Strictly Confidential

# CONFERENCE REPORT

Place: Esso Research & Engineering Co., Linden New Jersey

Date: December 1, 1959

| In Conference: | | |
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| | John G. McNab, | Esso Res. & Engineering |
| | Neil Hakala, | " " " |
| | George Tobias, | " " " |
| | T. M. Korn, | " " " |
| | Stewart Hulse, | " " " |
| | H. J. Gibson | Ethyl Corporation |

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This visit to Linden was made at the specific request of Mr. Hakala who indicated that they did not wish to wait another week to discuss TML with a representative of the Ethyl Corporation. (Mr. Remondino had agreed to be at Linden on December 8 or 9.) Approximately two hours were spent in answering questions relative to TML. The writer is of the opinion that not very much new information was given to them, but the answers which I gave them served to confirm the impressions which a number of the people present had relative to the use of TML.

At the start of the meeting Mr. Hakala indicated that Esso was interested in three major areas. These areas were--toxicity studies, effectiveness, and cost. The major portion of the time was spent in discussion of toxicity problems although a considerable period of time was devoted to discussion of cost. Relatively little time was spent on effectiveness since I pointed out early in the discussion that we did not have very much new in the way of effectiveness data. I did suggest to them that if they wished to look at the effectiveness of TML in domestic fuels, they might concentrate their studies on fuels that were relatively high in aromatic content, although they should include a few fuels of lower aromatic content for comparison. They asked whether we had yet conducted work in any of the "Big Three" small cars since they have data which give them reason to believe that the Corvair with a standard transmission will severely downrate fuels at low engine speeds. As in our own case, they suspect that the Valiant may do likewise, and that certain of the Chrysler engines with the Ram manifold will also downrate fuels which do not contain volatile antiknocks.

Those Esso people who sat in the meeting with Messrs. Scales, Kehoe and Remondino in the early spring just could not understand how Dr. Kehoe could have done such an about-face. I pointed out that I was not free to give them the details of the toxicity program which had been carried out with an unnamed customer company under a rigid secrecy agreement, but that there was no question of the validity of the data. They inquired as to whether they should undertake a toxicity program, and I told them that there would seem to be no reason for them to waste their money by carrying out such a program.

A great deal of time was spent answering their inquiries as to the technique for obtaining approval of the use of TML from the office of the Surgeon General. It was pointed out to them that there were two possible ways of handling the matter--that is, the fashion in which the 4th milliliter was handled, and the fashion in which AK-33X was handled. I told them that I could not tell them, and did not know, anything about the timing of possible presentations to the Surgeon General's office. I also told them that we would expect to notify them and the other people who had inquired about the use of TML as soon as some action was taken in this area.

It was evident from much of the conversation that Esso's principal interest is in the use of TML offshore. They inquired as to the ability of Associated and other TEL manufacturers to make and supply TML, and were particularly interested in knowing what steps would be required for Esso to obtain approval of importation and use of TML in European countries. I told them that Dr. Kehoe had indicated that the first and probably the most important step in this area would be obtaining approval for use in the United States. However, I told them that I would ask Dr. Kehoe to transmit to them, probably through Dr. Eckardt, any comments he might have as to the steps that would be necessary to permit the use of TML abroad. (It should be pointed out that the Esso R & E people realize that they can obtain such information by inquiries to their Marketing and Manufacturing subsidiaries abroad. They do not, however, wish to stir up interest by making such inquiries. Therefore, they would be most pleased to have any information that Dr. Kehoe can supply and will, I am sure, inquire of Dr. Eckardt as to what information he has in this area.)

