

Monsanto

K. E. Boucher, W. C. Krumrich Plant

April 29, 1975

B. C. Rosse

W. C. Engman

J. R. Savage - B2SL

DISPOSITION OF AROCLOR RELATED
PROJECTS IN MONOCHLOROBIPHENYL
SCOPE

TO

A. E. Leisy

G. L. Johnson

The Monochlorobiphenyl scope includes about \$150,000 capital for projects that would assist in the manufacture of Aroclors. They are:

1. Relocation of eating facilities to the current foreman's office.
2. Installation of a cooler on the catalyst mix tank to keep the Biphenyl some 30°F below its flash point.
3. Modification of the continuous chlorinator blow tank to remove dissolved HCl. Modifications included a vacuum pump and associated piping and instrumentation. Neutralization of dissolved HCl can lead to corrosion of the steel intermediate storage tanks.
4. Correction of some chlorine vaporizer instrumentation including a chlorine line routed into the Aroclor control room for pressure indication.
5. Replacement of #2 intermediate storage tank.

The plant now plans to replace #2 intermediate storage tank. Maintenance will submit this project.

Recommendations:

1. Include relocation of eating facilities now in the Aroclor control room in the 1976 M.I.P.
2. Make necessary design changes to control the catalyst mix tank 30°F below the reported 234°F flash point. Recommend we first try to hold the Biphenyl in the transfer line from the East Biphenyl storage between 85 and 95°C. manually using in-line temperature indicator and high/low temperature alarm. If this approach is not practical, then re-consider installation of a cooler for the catalyst mix tank.

MONS 021691

Recommendations (Cont'd)

3. Before installing a vacuum pump to degas Aroclor crude in the blow tank (1-422), other less costly means should be explored. A new vacuum pump system would cost about \$55,000 in new capital. Recommend we first determine if the vapor space in the intermediate tank is above the estimated 140°C dew point temperature. If maintained above 140°C, no further acceleration of corrosion of the intermediate storage tanks would be expected. On the other hand, if the temperature is near or below 140°C after proper insulating job, we should consider adding lime directly to the Aroclor column still pot. This is now done at No. 3 still for Aroclor distillation without any serious corrosion problems.
4. A safety project should be immediately issued by TSD to correct the problem of having a chlorine line in the Aroclor control room.

I have noticed that our std. steam usage in the Aroclor department far exceeds expectations. Hourly usage is in the 10,000 - 11,000 #/hr range. The vacuum jets are only a small part of this usage as shown below. Yearly steam cost is expected to be about \$300,000 or above.

Steam Usage

#2 still	231 #/hr
Aroclor column	526 #/hr
#3 still	256 #/hr
#4 still	<u>256 #/hr</u>
Total	1269 #/hr

Recommend the department steam meter be repaired and used to find actual steam usage. Also desirable would be a check on each steam trap and determining of the steam source for each.

Kenn Boucher
Kenneth E. Boucher
Technical Services Department

/cm

MONS 021692