bridge & Iron Company, Chicago, Ill.
Rock Island District, Corps of Engineers, Rock Is., Ill.
National Association of Corrosion Engineers, Pgh., Pa.
American Society for Testing Materials, Brooklyn, N. Y.
Mellon Institute of Industrial Research, Pgh., Pa.
National Association of Corrosion Engineers, Pgh., Pa.
American Iron and Steel Institute, Pgh., Pa.
Mellon Institute of Industrial Research, Pgh., Pa.
American Institute of Steel Construction, Bethlehem, Pa.
American Institute of Steel Construction, Bethlehem, Pa.
American Water Works Association, Bethlehem, Pa.
Association of American Railroads, Chicago, Ill.
American Institute of Steel Construction, Pgh., Pa.

J. Rizes
O. M. Fouts

Steel Structures Painting Council
Steel Structures Painting Council

Appendix A
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Minutes of the Steel Structures Painting Council Meeting

January 27, 1953

The Annual Meeting of the Steel Structures Painting Council was held on January 27, 1953, at Mellon Institute, Pittsburgh, Pennsylvania.

Attached is a list of persons who attended this meeting.

The meeting was called to order by the President, Mr. J. E. Jackson, at 9:30 A. M.

1. Reading of notice of meeting

The notice of the meeting was then read by the Secretary, Dr. J. Biggs.

2. Corrections to minutes of last meeting

There were no corrections to the minutes of the preceding Council meeting held on September 11, 1951. The minutes were approved as submitted.

3. Reading of Communications

There were no communications to be read.

A. Welcoming address

Dr. E. R. Weidlein, President of Mellon Institute, made a welcoming address to the group and stated that he was extremely pleased with the progress made by the Council.

B. Reports

A. Executive Committee

There was no specific report from the Executive Committee as administrative matters were to be reported by the Secretary.

B. Treasurer's Report

In the absence of the Treasurer, Dr. C. Earl Webb, due to illness, the financial report, prepared by Dr. Webb, was read by Mr. V. D. Beard, Representative of the American Society of Civil Engineers. A copy of the financial statement is attached as "Exhibit B."

C. Research Committee

Mr. J. O. Jackson, Chairman of the Research Committee, reported on the work done by his committee during the past 18 months. The Research Committee has been expanded to include 20 members, four subcommittees were

Appendix A

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set up to handle surface preparation, paint application, paint formulations, and paint systems. A subcommittee, made up of Mr. A. J. Liebman, Dr. J. Bigos, and Mr. Jackson, prepared a set of 9 surface preparation specifications which were sent out to over 100 qualified persons for criticism. After several revisions, the specifications were approved by the Research Committee and authorized for publication by the Executive Committee. The reaction to these specifications has been mostly favorable, although two fabricators have written giving unfavorable comments.

After reading the two unfavorable letters, Mr. Jackson read aloud Surface Preparation Specification No. 2, "Hand Cleaning," which specification received the principal criticism, and commented on each section which he thought might need clarification. Discussion of the surface preparation specifications was delayed until later.

D. Membership Committee

There was a brief report from the Chairman of the Membership Committee, Mr. E. E. Michaels, who stated details on membership would be given in the report of the Secretary.

E. Secretary and Director of Research

Dr. Joseph Bigos, Secretary and Director of Research, reported on administrative developments and the research progress made by the Council as follows:

The 1952 Annual Meeting was postponed by action of the Executive Committee; there were no objections from the Members of the Council to this postponement.

Nineteen organizations, at present, are represented on the Council. The exact status of these organizations has not been clarified in all cases.

The following is a list of members who have joined the Council since the last meeting of the Council:

American Association of State Highway Officials
American Zinc Institute
Bureau of Ships, U. S. Navy
Corps of Engineers, U. S. Army (Replacing Engineer Research and Development Laboratories and Office of the Chief of Engineers)

Attempts to get the Paint & Decorating Contractors to participate in the work of the Council were unsuccessful.

To date, the supporting members of the Council are as follows:

American Institute of Steel Construction
Association of American Railroads
Steel Plate Fabricators Association

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for the paints which are already covered by Federal Specifications. The total number of paints to be recommended for use will be about seventy-five; of these, less than twenty-five will be covered by Council specifications. The necessity for the Council Paint Specification is due to the lack of availability of such specifications to the average inquirer, whereas Federal Specifications are generally available. An Index showing structures, exposures, and recommended paint systems is being prepared for inclusion in Part II.

