

LEAD INDUSTRIES ASSOCIATION, INC.

232 MADISON AVENUE

NEW YORK, N. Y. 10017

TELEPHONE - AREA CODE 212

ON 2-6622

445 File

Attached:

Minutes of Aug 23, 1966
Re. Air Pollution Cont.

August 31, 1966

Gentlemen:

Attached are the Minutes of the Meeting of the Pennsylvania Group concerned with a possible standard for lead in the atmosphere as held in Philadelphia on August 23rd. Several things have happened since that Meeting of which you should know:

1. At the 1966 Gordon Research conference in Tilton, N.H., where Don Fowler was in attendance he learned through Dave Anderson on the Air Pollution Control Commission of Pennsylvania and an industrial hygienist for Bethlehem Steel concerning "liberalization" from a requirement that the lead content of the air should not exceed 10 micrograms per cubic meter of air more than once in 100 days, to a requirement that the average lead content for any 30-day period should not exceed 5 micrograms per cubic meter of air.

2. Of equal, if not more importance, was a confirmed report which came to us on August 30th that the State Commission was meeting on August 31st in Harrisburg to discuss this matter and that possible action concerning lead had been threatened.

On learning of this possibility, Fowler promptly contacted several industry members of the Commission (Elkin, White and Schrenk) to voice your opinion on this matter and basically to plead for a deferment of positive action. We continue our strong opinion that the State should attempt no resolution of this problem until the work at the Kettering labs in Cincinnati has been further advanced. Those men contacted seemed to agree.

We will do all possible to keep current on this situation as it develops and will report to you at intervals.

Sincerely,

J. L. Kishersley
J. L. Kishersley
Executive Vice President

JLK:vp
Enclosure

Low areas near lead

LEAD INDUSTRIES ASSOCIATION, INC.

222 MADISON AVENUE

NEW YORK, N. Y. 10017

TELEPHONE - AREA CODE 212

OR 5-0000

SUBJECT TO REVISION

PENNSYLVANIA COMMITTEE ON LEAD HEALTH AND SAFETY MEETING MINUTES

Philadelphia, Pennsylvania

August 23, 1966

A meeting of representatives of companies in the Lead Industry with plants in Pennsylvania was held on Tuesday, August 23, 1966, at The Urban Club, Suburban Station Building, Philadelphia, Pennsylvania. (Arrangements courtesy Electric Storage Battery Co.)

Present

Julian Bers
A. W. Spitz
John F. Rittenhouse
R. C. Schaefer
William Cairo
Kenneth Green
William Pallies
James Snyder
Edward Adams
Theodore Gilmore
P. C. MacCalli

Representing

Bers & Co.
Bers & Co.
C & D Batteries, Eltra Corp.
C & D Batteries, Eltra Corp.
The Electric Storage Battery Co.
The Electric Storage Battery Co.
The Electric Storage Battery Co.
The Electric Storage Battery Co.
Imperial Metal & Chemical Co.
National Lead Co.
National Lead Co.

Lead Industries Association, Inc. Staff

J. L. Kimberley, Executive Vice President
D.M. Borcina, Secretary, Treasurer
D. G. Fowler, Director, Health & Safety

Mr. Kimberley served as Chairman and called the meeting to order at 10:10 A.M.

The Chairman stated that the purpose of the meeting was to discuss the action "to date" of the Air Pollution Commission (List of members attached as Exhibit "A"), Department of Health, Commonwealth of Pennsylvania at its meeting of July 12, 1966, in proposing a tentative standard of 10 micrograms of lead per cubic meter of air averaged over a 24 hour period. It is our understanding, he pointed out, that at the next meeting of the Commission, date not yet known, a vote will be taken to accept or reject this Standard. A copy of the "Proposed Air Basin Air Quality Criteria" as submitted to the Commission by the Council of Technical Advisors is attached as Exhibit "B".



Lead Wood with Lead

Pennsylvania Health & Safety Committee
Meeting Minutes

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August 23, 1966

Mr. Cairo commented at some length, emphasizing the importance of securing the cooperation of the Commission through an offer of work with their Council of Technical Advisors.

It was then pointed out that the Pennsylvania Air Pollution Control Act of 1960 states that consideration must be given in the adoption of any regulations that they be, in essence:

Technically feasible
Economically reasonable
Necessary for normal health
Not to unreasonably obstruct
industry or its growth

The Chairman then called on L.I.A.'s Director of Health and Safety to report on what action had already been taken.

