Monsanto

MFB

CALL REPORT – ORGANIC DIVISION

DICTATE IN SEQUENCE:
1. HEADING INFORMATION
2. NAMES OF ADDRESSEES
3. NAMES OF CARBONEES
4. IMMEDIATE ACTION NEEDED
5. REPORT ON CALL

REPORT CAPTIONS:
1. OBJECTIVE
2. PERSONS CONTACTED
3. RESULTS
4. ACTION REQUIRED

CUSTOMER NAME						DATE OF CALL
COMMONWEALTH EDISON COMPANY						9/25/70
CITY AND STATE				DATE RECEIVED		DATE TYPED
Maywood, Illinois				10/1/70		10/1/70
CUSTOMER MAILING LIST CHANGES – SERVICE CENTER USE ONLY						
NAME AND TITLE		PUT ON	TAKE OFF	MP	MAG.	CATEGORY CODES
REGION	SERVICE CENTER	SALESMAN				
St. Louis	Chicago	James J. Roder/saa				

TO J.R. FALLON - JFALL

CC J.S. Pullman - New York
Roger Irwin - Houston
D.E. Roush - St. Louis

Personnel Contacted: J.L. Williams - Transmission Engr. Dept.
E.H. Grosser, Jr. " " "
A. Zanona " " "
Bob Nease " " "

RESULTS:

I learned about this potential through a supplier of level gauges (Vico Associates). Commonwealth has been buying fluids to cool underground electrical cables enclosed in steel pipe. The use of fluids to cool the cables allows them to use smaller cables to transmit electrical power. Apparently this has been done for many years but it appears that there is renewed interest in expanding the idea. Years ago Sun #6 oil was used; now the standard fluid is polybutene normally supplied by Cosden or Standard Oil. Polybutene is made by polymerizing butene gas. The best estimate of the selling price for polybutene in bulk shipments is $0.50/gal.

The typical cable system would be three cables laid in an 8" schedule 20 pipe. The cable is wrapped in paper insulation and then wrapped with a copper tape. After the pipe is laid it is filled with fluid. Each foot of pipe requires about 2 gallons of fluid. The fluid is cooled in a heat exchanger to about 68°F and pumped at 200 gpm and 250 psi into the pipe. At the end of the pipeline the fluid is returned to the pumping station at about 140°F and 100 psi. Freon 22 is used for cooling. This cooling application is also being studied to determine if an intermediate fluid would work better because the condensing Freon 22 causes a geling action of polybutene around the tubes in the heat exchanger which greatly reduces heat transfer rate. They will probably consider an intermediate system of FR-Lo-Temp between the Freon 22 and polybutene.

Properties of the present fluid they use are:

Visc	
100°F	115-140 SSU (24-30 cs)
212°F	38-44 SSU (3.5-5.5 cs)
Power Factor	0.1% at 212°F
Dielectric Strength	35 KV or higher (ASTM Des. D877)