No further action has been taken towards issuing the proposed bulletin of the Council.

Only a small amount of time has been available for laboratory work; however, a number of research projects were undertaken to secure essential information that is needed in preparing specifications. These projects include studies of anchor patterns obtained in blast cleaning, measurement of height of profile by various methods of blast cleaning, a paint test to determine the effect of anchor pattern on paint performance, determination of practical cleaning rates for hand cleaning, power wirebrushing, and blast cleaning, corrosion inhibitors to be used on blast cleaned steel, and rust inhibitive primers for use under coal tar coatings. An exposure site has been established adjacent to the coke plant at Clairton, Pennsylvania, in cooperation with the Union Railroad. A number of paints are being tested to determine their general value; paints are also being tested to determine if they are suitable for exposure to brine drippings.

The cooperative field paint test program has been continued and is producing valuable results. A number of inspections were held of some of the tests; a large group participated in the Council sponsored inspection of the fabricated beam paint test of the Pittsburgh-Des Moines Steel Company at Neville Island, Pittsburgh, Pennsylvania. A report of the inspection is being prepared.

The Council is participating in several new tests that are being planned at present. The principal test being the Missouri Pacific Brine Drippings Paint Test which will be undertaken in the spring. A service test of coal tar coatings is being undertaken by the Koppers Company with the participation of the Council. Several additional tests, sponsored by the Council, are being planned.

Close cooperation has been maintained with committees of the National Association of Corrosion Engineers, the American Society of Testing Materials, the American Railway Engineering Association, the Association of State Highway Officials, the Highway Research Board, and the Corrosion Committee of the British Iron and Steel Research Association.

Numerous conferences have been held on technical and administrative matters. Many field trips have been made, plants and laboratories visited, paint tests inspected, paint failures examined, and contacts maintained with a large number of persons and organizations active in improving the cleaning and painting of steel.

Appendix A

Federation of Paint & Varnish Production Clubs
 American Zinc Institute
 Lead Industries Association
 National Association of Corrosion Engineers

The following changes in representatives have been made;

Mr. R. P. Hobson, Representative, Corps of Engineers, U. S. Army
 (Mr. R. L. Michalek, deceased)
 Mr. F. W. Shanks, Alternate, Corps of Engineers, U. S. Army
 Mr. S. C. Frye, Alternate, American Institute of Steel Construction
 Mr. W. H. Walter, Alternate, American Institute of Steel Construction
 Mr. I. E. Boberg, Alternate, Steel Plate Fabricators Association
 Mr. H. C. Hill, Representative, American Water Works Association
 Dr. G. H. Young, Representative, Mellon Institute
 Mr. C. P. Larrabee, Representative, American Iron & Steel Institute
 Mr. R. C. Baker, Representative, American Railway Engineering Assn.
 (Succeeds Mr. M. A. Reese)

In February, 1952, the Fellowship expanded its facilities and established a laboratory in Mellon Institute. Due to the increased number of activities of the Council, and the accelerated efforts to publish the Painting Manual in the spring of 1953, it has been found necessary to hire two part-time employees, Miss Marion Berged and Mr. Walter Fink.

The first printing of the surface preparation specifications was made in October, 1952. Out of 5,000 sets printed, 1,500 sets were given to members of the Council gratis and 1,600 sets have already been sold. In addition, 300 individual specifications were sold. Income to date is \$966, with \$172 outstanding. According to present receipts, the specifications will more than pay for themselves.

The status of the Painting Manual is as follows:

A chapter on metallizing has been added to bring the total number of chapters to eighteen. Of these, the chapter on painting of industrial plants has five sections. In all, there are twenty-two chapters or sections of chapters being written. Twelve of these have been completed and require only editorial changes and corrections; ten are incomplete. Of the ten incomplete chapters or sections, six have not been submitted as first drafts, while four are in the process of being rewritten.