The Director of Health and Safety reported that he had written to the Commission on July 14, 1966, as per Exhibit "C" attached. He further reported that he had contacted Dr. Allen D. Brandt, Chairman of the Commission and also met with the Director of the Division of Air Pollution Control of the Pennsylvania Department of Health in Harrisburg and a report of the meeting, which he had submitted to members of L.I.A.'s Health and Safety Committee on July 28, 1966, is attached as Exhibit "D".

He stated, in addition, that research now underway at the Kettering Laboratories on human subjects exposed to 10 micrograms of lead per cubic meter of air indicated that such exposure is within safe limits. He also stated that the research is continuing and that the subjects are currently being exposed to 20 micrograms of lead per cubic meter of air.

After some discussion the following points were agreed upon:

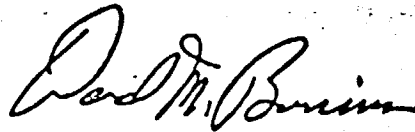
1. The establishment of some criteria for lead in the atmosphere is undoubtedly necessary but such a criteria must and should be determined on sound medical research, research that is currently underway.
2. On the basis of known factual data a maximum of 10 micrograms of lead per cubic meter of air is unrealistic and not necessary for the maintenance of normal health.
3. The companies represented offer, through the facilities of L.I.A., their complete cooperation to the Council of Technical Advisors of the Air Pollution Control Commission in an attempt to determine safe and technically and economically feasible limits on lead in the atmosphere.
4. The L.I.A. is to contact the Chairman and members of the Commission and present to them what factual data is available.

Pennsylvania Health & Safety Committee
Meeting Minutes

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August 23, 1966

There being no further business, the meeting adjourned at 12:10 P.M.



David M. Borcina
Secretary, Treasurer

D&S:vp
8/30/66
Att: Exhibit "A,B,C,D"

Note: On August 24, 1966, the Director of Health and Safety learned from a member of the Council of Technical Advisors to the Pennsylvania Air Pollution Control Commission that they had now "liberalized" the proposed Standard and were recommending that lead not exceed an average of 5 micrograms per cubic meter of air per day averaged over a 30 day period. It would seem that there could be a question as to whether the modified change in proposed limits is more liberal.

Pennsylvania Health & Safety
Committee Meeting Minutes-August 23, 1966

Exhibit "A"

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
AIR POLLUTION COMMISSION

Dr. Allen D. Brandt, Chairman
Bethlehem Steel Company
Bethlehem, Pennsylvania

Hon. L.H. Bull
Secretary of Agriculture

Hon. R.B. Charnbury
Secretary of Mines and
Mineral Industries

Mrs. Ruth S. Donahue
41 W. Fairview St.
Lock Haven, Pennsylvania

Mr. Harold F. Elkin
Sun Oil Company
1608 Walnut Street
Philadelphia 3, Pennsylvania

Dr. H.H. Schrank
514 Bigham Road
Pittsburgh 11, Pennsylvania

Mr. Louis C. Smith
P.O. Box 181
Hershey, Pennsylvania

Hon. John K. Tabor
Secretary of Commerce

Mr. Thomas J. White
850 Thomas Road
Lafayette Hill, Montgomery Co.
Pennsylvania

Hon. C.L. Wilbar, Jr., M.D.
Secretary of Health

Hon. William P. Young
Secretary of Labor and Industry

Pennsylvania Health & Safety
Committee Meeting Minutes—August 23, 1966

Exhibit "B"

(Copy)

Commonwealth of Pennsylvania
Proposed Air Basin Air Quality Criteria

CONFIDENTIAL
NOT A PUBLIC
DOCUMENT

The Council of Technical Advisors on Area Air Quality Criteria submits the following to the Air Pollution Commission for its consideration and adoption.

