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# Lead Industries Association, Inc.

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Environmental Health Department

October 30, 1973

FILE COPY

To: All Members of the LIA Environmental Health Committee ✓

From: Donald R. Lynam

Subject: Minutes of the 1973 Meeting of the Environmental Health Committee, Bermuda, September 10, 1973

Gentlemen:

Enclosed is a copy of the Minutes of the 1973 Meeting of the Environmental Health Committee of the Lead Industries Association, Inc.

This Meeting was held at the Sonesta Beach Hotel, Southampton, Bermuda on Monday, September 10, 1973.

Sincerely,

*Donald R. Lynam*

Donald R. Lynam, Ph.D.  
Assistant Director, Environmental Health

Enclosure

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Minutes Of The  
1973 Meeting of The  
Environmental Health Committee of the  
Lead Industries Association, Inc.

September 10, 1973

Sonesta Beach Hotel  
Southampton, Bermuda

2:00 P. M.

The Meeting of the Environmental Health Committee of the Lead Industries Association was convened at 2:00 P.M. on Monday, September 10, 1973 at the Sonesta Beach Hotel in Southampton, Bermuda. Mr. William Pallies presided as Chairman, and Dr. Jerome F. Cole served as Secretary.

Those present and their affiliation are listed as follows:

<u>Company</u>	<u>Representative</u>
Alpha Metals, Inc.	R.H. Hilsinger
AMAX	J.F. Pierce
AMAX	B.R. Roy
ASARCO	C.H. Hine
ASARCO	K.W. Nelson
Associated Octel Co. Ltd.	P.S.I. Barry
Associated Octel Co. Ltd.	G. Harrison
B.H.A.S.	C. King
B.H.A.S.	R. Semmens
C & D Batteries	D. Ziegler
Cominco Ltd.	L.J. Nicholson
DuPont Company	R.C. Butler
ESB	W. Pallies
Ethyl	H.E. Hesselberg
Hill & Knowlton	J.D. Callaghan
Hill & Knowlton	M.M. Swetonic
Mitsubishi Metal Corporation	M. Takahashi
Mitsui Mining and Smelting Company	T. Tsuda
NL Industries	W.L. Mann
Noranda	K. Wheeland
St. Joe Minerals	D.H. Beilstein
St. Joe Minerals	G.E. Welch
Houston Chemicals	R. Sugimoto

Staff

ILZRO/LIA	J.F. Cole
ILZRO/LIA	D.R. Lynam
ILZRO	E.B. McCabe
ILZRO	A.L. Ponikvar
ILZRO	S.F. Radtke
LIA/ZI	P.E. Robinson
ILZRO	A.R. Cook

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LIA-76563

## I. Occupational Health

### A. Report on Behavioral Study in Battery Industry

Mr. Bill Pallies reported on the status of a study on behavioral toxicology in the battery industry. This study is sponsored by the National Institute for Occupational Safety and Health and is being carried out by the University of Louisville Medical School, Louisville, Kentucky. Mr. Pallies reported that ESB had cooperated in this study until the investigators began notifying the workers of their blood lead values and advising those with blood lead values above 60 ug/100G to see their private physicians. The cooperation of ESB was ended when the investigators insisted on this operating procedure. Mr. Pallies indicated that the ESB employees supported the ESB position and did not wish to participate in the study. Dr. Cole stated that the investigators had reported preliminary results of the study at a meeting on the Meaning of Behavioral Toxicology, held at the University of Cincinnati on June 25th and 26th. This Conference was sponsored by the National Institute of Occupational Safety and Health.

### B. Occupational Safety and Health Review Commission Ruling

Mr. Ken Nelson reported that the OSHA Review Commission had upheld the previous ruling that ASARCO had violated the provisions of the OSHA Act. The issue was whether the conditions under which ASARCO was originally cited (where lead concentrations exceeded the OSHA standard of 200 ug/m<sup>3</sup>) constituted a recognized hazard causing or likely to cause death or serious physical harm to the employees.

