NEWARK REHABILITATION

GENERAL DISCUSSION
(continued)

Present at the Discussion: Paul Hoskey
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Bill Taylor
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Pollution Problems

The waste disposal problem is principally concerned with the following:

1. Muriatic Acid, 20° Be'

Generally dump 50-60% of 12,500 gal./day production
(6250 - 7500 gals./day)

2. 2,4,5-T Acid Process

(a) From acidification of mother liquor to recover TCP (trichlorophenol)

Water
PH = 1
Sulfuric 3-5%
TCP (equivalent to solubility in water)
Trace of Trichlorphenoxyacitic Acid)
50 - 60°C.
(5,000 gal./day)

(b) From normal process of acidifying the sodium salt of 2,4,5 T

Water
PH 2-3
TCP (equivalent to solubility in water)
Trace of Trichlorphenoxyacitic Acid)
50 - 60°C.
(5,000 gal./day)

3. 2,4 D Acid Process

Aqueous mother liquor from vacuum filtration step containing the sodium salt of 2,4 - D and DCP; Temperature 20-30°C.
(5,000 - 6,000 gal./day)

Check quantities of 2,4 D and DCP salt with Dr. Lukes who made an earlier investigation.

The recovery of DCP (dichlorophenol) by acidification of the mother liquor has so far given poor quality material and the recovery is not in effect at present.

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4. Caustic Scrubber

Sodium hypochlorite equivalent to that produced from 2,000 gals. of 10% sodium hydroxide is dumped to the river each day. This material contains 1-2% sodium hydroxide, normally.

5. Wash Waters From 2,4 D and 2,4,5 T Esters

These waters contain:

Traces of alcohols
- Butyl
- Isopropyl
- Butoxy-Ethoxy Propanol — From D Acid — 12,000 Gal/Day
- 2-Ethyl Hexanol — From T Acid — 3,000 Gal/Day

15,000 Gal/Day

and Acids - PH 1-5
- Benzene sulfuric acid
- Phosphoric Acid

Sodium Sulfate
Dichlorophenol

6. Sulfuric Acid From Scrubbing Towers

300 gallons/week of 85 - 90% H_2SO_4

The plant has a 10" clay pipe sewer line which connects to the City Industrial sewer. This sewer is used principally for dumping wastes from the D and T acid units ad described previously. The limitations on the industrial sewer excludes solvents flamables, and toxicants. It is probable that acid or alkaline wastes are also excluded. To date, no complaints have been received from the city on the industrial sewer wastes but there was a reported complaint by a bakery down the line of phenol odors backing up into their plant.

If the excess HCl can't be sold, waste treatment would probably require a neutralization pit for acids and a separate system for the phenols. A recommendation on disposing of the wagtes is under consideration by Bill Taylor.

Chlorine Recompression

The present system includes recovery of excess chlorine by drying the off gases from the HCl absorber and recompressing the excess chlorine gas. This gas is handled with two (2) AL 673 Nash Chlorine Compressors. However, P. Koskey states that even with both compressors running, the system seems to be undersized.

The recovered chlorine is returned to the DCP Chlorinator where it is readily reacted with the phenol. Any inert gases carried along with the recovered chlorine are passed through the system to a final atmospheric vent.

The recompression unit is required to handle approximately the following quantities of excess chlorine:

Chloral		600#/hr.
MCA		140#/hr.
MCB		30#/hr.
	TOTAL	770#/hr.

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JRS:ejk
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