Air Basin Air Quality Criteria

1. The following criteria apply to the area-average concentration throughout an entire air basin, based upon geographically uniform air sampling.
 - a. Total Suspended Particulate Matter (24 hour samples) —300 micrograms per cubic meter of air not to be exceeded more than once in any 100 day period; in addition, the median concentration shall not exceed the lesser of 100 micrograms per cubic meter of air or $C_0 + \frac{30}{2}$ micrograms per cubic meter of air where C_0 is the existing median concentration (area-average) determined by appropriate air basin studies. Sampling is to be by high-volume air filtration following "National Air Sampling Network" methods.¹
 - b. SO_2 (24 hour samples)—0.15 ppm not to be exceeded more than once in any 100 day period. Sampling and analysis is to be by any method which will give accurate results using the West & Gaeke technique as a reference standard.²
2. The following criteria apply to the concentration at any point in an air basin (outside the property of persons responsible for dominant sources of the given pollutant):
 - a. SO_2 (one hour samples)—0.30 ppm not to be exceeded more than once in any 100 consecutive hour period. Sampling and analysis is to be by any method which will give accurate results using the West & Gaeke technique as a reference standard.²

¹ Air Pollution Measurements of the National Air Sampling Network, 1953-1957; FHQ Publication #637.

² Hochheiser, Seymour. Methods of Measuring and Monitoring Atmospheric Sulfur Dioxide. FHQ Publ. No. 999-AP-6. 1964. pages 4-9

(Attachment to July 12, 1966 Department Report—RE: Item H.)

- b. H_2S (one hour samples)—0.10 ppm not to be exceeded more than once in any 100 consecutive hour period. Sampling and analysis is to be by any method which will give accurate results using the methylene blue technique as a reference standard.³
- c. Be (24 hour samples)—0.01 micrograms per cubic meter of air not to be exceeded more than once in any 100 day period. Sampling is to be by high-volume air filtration following "National Air Sampling Network" methods and analysis by any method which will give accurate results.¹
- d. Pb (24 hour samples)—10 micrograms per cubic meter of air not to be exceeded more than once in any 100 day period. Sampling is to be by high-volume air filtration following "National Air Sampling Network" methods and analysis by any method which will give accurate results.¹
- e. NO_2 (one hour samples)—1.0 ppm not to be exceeded more than once in any 100 consecutive hour period. Sampling and analysis is to be by any method which will give accurate results using the Griese-Saltzman technique as a reference standard.⁴
- f. CO (24 hour samples)—25 ppm not to be exceeded more than once in any 100 day period. Sampling and analysis is to be by any method which will give accurate results.
- g. T (total as HF) (24 hour samples)—5 micrograms per cubic meter of air not to be exceeded more than once in any 100 day period. Sampling is to be by any method which will give accurate results.

³Jacobs, M.B., Dravermann, M.M., & Hochheiser, S., Ultramicrodetermination of Sulfides in Air, Anal. Chem., 29:1349. 1957.

⁴Saltzman, B.E., Colorimetric Microdetermination of Nitrogen Dioxide in the Atmosphere, Anal. Chem. 26: 1749-55. 1954.

Pennsylvania Health & Safety
Committee Meeting Minutes-August 23, 1966

Exhibit "C"

Lead Industries Association, Inc.

892 MADISON AVENUE
NEW YORK, N. Y. 10017

AREA CODE 212
SA 9-6630

JOHN R. ENGLENDORF, PRESIDENT
KENNETH W. GREEN, VICE PRESIDENT
SIMON B. STRAUSS, VICE PRESIDENT
WARREN L. TRASK, VICE PRESIDENT
JOHN L. KIMBLEY
EXECUTIVE VICE PRESIDENT
DAVID M. BORCINA
SECRETARY AND TREASURER

JOHN G. FOWLER
DIRECTOR OF HEALTH AND SAFETY

July 14, 1966

Pennsylvania State Air Pollution Control Commission
c/o Department of Health
Division of Air Pollution Control
Post Office Box 90
Harrisburg, Pa. 17101

Gentlemen:

We have been advised that your Commission is considering the drafting of air quality criteria, including those for lead. We would, therefore, like to inform you of research programs which the lead industry has under way and which are concerned with low level exposures of the kind likely to occur in the ambient atmosphere and which are designed to provide scientific answers to questions likely to arise when criteria are being determined.

About four years ago members of the lead industry and the U.S. Public Health Service agreed that it would be wise to design a project, or projects, which would lead to answers to the question as to what effect low level exposures to lead would have on the human system and to attempt to quantitate such exposures in terms of concentration of lead in air. The Kettering Laboratory set up an experimental protocol that would use human volunteers in exposure chambers and expose these volunteers to low level, and increasing amounts of lead in air. The levels of lead maintained in these isolation chambers would be progressively increased in suitable increments of concentration and time.