It was pointed out by Mr. Bill Mann that personal samplers always appeared to give higher lead in air results than did stationary area samples. Mr. Bernard Roy stated that a recent article in the Journal of Occupational Medicine compared personal samplers to environmental samplers. (The article to which Mr. Roy referred appeared in the August, 1973 issue of the Journal of Occupational Medicine and is entitled, "Personal Dosimetry Versus Environmental Monitoring." This article was authored by Dr. Bernard D. Tebbens of the University of California, Berkeley).

### C. Occupational Standard for Lead

Dr. Lynam reported on the status of the NIOSH Criteria Document for lead and the Threshold Limit Value. The TLV for lead has been reduced by the TLV Committee of the American Conference of Governmental Industrial Hygienists from 200 to 150 ug/m<sup>3</sup>. The action of the TLV Committee and the recommended level in the NIOSH Criteria Document are based on the work reported by Dr. M.K. Williams (article entitled, "An Investigation of Lead Absorption in an Electric Accumulator Factory with the Use of Personal Samples," British Journal of Industrial Medicine, 26:202-216, 1969.)

Dr. Lynam reported that LIA had opposed the reduction to 150 ug/m<sup>3</sup> and had met with Mr. Paul Caplan of NIOSH who was also representing the TLV Committee at the Meeting of the American Industrial Hygiene Association in Boston on May 22, 1973. The Meeting was of little value since NIOSH and the TLV Committee had already decided to make the change and did not want to be bothered with facts. LIA has expressed the opinion to the TLV Committee and to NIOSH that the study by Williams et al. is being misued. Dr. Lynam stated that Dr. Williams had forwarded the raw data from his study and that he (Dr. Lynam) was now in the process of further analysing the data.

D. Occupational Health Film on Lead

Dr. Cole stated that he had been in contact with Bull Frog Films regarding the possibility of a film dealing with control of lead exposure in industry. There seemed to be general agreement among the attendees that such a film would be very useful and that such a film is not available. There was some concern as to whether Bull Frog Films, which is a part of Roedale Press, is the group which should be producing this film. It was also recommended by the attendees that endorsement and cooperation of labor and the government be solicited. The motion was made and passed that LIA produce a film on the prevention of industrial lead poisoning. The vote was as follows:

<u>In Favor</u>	<u>Opposed</u>	<u>Abstentions</u>	<u>Funds Recommended</u>
8	0	3	LIA - \$12,000

E. Lead Chromate

Dr. Cole reported that the American Conference of Governmental Industrial Hygienists TLV Committee had recommended that the TLV values for lead chromate and for zinc chromate be reduced to 100 ug/m<sup>3</sup>. The TLV documentation for this action is that there were observations made in the 1940's in the German Chromate Industry that lead and zinc chromate could produce human carcinogens. Dr. Cole cautioned that there is the possibility that OSHA may adopt the ACGIH standard which would require a reduction in the allowable content of lead in the workroom for lead chromates and zinc chromates and place these materials under fairly stringent control. Also, the danger that the labeling of these compounds as human carcinogens could have an adverse impact on their potential uses. Mr. Ken Nelson reported that the Maritime Industry had much experience with lead and zinc chromates. This group might represent a good population to study in order to verify or refute the claims regarding carcinogens.

II. Air Pollution in Stationary Sources

LIA-76565

A. New Source Performance Standards - Secondary Lead Industry

Dr. Lynam reported that the following new source performance standards had been proposed by the Environmental Protection Agency:

particulate emissions to the atmosphere from blast and reverberatory furnaces are limited as follows:

1. No more than 50 mg/Nm<sup>3</sup> (undiluted), or 0.022 gr/dscf.
2. No more than 20 percent opacity.

Emissions from pot furnaces should be less than 10 percent opacity.

