MONSANTO INDUSTRIAL CHEMICALS CO.
St. Louis, Missouri

August 2, 1972

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CALL REPORT NO. 1972-23

TEXAS EASTERN TRANSMISSION CORP.
~~Shreveport, Louisiana~~

Date of Call: July 24, 1972

Present for Texas Eastern: Walter Woods
Ben Means
Buck Jarnigan

Present for Monsanto: John Frederiksen
Roger Hatton

SUMMARY:

Operations and engineering working levels at Texas Eastern are interested in using Monsanto's Turbinol 1122 or 1223 in a field trial in the next gas turbine to be converted from Turbinol 153. This will probably be the unit at Barton, Alabama sometime in September. This decision is subject to review by their management. Price, trade relations and Monsanto's position on the PCB problem are involved. We must continue efforts to insure a field trial of our products.

DETAILS:

The purpose of this call was to present the latest information on Monsanto's phosphate ester turbine lubricants and to determine Texas Eastern's intentions on a field trial.

Monsanto recent activities on gas turbine fire resistant lubricants were reviewed. Texas Eastern personnel were particularly concerned with the reports of my visits to General Electric. It was pointed out to them that the gas turbine groups at G.E. have finally settled on a 150 SUS at 100°F. fluid such as Monsanto's Turbinol 1122. General Electric personnel have made this selection based upon viscosity similarities to their present petroleum lubricant and the fact that bearing losses are approximately 45% greater for a 220 SUS phosphate ester fluid and 15% greater for the 150 SUS fluid as compared to the petroleum oil. It was pointed out that the original G.E. preferences for the 220 SUS fluid had been greatly influenced by the group at Lynn who are more concerned with gear lubrication than with journal bearing lubrication. It is still generally agreed throughout General Electric that the heavier fluid would be more satisfactory from the gear lubrication standpoint. Texas Eastern indicated that they would probably go along with the General Electric recommendation but that they were still interested in Monsanto's Turbinol 1223, a 220 SUS fluid.

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Remaining questions from previous visits were discussed. One concerned the possibilities of wire wooling with phosphate esters and it was reported that General Electric had only raised this as a question and that no data are available on any of the phosphate esters. The differences in product performance in the bench scale LFW-1 test were noted. General Electric now believes that this test may not be completely meaningful and are conducting a series of low speed "turning gear" tests on all competitive products. The group at Texas Eastern was not aware of this work.

Some comments were made during the discussion concerning the change in General Electric attitudes toward the fire resistant lubricants in gas turbines. Texas Eastern personnel stated positively that General Electric did not have any objections to using our fluids and were quite interested in obtaining field tests on them.

Texas Eastern reported that they have changed out two units from Turbinol 153 to the Fyrquel fluids. They are using Fyrquel 220 R and O in the Huntsville unit. At the time of changeover, some mechanical modifications were made in the compressor area. They have had some difficulties in maintaining lubricating system pressure with the pumps recommended by General Electric. At this stage Texas Eastern does not believe this is due to the field. They are using Fyrquel 150R and O in the Yazoo unit. Here no mechanical changes were made and operations have been quite satisfactory. However, Texas Eastern was quick to point out that there has not been sufficient time to develop any real operating experience. They feel that at least 6 months will be required to get meaningful data.

It was reported to Texas Eastern that Turbinol 1122 is now formulated with a rust inhibitor and that combined with its already good oxidation characteristics it is a superior "R&O" fluid to the Fyrquel R and O products. Oxidation corrosion test data were presented on Turbinol 1122 and the competitive products. Performance in the General Electric film tenacity test was described and it was indicated that Turbinol 1223 passes this test without additional additives and that we will therefore supply Turbinol 1223 without an additional rust inhibitor. Texas Eastern was quite pleased to learn that we did have products which were good on rust inhibition and offered increased stability. Walter Woods volunteered that he felt, based on all the data, that the Monsanto turbine lubricants were the most stable products on the market and that he would like to see them run in a turbine.



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Walter Woods posed a direct question as to what Monsanto's responsibility would be, along with Texas Eastern's, if the EPA banned PCB's and told Texas Eastern that they would have to change out all remaining units. It was indicated that this problem would have to be discussed with our management and that we would provide an answer. During this discussion they indicated that they have reduced their stock of Turbinol 153 from approximately 60,000 gallons as of January 1 to 49,000 gallons. It is their present intention to continue to operate with Turbinol 153 moving it from station to station until it is essentially all consumed.

Walter Woods requested that we give him a price quotation in writing for Turbinol 1122 and Turbinol 1223. They would like this in terms of F.O.B. plant and F.O.B. delivered, for example to Barton, Alabama. We confirmed the previous statements that the prices would be no higher than those for Turbinol 153. It was intimated this figure was probably somewhat high compared to competition because of differences in delivery costs and ways in which prices are being quoted. We stated that we could have product available in a week but would like 30 days notice if possible. They indicated that they had used about 1500 gallons of Fyrquel as a flushing charge which will be used to flush other turbines and will eventually be worked off in actual operation. The charge in the turbine is about 1500 - 2000 gallons.

Walter Woods stated that both Mobil and Humble have contacted Texas Eastern promoting their fire resistance turbine lubricants and that both are applying pressure to Texas Eastern to purchase through them. Both companies are distributors for the Fyrquel fluids and Texas Eastern is well aware of this. Both Mobil and Humble are major customers of Texas Eastern. During these discussions Walter stated that he would like to try at least two different types of products and therefore would recommend a Monsanto product trial.

At the conclusion of the meeting Jarnigan indicated that we would get a field trial unless somebody specifically told them not to. Walter Woods said that he would recommend our product but that this did not necessarily guarantee a field trial. Totally it appears that the operations and engineering people at the working level are convinced that we have good products and are very interested in having a field trial occur. If there is any opposition it must be at some higher level and efforts will be made to determine if this is the case.



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On the basis of the discussions three things must be done. First, a price quotation must be furnished in about a week. Second, a letter must be written to Walter Woods summarizing our discussions and third, Monsanto's stature in terms of the PCB government problem must be resolved.

R. E. Hatton

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