In order to test whether or not such an experiment would give significant results, the first phase attempt to measure the effect of continuous exposure at 150 micrograms per cubic meter of air. You will remember that 150 micrograms per cubic meter of air was the old industrial hygiene exposure limit for eight hours a day. This phase of the experiment was completed and showed that when human beings are exposed continuously to 150 micrograms per cubic meter of lead in air, in somewhat



Lead Ahead with Lead

Pennsylvania State Air Pollution Control Commission

over two years blood lead levels would reach 80 micrograms per cent, which is the limit prescribed by Dr. Kakes below which clinical manifestations are not found. The most important reason for performing this first phase was to test the method and to determine whether it could provide significant results without the necessity of confining a human subject in an exposure chamber for 24 hours a day. Here is a brief outline of the experimental method that was used:

First an exposure of two hours a day until equilibrium values of lead in blood were reached, then four hours a day until equilibrium values of lead in blood were reached, then eight hours a day and finally sixteen hours a day. Using these equilibrium blood values as points on an exposure curve it was possible to extrapolate the curve to the point of twenty four hours a day. This satisfied us that the use of incremental times gave significant results, results which coincide with those obtained in other human exposure studies.

Each of these experiments requires at least one year to complete and we are now in our third year of operating this study. We now have two men being exposed in inhalation chambers and plan to continue the study until significant and reproducible results have been obtained.

Financial support for these studies, as well as several other inhalation chamber studies using rats as confirmation, is provided by the lead industry, The American Petroleum Institute and the United States Public Health Service. The State Health Department in California has agreed with us that these are valuable experiments and that the results will be of great interest to them when they are ready to determine air quality criteria for lead.

We, therefore, suggest to your Commission, that the results of these experiments will be of equal value to you in the determination of rational and scientific air quality criteria. This study is being performed in the public interest and the results will be made known to all interested parties.

Thus far sufficient data has not been accumulated to provide a number, or numbers, that would be of scientific significance. We have assumed that air quality criteria for toxic materials should be derived from data that is significant in terms of human health. Our studies are unique in the field of air pollution, are of course exceedingly expensive in terms of dollars, but, what is most important, give us results that directly relate to human physiology, results that do not have to be extrapolated from one animal species to another.

Page Three

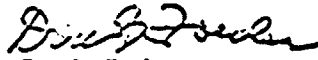
Pennsylvania State Air Pollution Control Commission

The lead industry has in the past, and will continue in the future, to act in a responsible manner and will cooperate with all interested Government and private agencies in evaluation of lead and the public health. Our industry and its members have spent many millions of dollars on the evaluation of the relationship of lead to problems of health; therefore, we believe we are in a position to ask your cooperation, and to cooperate with you in the establishment of scientific and reasonable air quality standards. In our opinion one of the most important activities of Government agencies in the field of air conservation and pollution control is the establishment of reasonable air quality criteria. The report of the Research Management Advisory Panel to the Committee on Science and Astronautics of the U. S. House of Representatives, which is entitled "The Adequacy of Technology for Pollution Abatement", makes the following statement which is pertinent to our discussion here:

Once the goals of pollution abatement are agreed on, attention can be directed to the equally important questions of how the goals can be attained most effectively, and who should pay the costs of measures to bring about the desired conditions.

The Panel believes that science and technology must play an important role in finding answers to all of these questions. Goals that are not in harmony with the scientific principles underlying the field may never be attained.

Very truly yours,


Don G. Fowler

DGF:js

cc: Mr. Allen D. Brandt
Mr. Victor E. Susman

LEAD INDUSTRIES ASSOCIATION, INC.

888 MADISON AVENUE

NEW YORK, N. Y. 10017

TELEPHONE - AREA 6006 218

OR 8-0000

Exhibit "D"

Pennsylvania Health & Safety
Committee Meeting Minutes-August 23, 1966

July 28, 1966

To: All Members of the Lead Health and Safety Committee

cc: Board of Directors, LIA
Industry Development Committee, LIA
S. F. Radtke

Re: Lead Air Quality Standard in the State of Pennsylvania

At a regular meeting of the Air Pollution Commission, Department of Health, Commonwealth of Pennsylvania, July 12th a tentative standard of 10 micrograms per cubic meter of air for lead averaged over 24 hours was proposed, with no more than a single occurrence of a higher value allowed in each 100 consecutive days. It is our understanding that at the next meeting of this Commission a vote will be taken to accept or reject this standard. If the Commission accepts the standard, public hearings must be held after a 30-day notice before the standard takes effect.