They inquired as to our ability to supply, and I told them that we would be able to supply any quantity they might require provided only that we have a reasonable make-ready period. When asked how long this might be, I told them that I thought that a period of three to six months would be realistic, although the dislocation of steel supply resulting from the strike might possibly lengthen such a period. They were very much interested to know that we had solved our manufacturing problems and were in a position to say that we could supply in unlimited quantities. They wanted to know whether I knew of any restrictions which would prevent their use of TML (other than medical) in European countries. They were particularly interested in this situation insofar as Italy was concerned. I told them that it was my impression that it would be difficult to import TML into Italy, but that I would ask Julian Frey to give them a brief rundown based on whatever background he might have on import restrictions in European countries. Here again, the Esso R & E people realize that this information could be made available by their affiliates abroad, but they do not wish to stir up undue interest.

Messrs. McNab and Hakala said there was no doubt in their minds that the availability of TML abroad would have a major impact on refinery process planning since if TML were available, catalytic cracking would not be

required for a long time to come. They were very much interested in possible cost of the compound, and I quoted them the figure of 25% plus or minus 5% which had been agreed upon and used elsewhere. Special pains were taken to point out to the Esso people that this was on the basis of contained metal which would result in a price per pound of TML of about 91 cents*if the premium were 25%. They asked whether, long-range, there was a possibility that this price differential might be reduced. I told them that this seemed quite likely although I could not so promise since it was very early in our know-how insofar as manufacture of TML was concerned, and that we would expect that we would be able to make process improvements which might reduce our costs. I asked them whether they thought they could buy TML from us and pay for it for use abroad. Mr. McNab said it was his impression that the European common market had considerably simplified currency problems insofar as Esso was concerned, and that he would anticipate no very significant problems in this respect. He wanted to know whether, if a market for TML developed in Europe, Ethyl would be interested in manufacturing abroad. I told him that such would be given serious consideration if a sufficient market should develop.

To summarize, I came away from this meeting with the impression that Esso has very little interest in TML for domestic use, but that they probably will carry out a program of small size. I think they have no very real concern about durability problems which TML might introduce which do not already exist with TEL, but that they might wish to carry out a small program. Our help in this area was volunteered. However, they seem most receptive to our thinking that there will be no difference in the products of combustion of TML and TEL. They have a very high interest in the use of TML abroad because it seems to them a way to save on capital expenditures for refinery process equipment as well as keeping the split in the petroleum barrel in better balance with demand.

A number of other items were discussed in a more or less casual fashion. I asked Mr. Hakala what they could tell us about the Curtiss-Wright engine since we understood that they had been consulting with Curtiss-Wright on fuel and lubricant problems. Mr. Hakala indicated that they had a rigid secrecy agreement with C-W and that they could tell us nothing that has not already appeared in the public press. Mr. McNab was interested in the general acceptance of the 4th milliliter of TEL and both he and Mr. Hakala indicated concern about the restriction (as they interpret it) which had been placed on the rate of increase in TEL concentration. I assured them that the quoted 0.25 milliliter per year increase applied to the United States pool and not to the products of any particular refiner, and that based on our economic studies, it was quite unlikely that this rate would be exceeded.

They were also interested in our marketing experience with Motor 33 Mix and the opportunity was taken to emphasize to them that Motor 33 Mix was indeed attractive in certain refining situations. They expect Mr. Remondino to

* Motor Mix

make available to them our reports on Motor 33 Mix in the near future. There continues to be considerable interest in Esso relative to new types of power plants. Brief conversation was had with Mr. Korn relative to the Allis-Chalmers fuel cell tractor. It is obvious that there is a considerable interest in the Esso organization in the possibilities of electric automobiles powered by conventional batteries, and the possibility of fuel cell powered vehicles. The Esso people were asked for whatever data they might be free to give us relative to the fuel economy of the small Mercedes diesel-powered automobile which they had on the property for two or three years some years ago. They indicated that they had some tank economy data which would be available to us, and that their people at Abbington, England, had done a considerable amount of fuel economy work and they believed that that information would be available to us also. It can be expected that this will be transmitted to us through Mr. Remondino or the writer in the reasonably near future.

Harold J. Gibson

HJG/dl

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