Mr. Nelson and Mr. Pallies expressed concern that the standards were too lenient and that emissions of this magnitude could result in excessive exposure to the general population living in the vicinity of the source. Mr. Nelson indicated that ASARCO had commented to the EPA and had recommended more stringent limits. Mr. Nelson reported that he had used atmospheric diffusion equations to predict ground level concentrations of lead based on the allowable emission limits.

B. New Source Performance Standards - Primary Lead Industry

Dr. Lynam reported that new source performance standards were being proposed for the primary lead and zinc smelting industry. The proposed standard as of June, 1973 are as follows:

The discharges of gases from any blast furnaces, cross reverberatory furnaces, or sinter machine discharge end shall not contain particulate matter in excess of 46 mg/normal cubic meter (NM<sup>3</sup>) and shall not exhibit 20% opacity or greater.

Also, no gases shall be discharged into the atmosphere from any sintering machine, electric smelting furnace or converter which contains sulfur dioxide in excess of 650 ppm sulfur dioxide by volume.

C. Local Air Standards

Dr. Cole stated that the state of Colorado had proposed an air standard for lead of 20 ug/m<sup>3</sup> for a 30-minute period. Mr. Hesselberg reported that Colorado had held a public hearing on this standard. The opinion was expressed that a time period of 30 minutes is of little value in assessing exposure to lead and that any standard should be based on quarterly or annual average values.

Mr. Mann reported that the city of Dallas had required the ambient concentrations at the property line of secondary smelters not to exceed 5 ug/m<sup>3</sup>. Dr. Cole stated that LIA was on record as supporting the AIHA limit of 10 ug/m<sup>3</sup> for ambient air and he wondered whether LIA should support a specific air lead level, and if so, what level is appropriate? After considerable discussion, it appeared that the general feeling was that a level of 5 - 10 ug/m<sup>3</sup> expressed as a 90-day or annual average was the most appropriate limit.

III. Water Pollution

A. Effluent Guidelines

Dr. Lynam stated that the EPA was in the process of developing effluent guidelines for the primary and secondary lead industry. Battelle Columbus Laboratories has the EPA contract to develop the guidelines for this industry. Mr. Gary Welch stated that the guidelines were scheduled to be completed this Fall.

B. Toxic Pollutants List

Dr. Lynam reported that the EPA proposed a list of toxic water pollutants including approximately eleven materials, including cadmium. However, lead and zinc were not included in the initial list. (A recent announcement in Industrial Week indicates that EPA may expand their list and that lead and zinc will be included on the list).

IV. Lead in Gasoline

A. Status Reports

Mr. Butler, Mr. Hesselberg and Dr. Cole provided status reports on the lead in gasoline issue in the United States. The only requirement at this time is that one grade of lead-free gasoline be made available. The proposed reductions in the amount of lead in gasoline have not been promulgated and the EPA is in the process of revising their health effects document. It was emphasized that the issue becomes more complex in view of the current energy crisis, the concern over emissions of platinum, palladium, sulfuric acid, and sulfates from the catalytic convertor, the urging by the automotive industry to relax 1975 - 1976 auto emission standards, and development of new engine concepts (the stratified charge engine, rotary engine, etc.).

Mr. Geof Harrison reported on the status of lead in gasoline legislation in Europe. He emphasized that almost all countries were reducing the maximum amount of lead allowed in gasoline. He stated that he felt the European Economic Council would probably adopt a level of 0.4 grams per liter, as a maximum level. He reported that England had reduced the lead level from 0.84 grams per liter to 0.635 g/l in January, 1973, to 0.55 g/l effective January, 1974, and to 0.45 g/l effective January 1, 1976. The German Government has taken the strongest position in restricting lead in gasoline. The level was reduced to 0.4 g/l in 1972 with a proposed level of 0.15 g/l on January 1, 1976.

B. Facts Versus Fiction - Lead in the Environment

It was proposed that Hill & Knowlton produce an updated booklet on lead in the environment which would provide answers to the many charges against lead in the environment.