The State of Pennsylvania passed an Air Pollution Control Act in 1960 and among the many provisions of this Act was the designation of an Air Pollution Commission appointed by the governor. Among the many duties of this Air Pollution Commission is the following: "Establish and publish maximum quantities of air contaminants that may be permitted under various conditions at the point of use from any air contaminant source in various areas of the Commonwealth so as to control air pollution."

Such standards would be promulgated as Regulations and would be enforced as part of the Air Pollution Control Act. So far in its history the Commission has adopted four Regulations, together with appropriate Guides for Compliance with Regulations. None of the previously adopted Regulations is specific for any air pollutant and the proposed standard for lead would be in the first batch of specific air quality standards. At its meeting on July 12th the Commission also accepted tentative standards for six other materials besides lead.

I contacted Dr. Allen D. Brandt of the Bethlehem Steel Company, who is Chairman of the Air Pollution Commission, and pointed out to him that we felt that 10 micrograms per cubic meter is unrealistic, not dictated by considerations of health, and, in addition, that we have several research programs under way at the present time designed to provide scientific knowledge to those interested in setting such standards. Dr. Brandt advised me to write a letter to the Pennsylvania Commission setting forth our position, and I did.



Lead Ahead with Lead

Lead Air Quality Standard
in the State of Pennsylvania

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July 28, 1966

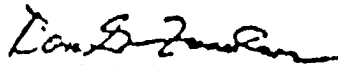
Next, I obtained an appointment at Harrisburg with the Director of the Division of Air Pollution Control of the Department of Health, Mr. Victor H. Susman, in order to explain in greater detail our position in the matter of air quality standards. Mr. Susman asked that John Cleland, Chief, Abatement Compliance Section and Ben Brodovics, Jr., Chief, Technical Services Section, sit in on our discussion. I reported to these gentlemen that we had anticipated the need for air quality standards, had discussed this with the United States Public Health Service and the State of California Department of Public Health (which has a mandate to set such standards) and had all agreed that more information is needed before logical and reasonable standards can be set. That about four years ago we had asked Kettering Laboratory to conduct for us human exposure studies involving low level amounts of lead in specially designed chambers, which studies would be relevant to the health of the general public. The state people appeared to be impressed with the details of our studies and the scientific approach that our industry is taking through research.

I then asked upon what basis the 10 microgram figure had been derived, and was told that it was about 1/20th of the industrial hygiene Threshold Value of 200 micrograms per cubic meter of air. We then had a technical discussion concerning the fallacy of such an approach to ambient air quality standards, and Mr. Susman pointed out to me that we should really be pleased that they had only taken 1/20th of the industrial hygiene limit, since in the case of beryllium they had used 1/100th of the industrial hygiene limit. Mr. Susman further pointed out to me that in his opinion the Three Cities Survey has shown that average amounts of lead in air do not exceed 3 micrograms per cubic meter and therefore we had nothing to complain about. When I pointed out to him that in my opinion the 10 microgram value would be difficult for some of our lead plants to meet, he told me of a secondary smelter in Pennsylvania at which 24-hour samples had been taken by the Division and that the highest value obtained had been 5 micrograms per cubic meter.

In summary, we had a very interesting discussion and the state air pollution people were very interested in our research projects, but did not agree that their action in setting a standard at the present time is premature. It seems to me that we must take all necessary steps to make certain that our voice is heard before the next meeting of the Air Pollution Commission. These meetings are held at the call of the Chairman, and the next one has not been scheduled as yet. At the end of this report I list for you the names of the members of this Commission.

I think we are faced with a rather serious situation, a situation that is more serious in its implications for the future than it is right now, because, as you know, as soon as one government agency takes an action of this kind we will have many others vying to do the same. I have no concrete suggestions for action to offer to you at this time, but I think it behooves all of us to make an attempt to accumulate as much factual data as is possible about the air outside of our own plants. In the meantime your staff will keep in touch with the situation and keep you informed.

Very truly yours,



Don G. Fowler
Director of Health and Safety

DGF:sv
attachment