Part II of the Manual, which includes specifications and recommended paint systems, is well advanced and can be finished soon. Nine Surface Preparation Specifications have already been published. That series is complete for the present. Four Pretreatment Specifications and one Paint Application Specification are planned; the proposed specifications have been issued and require revision before publication. About forty Paint System Specifications are planned; the first proposed Paint System Specification has been issued, and an outline of all systems prepared. This first paint system lists thirty-eight options which are available to take care of alternative surface preparations, number of coats, and intermediate and finish paints. The Council is not planning on writing paint specifications

Appendix A

5. Proposed amendments to By-Laws

After considerable discussion, proposed amendments to the By-Laws were voted on and approved as shown in "Exhibit C." All persons attending the meeting were permitted to vote on this and other business upon the recommendation of the President, with the concurrence of the supporting members.

6. Discussion of Specifications and Painting Manual

The meeting was then open to a discussion on the specifications and the Painting Manual. Those present at the meeting expressed their opinions on the Surface Preparation Specifications. It was generally agreed that the specifications could be improved in their wording so that the standard of cleaning could not be held as a production rate, but that the specific unfavorable criticism under discussion was not justified. The machinery set up within the Research Committee for the consideration and revision of all specifications was explained.

The need for rigid surface preparation specifications for weather exposed surfaces was agreed upon; it was also agreed, that the specifications would result in too costly cleaning for steel which would not be exposed. Definite action should be taken to prevent any misconception that the Council was endeavouring to require that all steel be cleaned under these specifications.

7. Election of Officers

Mr. A. J. Liebman, Chairman of the Nominating Committee, in a letter to the Council members dated December 19, 1952, proposed the following as nominees for elective offices of the Steel Structures Painting Council:

President-	Mr. J. E. Jackson
Vice President-	Mr. E. J. Ruble
Treasurer-	Dr. C. E. Webb
Chairman of the Research Committee-	Mr. J. O. Jackson
Chairman of the Membership Committee-	Mr. E. E. Michaels

There were no further nominations. It was moved, seconded, and voted that the officers be unanimously elected as nominated.

8. New Business

There was no new business to come before the Council. An invitation was extended to all those present to attend the Research Committee Meeting which was to take place after lunch. Upon motion, the meeting was adjourned at 12:30 P. M.

Respectfully Submitted,

s/ Joseph Bigos

Joseph Bigos
Secretary

JN/gdy

Appendix A
7Minutes of Research Committee Meeting
held at
Mellon Institute, 2:00 P.M., January 27, 1953

The meeting was called to order at 2:00 P. M. by the Chairman,
Mr. J. O. Jackson.

The following members of the Committee were present:

Dr. J. Biggs	Mr. A. J. Lieberman
Mr. I. L. Bobert	Mr. H. W. Morgan
Mr. A. J. Rickhoff	Mr. E. J. Noble
Mr. S. C. Frye	Mr. F. W. Shanks
Dr. J. B. Garner	Mr. G. G. Sward
Mr. H. O. Hill	Mr. C. J. Vander Valk
Mr. C. P. Larrabee	Mr. W. E. Walter

The following members of the Committee were absent:

Mr. R. Archibald	Mr. L. E. Trott
Mr. R. C. Baker	Mr. G. E. Woodcott
Dr. J. S. Long	Mr. F. Van Etten

The following representatives to the Council were present as guests:

Mr. E. F. Ball	Mr. J. E. O'Leary
Mr. V. D. Beard	Mr. L. E. Michaels
Mr. R. F. Hobson	Mr. S. Werthan
Mr. L. V. Gent	Dr. G. H. Young
Mr. J. O. Jackson	

Mr. J. O. Jackson explained the present organization of the Committee. He charged each subcommittee with responsibility for keeping the specifications up-to-date after they were issued, and that they render as much assistance as possible in issuing the specifications for pretreatments, paint application, paint formulations, and paint systems. The Chairman's files on the various specifications were turned over to the subcommittee chairmen.

The Painting Manual was discussed; it was agreed that it should be published in April 1953, and that any material which was not submitted in time be omitted.

It was suggested and agreed upon that more photographs should be included. All members were requested to forward desirable photographs to the editor.

It was moved and seconded that a recommendation be made to the Executive Committee that (a) the manual be published in two volumes; and (b) both volumes be the same size as the present specifications, that is, 8 1/2" x 11". It was agreed that the price be kept as low as possible, and that at least 5,000 books be printed in the first printing, since all need not be bound at once.

Appendix A

Members of the Research Committee were asked to think about the second phase of the work to be done by the Council. A meeting is to be called in June, if not necessary earlier.

The meeting was turned over to the subcommittees which acted in turn.