C. Meeting on Low Level Effects of Lead

Dr. Cole reported on an upcoming meeting on low level effects of lead sponsored by the National Institute of Environmental Health Sciences and the EPA which was scheduled for October 1st and 2nd in Raleigh, North Carolina.

Dr. Strehlow presented a paper on the biological significance of high lead in soil values. This paper summarized the research results of Drs. Strehlow and Barltrop on ILZRO Project LH-193, Environmental Significance of Lead. Dr. Sachs presented a paper on her experience on pediatric lead poisoning. (A summary of this meeting by Dr. Cole is attached).

D. International Symposium - "Recent Advances in the Assessment of the Health Effects of Environmental Pollution," sponsored by WHO, CEC, EPA.

It was announced that a symposium sponsored by the Commission of the European communities, the World Health Organization, and the U.S. Environmental Protection Agency is scheduled in Paris from June 24 - 28, 1974. The major topic areas for this symposium are:

1. Exposure assessment of general and selected populations.
2. Metabolic effects of pollutants in exposed individuals.
3. Evaluation of suspected or observed health effects from exposure to environmental pollutants.

E. The Fall of the Roman Empire

Dr. Cole reported that he had been in contact with representatives of the University of California at Los Angeles regarding activities of Dr. Gillfillan. Dr. Gillfillan in 1965 published an article suggesting that lead had resulted in the fall of the Roman Empire. Gillfillan stated that he was analyzing bones collected from the Roman era and that the results would show that lead had resulted in the fate of the Roman Empire. It seems that most anti-lead articles include some discussion about lead resulting in the fall of the Roman Empire.

V. Childhood Lead Poisoning

A. Revision of "Facts About Lead and Pediatrics"

Mr. Jim Callaghan reported on the present status of the publication, "Facts About Lead and Pediatrics" and on the wide distribution and favorable comments for this publication. It was suggested that there is a need to update and to modify the existent publication and to orient further publications to include actions and case histories. There was agreement among the Committee that this publication should be revised.

B. National Paint and Coatings Association Distribution Materials

The NPCA has put together information on pediatric lead poisoning. The distributional material includes 30- and 60-second news clippings which are used as public service announcements and an 18-minute film. It was stated that 3 films on pediatric lead poisoning are now available from the Public Health Service, The American Academy of Pediatrics, and the National Paint and Coatings Association.

C. Exterior Residential Paints

Dr. Lynam reported that work at the University of Cincinnati, Kettering Laboratory indicated that the weathering of outside house paint contributes significantly to the lead levels in soil. Also, Dr. Ter Haar of Ethyl Corporation, has found similar results and presented his research results at the meeting on Low Level Lead Effects held on October 1st and 2nd. These findings may have some impact on the use of lead in exterior residential paints.

VI. Kettering Lead Abstracts

Dr. Cole reported that the total budget for the Kettering Lead Abstracts for 1974 is \$28,613, of which the LIA share is \$17,168. The motion was made and passed that LIA continue funding the Kettering Lead Abstracts for 1974 in the amount of \$17,168. The vote was:

<u>In Favor</u>	<u>Opposed</u>	<u>Abstentions</u>
11	0	0

VII. Lead in Shot

Dr. Lynam reported that the Department of the Interior had proposed a ban on the use of lead shot in water fowl hunting. The results of a study by the Olin Winchester-Western Corporation which compared steel shot, copper shot and lead shot, showed that the steel shot results in large losses from crippling of ducks. The Olin Corporation has presented their results to the Bureau of Sports, Fisheries and Wildlife of the Department of the Interior and has stated that the substitute of iron shot for lead shot will result in greater losses of birds from crippling than from the loss due to lead poisoning. However, it was noted that some officials of the Department of the Interior have stated that their decision to ban lead shot will not be swayed by the Olin results.

There being no further business to come before the Committee, the Meeting was adjourned at 5:00 P. M.