

# Camden County MUA's PCB Pollution Minimization Plan

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# Camden County Municipal Utilities Authority (CCMUA)

- Services 500,000 customers in Southern New Jersey
- Design Flow: 80 MGD
- Average Flow: 58 MGD
- Secondary, pure oxygen activated sludge treatment
- Discharges to Delaware River



# Camden County Municipal Utilities Authority ( CCMUA)

- Operates an 80 million gallon per day treatment plant, one of the largest POTWs in New Jersey
- Services Camden City, an older industrial combined sewer municipality, and 36 suburban municipalities
- Identified by the Delaware River Basin Commission (DRBC) a significant point source discharger of PCBs to the Delaware Estuary

# PCBs

- EPA established TMDLs that require reduction in PCB loadings to the Delaware Estuary
- PCBs 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 Estuary, reduction plans are being implemented to address all of these pathways
- Point source dischargers are doing their part by implementing Pollutant Minimization Plans to reduce 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 PCBs 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 collected in the sludge
- This means that as more sludge is removed by the CCMUA treatment plant, PCB loadings will be reduced
- As part of the overall water quality optimization, the CCMUA has reduced its average effluent suspended solids levels (TSS) from 26 ppm to 7 ppm, 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 Estuary

# Installation of CSO Solids Removal Devices

- During wet weather events, significant amounts of untreated sewage, mixed with storm flow, are discharged to the Delaware Estuary 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 PCBs 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 results in additional reductions of PCB loadings.
- The CCMUA is in the process of installing 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 I

- The CCMUA is also conducting a trackback effort throughout 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 PCBs 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 before the PCB ban
  - A combined sewer system.

## PCB Trackback Efforts, Phase II

- Based on the results of Phase I, Phase II efforts focused mainly on Camden City
- The Camden City collection system was divided into ten sectors. PCB sampling was undertaken in each sector in order to narrow the search for the main sources of influent PCBs
- Because expected PCB concentrations are high enough, we used 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 is also gathering data regarding potential sources of PCBs 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 enable CCMUA to sample for PCBs at or near the actual locations of suspected sources
- Wherever sampling at a site results in the 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 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 remove PCB equipment altogether

# Thanks for Listening!

If you would like more information, please contact:

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