Monsanto

FROM (NAME & LOCATION) R. W. Weiss - Research Center

DATE October 28, 1970

SUBJECT CIRCUIT BREAKER AND CABLE OIL CANDIDATES

REFERENCE

cc P. G. Benignus - PBENI
R. Davis - RDAVI
R. H. Munch - S. 2nd St.
W. R. Richard - WRICH

TO : J. G. Bryant - JBRYA

Attached I am sending you a table with the most recent physical property data in our switchgear and cable oils. I agree that we should drop resin oil (hydrogenation step) and the two lower ethylbenzene streams (low flash points) from the list of September 30. That leaves us with the four potential candidates in the table.

Comments:

Aromatic Oil #1 - The original reported flash point was by PMCC. In the Cleveland Open Cup test a marginal 118-130° was found. We will get electrical properties as soon as sample arrives. This is our cheapest candidate at 9.5¢/gallon.

Flux Oil - All properties look good except for the high power factor of 1.58%, measured at WGK from our recent earth treated sample. Price was quoted at < 3¢/gallon.

Alkylate H230H - This is our prime candidate despite the high viscosity. The low dielectric strength of 27-34 KV is probably due to high moisture content of 80 ppm. I have submitted samples treated with Porocel for re-measurement. This is the material we plan to ship to Commonwealth Edison, provided we meet the AEIC spec.

R. W. Weiss

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Attach.

DSW 201816

STLCOPCB4059883

RWW 10-23-70

PHYSICAL PROPERTIES

CIRCUIT BREAKER / CABLE OIL CANDIDATES

	UNINHIBITED TRANSF. SPEC.	ALKYLATE H230L (THERMINOL 55) (MCS 682 -5's)	H 230H	FLUX OIL (5D4)	HB 20	AROMATIC OIL #1
FLASH POINT COC	130°C min.	180	200	138		118-130
POUR POINT	-40°C max.	< -55	< -60	< -55		-55
VISCOSITY 100°F	62 SUS max.	100-125	130-150	40-50	40-60	20-80
		39	40.5			
DISTN. RANGE °F	NONE					
INIT. B.P.		560-620	640	530-550		450-485
20 %		640-660	680	560-580		(50%) 515-535
SPEC. GRAV. 60/60	0.862-.910	0.893	0.897	(80°) 0.942		(20°C) 0.87-0.9
DIELECTRIC STRENGTH Kv at 20°C	26 min.	> 50	(27-34) > 30	> 50	>50	
POWER FACTOR	0.3 % max	0.005-0.14	0.22	1.58	2.1	
100°C / 60 Hz (1000 Hz)	0.05 max	.08	.01	0.07	0.15	
RESISTIVITY $\Omega \times 10^{12}$	NONE	500	500	6.6		
			1.05			

Final

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