Mr. A. J. Liebman, Chairman of the Subcommittee on Surface Preparation, discussed the various Surface Preparation Specifications and the actions felt necessary to improve them as follows:

Surface Preparation Specification #1:- No Comment

Surface Preparation Specification #2:- An appendix to be added; standard to be clarified; possibility of using contemplated A.S.T.M. Pictorial Standards to be explanation for all of the specifications.

Surface Preparation Specification #3:- Research to be undertaken by the Fellowship to determine where cleaning stops and burnishing begins.

Surface Preparation Specification #4:- It was agreed that despite unfavorable criticism, the steel surface should be warm when painted.

Surface Preparation Specifications #5, 6, and 7:- Research conducted by Dr. J. E. Garner on a photoelectric method of measuring cleanliness to be considered by the Committee in attempting to provide better standards.

Surface Preparation Specification #8:- No Comment

Surface Preparation Specification #9:- No Comment

Mr. A. J. Kichhoff, Chairman of the Subcommittee on Paint Formulation, called a meeting of his Committee for 7:00 P. M. the same evening, at Mellon Institute. This Committee met at that time and discussed the paints selected for recommendation by the Council. The following participated in the meetings:

Dr. J. Nicos
Mr. S. C. Frye
Mr. F. W. Shanks

Mr. O. J. Sward
Mr. S. Werthan

Further action is to be taken by mail.

Mr. S. C. Frye, Chairman of the Subcommittee on Paint Application, had not had a chance to read the Paint Application Specification; discussion to be by mail. The advisability of requiring stripe painting in the specifications was discussed. It was agreed that it should be available as a customer's option.

Dr. J. Bicos, Chairman of the Subcommittee on Paint Systems, presented and discussed Paint System #1. This system consists of two coats of straight red lead and raw linseed oil and one coat of standard aluminum paint, to be mixed on the job. It was felt that ready mixed aluminum paint should be permitted, provided an adequate specification could be obtained or written. The advisability of recommending one coat of primer and two coats of aluminum finish paint as standard was discussed, but no conclusions reached. Further discussion was terminated due to lack of time.

The meeting adjourned at 5:30 P. M.

S/ J. O. Jackson
J. O. Jackson
Chairman

Appendix A
Exhibit B

STEEL STRUCTURES PAINTING COUNCIL

FINANCIAL STATEMENT

November 1, 1950 to January 1, 1951

RECEIPTS-

American Institute of Steel Construction	\$25,000.00
Association of American Railroads	12,000.00
Steel Plate Fabricators Association	5,000.00
Federation of Paint & Varnish Production Clubs	1,000.00
Lead Industries Association	1,000.00
American Zinc Institute	1,000.00
National Paint Varnish & Lacquer Association	250.00
National Association of Corrosion Engineers	200.00
	<u>\$45,450.00</u>

EXPENDITURES-

Mellon Institute of Industrial Research	\$32,000.00
2/1/51 to 2/1/53	
Printing	3,168.61
Equipment	732.44
Supplies	319.96
Traveling	1,671.95
Miscellaneous *	<u>156.28</u>
	<u>\$38,048.64</u>

BALANCE-	January 1, 1951	7,401.36
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S/ C. Earl Webb

Treasurer

* Under Miscellaneous is included \$100.00 approved for Petty Order Account in Secretary Bigos' office.

Appendix A
Exhibit C

PROPOSED CHANGES TO THE BY-LAWS

SECTION 2

CLASSES

There shall be two classes of membership as follows:

- 1 - Class A, Supporting: Those who contribute annually to the financial support of the Council.
- 2 - Class B, Associate: Those who do not contribute annually to the financial support of the Council.

SECTION 3

VOTING

Each supporting member of the Council may appoint representatives and alternates in accordance with the following schedule:

- | | | |
|--------------|--------------------|--------------------------------------|
| Contribution | Less than \$1,000 | - 1 representative and 1 alternate |
| | \$1,000 to \$2,999 | - 2 representatives and 2 alternates |
| | \$3,000 to \$7,500 | - 3 representatives and 3 alternates |
| | Over \$7,500 | - 4 representatives and 4 alternates |

All representatives and alternates may attend meetings. Each member shall be entitled to only one vote at all meetings of the Council for each representative allowed. Only a representative of a supporting member shall be eligible to hold an elective office. Each member shall be allowed as many votes as he is allowed representatives and he may distribute those votes among his representatives as he chooses.

