

In our Semiannual Report of October 21, 1981 for the March-August 1981 period, we mentioned that we were attempting to collect operating parameter data to correlate with the VCM analytical data for corresponding daily samples of stripped resin. Allowing for several extensive shutdowns for inventory control and availability of technical manpower during this time, we attempted to correlate the daily VCM results (A_{ij} values) with the stripping system operating parameters.

OK
If they want to know why it took so long to get the data.

~~It has been known all along that~~
The major controlling variable in the stripping operation is the ratio of the liquid varnish feed down the column trays to the solvent vapor flow up thru the trays (L/V ratio). ~~As long as there is sufficient liquid varnish feed to cover the trays to the proper depth for correct tray valve operation, The solvent vapor passing upward provides the heat and contact time to almost completely remove the VCM from the varnish.~~

~~extra detail action~~ ~~essentially~~ ~~all the~~
We normally could show very good stripping effectiveness if this L/V ratio stayed within certain limits. However, in the data we collected from the production operations, there was a small number of erratic VCM test results on individual varnish samples that were much higher than expected from the L/V ratio in effect at that time. We could not assign any definite causes for these infrequent excursions, other than the possibility that there were opportunities for nonequilibrium and nonuniform conditions to exist from time to time in the varnish feed from the autoclaves into the stripping column. We were dealing with a viscous polymer solution that may not have been uniformly mixed before sampling for VCM analysis.

omit.

PROCESS IMPROVEMENTS

A technical review was conducted by the production staff and several situations were disclosed which could have contributed to this problem. The following process modifications were incorporated into the systems over about two year's time, ~~as manpower and funds became available~~ to reduce the VCM levels ~~in the stripped varnish~~ and improve the reproducibility and uniformity of the VCM content, ~~in the streams~~ in the STRIPPED VARNISH

number of organic solvents believed to have low photochemical reactivity as the result of smog chamber studies. Union Carbide's Texas City Plant Environmental Protection group petitioned for and received exemptions in late 1972 for certain VOCs, which included solvents in use at the UCAR Solution Vinyls (USV) unit at this location.

DISCUSSION

Late in 1976, a Construction Permit application was prepared and forwarded to the TACB to cover modifications to the existing UCAR Solution Vinyls production unit. The modification project provided for improved vinyl chloride stripping capabilities, increased operating efficiencies, and a general debottlenecking of several procedures. Although there was only a small capacity increase from the project, the permit application opened the entire process to evaluation for all emissions, which as previously indicated, would require BACT in order to obtain permit approval. The subsequent application evaluation and permit negotiations constituted a noteworthy example of a cooperative effort between industry and a governmental control agency. Significant benefits were realized by both groups: better than anticipated emission reductions were realized while at the same time the industry was allowed to solve the abatement ~~in the best manner~~ according to their best judgments of the

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