

Camden County MUA's PCB Pollution Minimization Plan

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Camden County Municipal Utilities Authority (CCMUA)

- Operates an 80 million gallon per day treatment plant, one of the largest POTW's in New Jersey
- Services Camden City, an older, industrial combined sewer municipality, and 36 suburban municipalities
- Identified by the Delaware River Basin Commission (DRBC) as one of the most significant point source dischargers of PCB's to the Delaware River (by volume only, not concentration)

PCB's

- Polychlorinated biphenyl's (PCB's) have been identified by the DRBC as one of the most significant pollution problems within the Delaware Estuary
- PCB's enter the Delaware Estuary through many pathways- including air, sediment, contaminated sites, point source dischargers and non-point source dischargers
- In order to maximally reduce PCB concentrations in the Delaware River Estuary, reduction plans should be implemented that address all of these pathways
- Point source dischargers should do their fair share and undertake a good faith effort to minimize PCB loadings in their discharges

CCMUA's PCB Minimization Plan

1. PCB Inventory At Treatment Plant
2. Optimize Treatment plant's water quality performance
3. Installation of Combined Sewer Overflow solids removal devices
4. PCB Trackback Effort

PCB Inventory At Treatment plant

- CCMUA Treatment Plant was constructed in phases from 1981-1990, i.e. after PCB's were banned
- Inventory, as a double check, indicated no PCB transformers on site

Optimization of water Quality Performance

- PCB effluent concentration approximately 1/5 of influent concentration
- Therefore, approximately 80% of PCB's entering CCMUA treatment plant are removed via normal wastewater treatment process and are deposited in the sludge residue of said process
- This means that as more sludge is removed by the CCMUA treatment plant, fewer PCB's will be discharged to the Delaware River. Thus, optimization of effluent quality directly results in reduction of PCB's discharged
- As part of an overall water quality optimization, the CCMUA has reduced its average effluent suspended solids levels (TSS) from 26ppm to 17ppm, resulting in a 20% increase in sludge collected through the treatment plant (54,000 tons per year to 66,000 tons per year). This corresponds directly to reductions in PCB loadings to the Delaware River.

Installation of CSO Solids Removal Devices

- During wet weather events, significant amounts of untreated sewage, mixed with storm flow, are discharged to the Delaware River through combined sewer overflow systems.
- In an older, industrial city like Camden City, these combined sewer discharges have the potential to have significant concentrations of PCB's because of stormwater runoff from contaminated sites and from PCB-laden sediments lying at the bottom of the sewer lines.
- Accordingly, capturing solids before they are discharged from CSO systems should result in meaningful reductions of PCB loading to the Delaware River.
- Therefore, the CCMUA is in the process of designing netting systems to capture all solids greater than ½ inch in diameter prior to discharge from Camden City's, and Gloucester City's, 35 CSO regulator systems.

PCB Trackback Efforts- Phase One

- In addition to maximizing solids capture, and thereby minimizing PCB discharges, the CCMUA is also conducting a trackback effort through its sewer system.
- In the first phase of this trackback effort, PCB testing was undertaken for the main Camden City line into the plant, and for the two main interceptors that convey flow from the other 36, suburban, municipalities.
- The testing results showed, unsurprisingly, that about 95% of the PCB's conveyed to the CCMUA's plant came from Camden City
- This finding was consistent with known characteristics of Camden City, such as:
 - Existing industries
 - Historical industries, many of which had been abandoned prior to the prohibition of PCB's
 - A combined sewer system.

PCB Trackback Efforts, Phase II

- Based on the results of Phase I, Phase II efforts will focus mainly on Camden City
- The Camden City collection system will be broken down into ten sectors. PCB sampling will be taken in order to narrow the search for the main sources of influent PCB's
- Because expected concentrations are high enough, we intend to use the less costly sampling method 8082, at least for this phase of the trackback effort

Collection and Utilization of Data

- In parallel with the sampling efforts previously described, the CCMUA will also gather data regarding potential sources of PCB's from:
 - Regulatory agencies
 - CCMUA's own industrial pretreatment records
 - City of Camden
 - Local fire companies
 - Health Departments
 - Electric Companies
- This data will be combined with PCB sampling data to further narrow down the search for potential PCB sources.

Next Steps

- These efforts should eventually result in our sampling for PCB's at or near the actual locations of suspected sources
- Wherever sampling at the site results in identification of a verified PCB source, this information will be turned over to the regulatory agencies for further action
- CCMUA will also implement a pollution prevention plan by providing owners of PCB-laden transformers with information concerning best management practices to avoid PCB spills and to implement proper disposal procedures. Where possible, CCMUA will attempt to persuade owners to eliminate PCB-laden equipment altogether