

Using a PMP Approach to Attain TMDLs - (An Update to the PMP Approach to PCB Loading Reduction at Two Amtrak Facilities)

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Amtrak Rail yards in both Philadelphia PA and Wilmington DE have NPDES discharge permits through PA DEP and DNREC. These permits include provisions for Pollutant Minimization Plans in order to comply with the Delaware River Basin Commission strategy for reducing point and non-point source discharges of polychlorinated biphenyls (PCBs) to the Delaware River. This strategy, which includes incorporating the existing Pollutant Minimization Plan (PMP) approach to reducing contaminant loading from industrial facilities such as rail yards, may be required by regulatory agencies as a method to attain water quality criteria in receiving water bodies. The Delaware River Estuary has been classified by EPA, as impaired because it exceeds water quality standards for PCBs. As a result, EPA established Stage 1 total maximum daily loads (TMDLs) for PCBs based on attaining water quality criteria (less than 44 pg/l) from Trenton, NJ to the Delaware Bay in 2003

These rail yards were constructed over 100 years ago. Since their original construction, operations have consisted primarily of the maintenance, service and overhaul of electric and diesel locomotives and rail cars. Loading of PCBs from the two Amtrak maintenance facilities is largely attributed to suspended solids in storm water runoff from affected exposed soils and rail ballast. PCB occurrence on the ground surface at the two facilities is predominantly a result of the historic use of PCBs in electrified rolling stock.

Components of the PMPs include identification of known and probable sources, discussion of previous and planned measures to reduce PCB loading, establishment of baseline PCB loading and a plan to track the progress of PCB minimization efforts.

The storm water monitoring over the past decade has demonstrated that minimization measures have been effective in reducing PCB loading from the two facilities. The presentation will also discuss historical trends and accomplishments in reducing PCBs in surface waters, issues related to preparation and implementation of a PMP, as well as obstacles to attaining the very low water quality standards for PCBs that are being proposed and implemented in phases by the regulatory agencies.

This presentation details the PCB minimization measures at the yards which have included implementation of storm water sediment reduction best management practices (BMPs), PCB track-back investigations (to identify source areas), modifications to facility operations and cleaning of storm water conveyance lines. At the Wilmington facility, previous sediment reduction and erosion control programs implemented for storm water drainage have resulted in significant reductions in PCB concentrations in surface water discharges.