Each associate member of the Council may appoint a representative and an alternate. Both of such persons may attend all meetings, but each

Appendix A
Exhibit C
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PROPOSED CHANGES TO THE BY-LAWS

member shall not be entitled to vote, nor shall the representative of such member be entitled to hold elective office.

ARTICLE VII

NOMINATIONS

SECTION I

NOMINATING COMMITTEE

A nominating committee of one representative or alternate from each of three supporting members of the Council shall be appointed by the President of the Council, at the beginning of his term, subject to the approval of the Executive Committee.

ARTICLE VIII

AMENDMENTS TO THE BY-LAWS

These By-laws may be altered or repealed, and a new By-law or By-laws may be made by the affirmative vote of a majority of the supporting members of the Council, provided however, that written notice of such amendment shall have been given to all members of the Council, both supporting and associate, at least one (1) month prior to such vote. Such notice shall show specifically the proposed alteration. Amendments to these By-laws may be proposed by the Executive Committee or by a petition of three supporting members of the Council. Voting may be by letter ballot or at a stated meeting of the Council.

Appendix B

INDUSTRIAL MEDICINE FOUNDATION OF AMERICA, INC.

MELLON INSTITUTE, 3400 FIFTH AVENUE

PITTSBURGH 13, PA.

February 11, 1953

Mr. C. J. Vander Valk
Technical Director
Pigment and Chemical Division
Lead Industries Association
420 Lexington Avenue
New York 17, New York

Dear Mr. Vander Valk:

We have given considerable thought to the problem of lead fume evolved in ship welding with the viewpoint of evaluating the hazards that would likely be associated with such operations. Our primary consideration was the attainment of information and data that would permit a realistic appraisal which would have practical application. In other words, we stressed in our thinking the utilization of the results of investigations rather than the mechanism of attaining the data. Both laboratory and field studies were discussed.

It is our conclusion that laboratory studies would not contribute significantly to what is already known or could be attained by relatively simple calculations. For example, at our conference on January 27, we made a calculation of the amount of lead fume that would be generated in unit time based on (1) number of inches welded, (2) a 2 inch wide strip, (3) thickness of paint, and (4) per cent of lead in the paint. The amount of lead, in milligrams, generated in one minute divided by the maximum allowable concentration of 0.15 milligram per cubic meter gives the number of cubic meters of air per minute required to dilute the lead fume to the permissible limit. This figure, which probably will be large, may be considered a basic ventilation factor and is significant for purposes of comparison or estimation of relative magnitudes. It is not a measure of ventilation requirement which would depend to a large extent on the system designed to collect and transport the fume. Laboratory studies would, of course, substantiate such calculations although some deviations would be expected. Such data are basic and indicate the general magnitude

INDUSTRIAL HYGIENE FOUNDATION OF AMERICA, INC.

Appendix B

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Mr. C. J. Vander Valk

February 11, 1953

of the potential exposure. However, their interpretation in terms of practical exposures has definite limitations. In other words, considering the application of such data from a practical viewpoint the calculations are probably as valuable as laboratory determinations. Nevertheless, limited laboratory studies for verification purposes might be justified.

With regard to field studies, the objective would be to determine the actual concentration of lead fume in the breathing zones of welders and other exposed persons under a wide variety of conditions to cover a range from operations in the open considered relatively free of hazards to those in confined spaces where a serious hazard would be expected. The results of such a study would permit classifying exposures in certain groups, for example; those expected to have little or no hazard, those requiring exhaust ventilation and those requiring personal respiratory protection. The extent to which one could develop such a classification and the degree of accuracy would depend on the scope and magnitude of the data obtained. Whether one would ever be justified in drawing dogmatic conclusions as to whether a hazard would or would not be encountered in a specific operation is open to debate. As a starting point, a review of existing data would be advisable. A critical evaluation of this information would be useful in planning future work and might also indicate whether future studies would provide the answers which are sought.

In brief, both laboratory and field studies would provide some useful information. However, we feel that the objectives of the work should be clearly defined and that the anticipated results should be carefully evaluated in terms of their practical application. Therefore, further considerations and discussions are recommended so that a project in this field would yield meaningful and practical information which would best serve your purposes. We shall be glad to work with you in developing such a program.

Sincerely yours,

S/ H. N. Schrenk
H. N. Schrenk, Ph.D.
Research Director

HNS:fms