

## **Peoria Disposal Company Industrial Wastewater Treatment Plant (IWTP) Description**

Peoria Disposal Company (PDC) owns and operates an IWTP at the PDC #1 facility, which is located just west of Peoria, Illinois. The plant operates by authority of pretreatment discharge permit number 01-1631 issued by the Greater Peoria Sanitary District (GPSD). The conditions of that permit are designed to conform to all federal and Illinois regulations, as well as applicable GPSD discharge ordinance.

Oily industrial wastewater is received in 150,000 gallon batch tanks via an unloading station located just north of the plant. Here, the wastewater is allowed to gravity separate into three (3) layers. The middle layer (treatable water) is brought into the treatment plant via a 2,000 gpm recycle pump. In a 1,000 gallon open top tank, liquid aluminum sulfate and a hydrated lime slurry are added to the wastewater for pH adjustment, precipitation of dissolved solids and breaking of oil emulsions. This mixture is pumped to a 7,000 gallon induced air clarifier after a cationic polymer is added in line. The polymer coagulates the solids into a flocculant and air is added via a venturi valve to cause the flocculant to float to the surface of the clarifier. A series of flights then scrapes the flocculant off the surface of the water into a flocculant holding box at the end of the clarifier. Excess flocculant is pumped to a 50,000 gallon flocculant storage tank. The treated water flows past a double weir system into a 3,000 gallon sump. From there it is pumped to a 100,000 gallon effluent holding tank. Once the 100,000 gallon batch is finished, grab samples are collected and analyzed for cyanide, phenol, pH, hexavalent chromium, and fats/oils/grease (FOG). The treated wastewater is then discharged to the GPSD system via a lockable valve. Proportional-to-flow composite samples are collected from the batch discharge using an autosampler located approximately 300 feet downstream of the lockable valve. Flow is measured using a flume, and recorded electronically on a flow chart.

The bottom layer, or heavy solids, is pumped to the 50,000 gallon flocculant holding tank and mixed with the excess flocculant. The mixture is then filtered via rotary vacuum, or used as a treatment aid in the on-site chemical stabilization facility. The de-watered flocculant is collected and disposed in the on-site landfill. The recovered water is recycled back to the 150,000 gallon batch tanks.

The top layer, or tramp oils, are pumped to a 20,000 gallon oil storage tank and eventually solidified and disposed in the on-site landfill, or used as a treatment aid in the on-site chemical stabilization facility.

The composite sample is also collected and analyzed for a list of 8 metals. On a quarterly basis a sample is collected and analyzed for the total toxic organics at 40 CFR 122.

The GPSD periodically splits samples to conduct verification analyses designed to corroborate PDC's reported results. The GPSD also conducts a full permit inspection at least once annually. GPSD contact information is available upon request.