D. B. Hosmer - ElSF General Offices

April 12, 1972

WGK PLANT WATER POLLUTION
ORGANICS SEWERED IN DROWNED HCl

Minutes of Meeting - 4/10/72

Present:

F. J. Holzapfel
J. R. Savage
H. C. Carder
P. B. Hodges
D. B. Hosmer

D. B. Hosmer outlined the problem:

(1) Large quantities of presently wasted HCl are drowned to the sewer from several operations. This HCl is mostly from chlorination of organics and is saturated (at least) with the organics. The organics go to the river.

(2) Sauget Village plans for final waste treatment do not include removal of the organics. We will have to request a variance from the regulations for the planned waste treatment. Continued discharge of the organics from drowning HCl will be unacceptable and would make granting of a variance unlikely.

(3) An immediate problem exists with intermittent sewering of HCl from PCB's production. With the lower chlorinated PCB's, we sewer about 2 lbs/hr. This cannot be continued because of present federal and expected state pressures against PCB's entering the environment. Some of the federal activities:

a) The Chicago Regional Office has sampled our outfall directly for PCB's and, we believe, has analyzed some of the numerous outfall samples taken primarily for mercury analysis.

b) The Office of Science and Technology is considering recommending to EPA that "zero" (no detectable level) discharge be permitted from PCB's producers and users. Proposed standard for river water quality is 0.01 ppb, almost below present limits of detectability. A more reasonable approach is being urged to the Office of Science and Technology. How-

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ever, even optimistically, we can expect to be allowed no more than some fraction of a lb/day.

(4) Somewhat indefinite plans for scrubbing the HCl from PCB's are inadequate to meet present needs. We must move very quickly to stop sewering the HCl unless the PCB's are completely and positively removed before sewering.

(5) Need to stop sewering of "dirty" HCl from other sources is not as immediate as for PCB's. However, we should be proceeding to collect and sell all of the muriatic acid possible and to sewer only thoroughly cleaned-up HCl. This clean-up can be done either at the producing departments or at a central absorption and clean-up facility.

The ensuing discussion brought out these points:

(1) Sewering of PCB's HCl depends on ability of chlorosulfonic acid (CS) to accept the HCl for production. No facilities exist for drowning excess HCl at the CS Department. Apparently, the PCB's in HCl used at CS are no longer identifiable as PCB's after the scrubbing step with CS acid. At this time we do not know what happens to the PCB's (what compounds are formed, environmental impact of these compounds, etc.).

(2) No PCB's HCl is allowed to come in contact with the food-grade muriatic produced from chlorobenzene manufacture. Therefore, clean-up and sewering of the PCB's HCl is not possible at the food-grade muriatic department unless we sacrifice that business, which yields a substantial return.

(3) The proposed adiabatic absorber system which would collect all excess HCl for sale as commercial grade muriatic acid, would not of itself do anything to decrease sewering of organics. While it does a reasonably effective job of separating the organics from the HCl (so as to reduce subsequent carbon usage), the organics are sewered and no reasonable means are obvious at this time to provide for disposal alternate to sewering. Therefore, cleanup of the HCl would probably be done prior to absorption through use of scrubbers, carbon, etc. WGK-TSD is studying this as a project apart from the muriatic collection project (and MIC Research is also studying clean-up of HCl).

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Actions Planned

(1) Aroclors production will be tied to CS usage so that no HCl will be sewered in the Aroclors area. The drowning facilities will be blanked-off and approval of Jim Savage will be required to re-instate use of the drowning system. This action will be commenced immediately with target of being an established practice by 5/1/72. Jim Savage will handle.

(2) Homer Carder will alter and expedite the HCl collection and clean-up projects to provide for:

a) Collection of all HCl - not just that portion economically attractive.

b) Clean-up of all the HCl so that when drowning is necessary, organics will not be sewered. Depending on the degree of pre-absorption cleanup, this may require additional carbon treatment following absorption for either sale and/or drowning.

It is realized that the above actions will be expensive, with a risk of inconveniencing some Aroclor customers. However, these are necessary steps if the WGK Plant is to avoid prohibitive expenditures for external waste treatment and if the Aroclor's Department is to minimize risk of a shutdown order from federal or state agencies.

Desmond B. Hosmer

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