

Monsanto

FROM (NAME & LOCATION) St. Louis - General Office

DATE May 2, 1969

cc: K. Schlegel - KSCHL

SUBJECT GENERAL ELECTRIC COMPANY
ROME, GEORGIA - TRANSFORMER
REFERENCE PYRANOL, MAY 1, 1969

G. E. Representatives:
George Poulson, Gen. Mgr. Eng.
Ken Cox, Mgr. Market Planning
John Dutton, Mgr. Adv. Dev. Eng.
Jim Kinney, Adv. Dev. Eng.
Ed Raab, Mgr. Insul. Eng. Pittsfield
Gerald Usry, Adv. Dev. Eng.
W. L. Gordon, Mgr. Design Eng.
Frank McCann, Planning
Monsanto Representatives:
Dr. Ralph H. Munch
P. G. Benignus

TO : H. S. Bergen - HBERG
J. G. Bryant
R. C. Hamil - ATLANTA
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R. H. Munch - SECOND STREET
D. A. Olson - DOLSO
W. R. Richard - WRICH
R. P. Sullivan - WILMINGTON

A vandal sawed off the lock on a General Electric pad mount transformer located in a residential area. A little girl entered and both arms were burned off to the elbow. General Electric has a severe law suit on hand, and our laws place the burden heavily on the manufacturers.

I had opportunity to tell Mr. George Poulson, their general manager of engineering, that the implications of safety portrayed in General Electric Company's residential pad mount ads is most obvious. These units are placed essentially at the back door of the house, sometimes at the front door, and the ad shows papa leaning against the transformer smoking his pipe and his little daughter is sitting on top of the transformer. He said that G. E. management now only wish that they had prevented their advertising people from running these ads. I said at least these transformers could be filled with fire resistant askarel instead of mineral oil, but our suggestion about this drew the response from General Electric's marketing and promotional people that if Monsanto were to urge this, the result would be that we would infuriate all of the utilities.

The foregoing is mentioned as only one example that accounts for the strong feeling about responsibility and reliability in the event of a transformer accident and law suit.

Dr. Munch presented the final results of his laboratory studies that portray the intensity of the explosiveness of arc-formed gas from Aroclor 1242. We now await results of the Westinghouse prototype transformer arcing studies scheduled to be under way by May 1. It is expected that this will give helpful guidance to set up arcing of prototype transformers at Rome, Georgia. G. E. indicate that they feel now that they will have to make such studies.

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In general, a serious problem regards the use of Aroclor 1242 in transformers is not foreseen; however, it is now evident that in the strong desire to take advantage of economic factors offered by Aroclor 1242 we have all "overskated the puck" relative to the new technological factors that have now been established showing some differences in the flammability and/or explosive characteristics of the arc-formed gases of the new versus the older transformer askarels. These new factors must be run out to arrive at satisfactory judgements, and possibly approvals, authorized by the underwriters.

At our Denver IEEE meeting, Mr. Reinhardt of Moloney Electric reported that an askarel filled transformer had arc failed without bursting the case or diaphragm. In untanking the unit a workman used a torch to cut through the tank metal. Information available to Mr. Reinhardt indicated that when the metal was penetrated by the torch, a large sheet of flame resulted from the ignited, released gases. The interesting point here is that the askarel in this transformer was not the Aroclor 1242 type. It was Inerteen PPO, namely a blend of Aroclor 1260 and TCB.

Mr. Reinhardt suggests that the present industry definition for askarels should be restudied in that it is subject to misapplication and misinterpretation. Currently this definition states that, "An askarel is nonflammable and is incapable of evolving explosive gases when decomposed by an electric arc." While this definition may be correct for the older askarel fluids as such, it is felt that this definition can and is being misinterpreted to cover arc-formed gases from askarel impregnated insulations where such insulations as paper, under arcing conditions, can yield explosive gases under certain conditions.

Accordingly, we agreed at this time that relative to the older Pyranols, as well as those with Aroclor 1242 in them, the definition of transformer askarel and statements about it in maintenance guides will be modified to warn that before a failed askarel transformer is untanked it needs to be purged with nitrogen. This will tend to alleviate concern for using Aroclor 1242 versus the more highly chlorinated Aroclors in transformer askarels.

This is another example where commercial considerations have "overskated the puck" by not taking into account all of the technical factors involved. With the prevailing newer legal attitudes of placing most of the burden on the manufacturers, it is increasingly essential to encompass all of the known technology in the definitions to prevent the lawyers from achieving over-severe, adverse judgements against the manufacturer.


P. G. Benignus

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