

INTER-OFFICE

To	Dr. R. A. Kehoe	ADDRESS	Cincinnati
FROM	R. K. Scales	ADDRESS	Detroit
SUBJECT		DATE	October 7, 1958

Dear Bob:

Attached are some brief minutes on our discussions in your office on Monday. I hope I have quoted you correctly and accurately reflected your opinions. If I have misquoted you in any way, let me know and I will see that the record is straightened out.

Thanks ever so much for all the time and effort you put into our meeting. I'm anxious to keep this program moving right along, so will be in touch with you again in the near future.

Best regards,



R. K. Scales

RKS/dl
Att.

CONFERENCE REPORT

People in Conference:

October 7, 1958

Dr. R. A. Kehoe
Mr. H. H. Wall
Mr. W. G. Lovell
R. K. Scales

Date of Conference: October 6, 1958

Place: Dr. Kehoe's office in Cincinnati

Mr. Scales reported on a telephone conversation he had with Mr. MacGregor of Standard Oil of California on October 3. In his telephone call Mr. MacGregor stated that:

1. Standard Oil of California's fundamental interest continues to be in tetramethyl lead.
2. DuPont had made a better offer than Ethyl both as to time of delivery and price for tetramethyl lead.

Standard Oil of California, therefore, had decided to work with DuPont exclusively on tetramethyl lead. They looked upon the mixed lead alkyls which we had discussed with them on their visit to Detroit on September 9 as Ethyl's exclusive development. They did not plan to discuss the mixed lead alkyls with DuPont. If Ethyl could show better effectiveness at the same cost or the same effectiveness at lower cost with the mixed lead alkyls as contrasted with tetramethyl lead, Standard of California would be interested. Mr. Scales also reported that other companies, particularly Esso, Socony Mobil and Caltex, had likewise shown an interest in more volatile lead compounds. Ethyl has in the past discouraged this interest on the part of customers, but in view of these developments with Standard of California we have an obligation to let them know of our present considerations of the possibilities of manufacturing the more volatile lead alkyls commercially.

Dr. Kehoe stated that:

1. DuPont had not as yet contacted him for an opinion on tetramethyl lead. He had expected that they would do so before actually planning on offering it as a commercial product.

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2. In his opinion DuPont would discuss any plans they might have for commercial production of tetramethyl lead with the Public Health Service before they made it available commercially. This would be in accordance with the gentleman's agreement which both DuPont and Ethyl have with the Surgeon General's office to discuss with them any contemplated developments which might be commercialized.
3. In his opinion the Surgeon General's office would look with distinct disfavor on the substitution of tetramethyl lead for tetraethyl lead. Also, the mixed lead alkyls (MA-500 having a vapor pressure 10% that of tetramethyl lead at low temperatures) might be acceptable if we had more background on the toxicity of these materials.

Mr. Wall reported that:

1. Manufacturing could make MA-500 mix (50% Ethyl radicals) in existing equipment at either Baton Rouge or Pittsburgh. Modifications of equipment would, of course, be involved.
2. Pittsburgh would be preferable because of the larger autoclaves at this location. In the case of possible use by Standard of California, the geographical location has an added advantage.
3. Optimistically we could be in production of MA-500 at Pittsburgh in approximately a year; this estimated timing was based on six months study and pilot plant work and an additional six months for make-ready in the plant.
4. Tetramethyl lead would take much longer--considerably over two years at best--since existing facilities could not be used.

After additional discussion, two general assumptions were made and a program was agreed upon. The general assumptions were:

1. That DuPont might give up on tetramethyl lead as a commercial product after discussing the matter with the Surgeon General's office.
2. That it might be possible to convince Standard of California that it would be hazardous from a toxicity standpoint to use tetramethyl lead commercially and that in view of this they might be favorably disposed toward MA-500 as a compromise.

The program that was agreed upon is as follows:

1. Dr. Kehoe will call his group at the Kettering Laboratory together to outline a program for further work on toxicity of the more volatile lead alkyls. This program would be aimed at:
 - a. Rechecking skin absorptions of tetramethyl lead and the mixed lead alkyls.
 - b. Devising experiments for skin absorption tests when these materials are dissolved in gasoline.
 - c. Set up a study of the distribution of the effects of these materials on experimental animals.
 - d. Determine whether there are any changes in the effects on metabolism in the substitution of the lead alkyls for tetramethyl lead.

Dr. Kehoe will set up the above program and its accompanying budget and send this on to Dr. Kirby. He estimates that a total of two years' work would be required but that the decisive answer which would be needed by the Public Health Service could be obtained in from six months to a year's time. This would fit into our contemplated one-year program for commercialization.

2. The Detroit Laboratories will set up a program to gather together all the existing data and set up further experiments to determine whether MA-500 or any other of the mixtures would be a satisfactory substitute for tetramethyl lead in present-day fuels and engines.
3. Mr. Wall will have Baton Rouge go right ahead with their paper studies aimed at manufacturing MA-500 mix at Pittsburgh in a year's time.

As soon as possible Baton Rouge will refine their estimates on the cost of MA-500 so that this can be reported to prospective customers after the proper clearance within the Corporation.

Baton Rouge will also immediately set up studies of the concentrations of the more volatile lead alkyls in the vapors of gasoline under various conditions. A considerable amount of data on this subject already exists in the Detroit files. This will be sent to Mr. Wall. In addition, Mr. T. W. Warren of the Detroit Laboratories will recommend to Mr. Wall the gasoline or gasolines to be used for these tests.

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R. K. Scales