

## **What is Pretreatment all about?**

Pretreatment is a [nationwide program](#) designed to protect publicly owned treatment works (POTWs), otherwise known as sewage or wastewater treatment plants, from the impacts of non-domestic or industrial wastewater.

Publicly owned treatment works (POTW) collect the flow of wastewater from homes, commercial buildings and industrial facilities and transport it via a series of pipes, or collection system, to the treatment plant. Treatment plants remove harmful organisms and other contaminants from the sewage so it can be discharged safely into receiving streams. Without treatment, sewage contaminates water supplies and spreads disease

Generally, POTWs are designed to treat domestic sewage only, typically through primary and secondary treatment, and some form of solids handling. In order to meet effluent discharge requirements, POTWs may also perform other "advanced treatment" operations to remove ammonia, phosphorus, pathogens and other pollutants. Industrial or commercial wastewater may contain chemical contaminants that could interfere with or pass through the biological processes in a POTW.

In general, POTWs are not designed to treat toxic or chemical pollutants from industrial or commercial dischargers. "Pretreatment", consisting of treatment techniques or management practices, are used to reduce or eliminate the discharge of these contaminants and thereby prevent undesirable effects such as pass through or interference. . [The National Pretreatment Program](#), published in Title 40 Code of Federal Regulations (CFR) Part 403, provides the regulatory basis to require non-domestic dischargers to comply with pretreatment standards to ensure the goals of the Clean Water Act are attained. As stated in 40 CFR 403.2, the objectives of the National Pretreatment Program are to:

- Prevent the introduction of pollutants into POTWs which will interfere with the operation of a POTW, including interference with its use or disposal of municipal sludge;
- Prevent the introduction of pollutants into POTWs which will pass through the treatment works or otherwise be incompatible with such works; and
- Improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

## **Pretreatment Standards**

These goals are achieved through implementation of three types of Pretreatment Standards: general and specific prohibitions on discharge, categorical pretreatment standards, and local limits. General prohibitions (40 CFR 403.5(a)) forbid the discharge of pollutants that pass through the POTW untreated, causing or contributing

to violations of the POTW's NPDES permit; or that interfere with operation of the treatment plant, rendering treatment of other wastes less effective.

Specific prohibitions (40 CFR 403.5(b)) forbid the discharge of fire or explosion hazards, corrosives, solid or viscous pollutants in amounts that will obstruct system flows, quantities of pollutants that will interfere with POTW operations, discharges of heat that may inhibit biological activity, specific oils, pollutants that may cause the release of toxic gases, and hauled pollutants except as designated by the POTW.

Categorical pretreatment standards are national, uniform, technology-based standards that apply to discharges to POTWs from specific industrial categories and limit the discharge of specific pollutants. These standards are located at [40 CFR, Chapter I, Subchapter N, Parts 405 - 471](#).

While prohibited discharge standards provide for overall protection of the POTW and categorical pretreatment standards may provide for general protection of POTW treatment plants, local limits address the water quality and other concerns at a specific POTW. Federal regulations at 40 CFR 403.8(f)(4) and 122.21(j)(4) require Control Authorities to evaluate the need for local limits and, if necessary, implement and enforce specific limits protective of that POTW. Local limits are developed for pollutants such as metals, cyanide, BOD<sub>5</sub>, TSS, oil & grease and organics, that may cause interference, pass through, sludge contamination, and/or worker health and safety problems if discharged at excess levels.

[National Archives and Records Administration](#) where the Code of Federal Regulations may be viewed and downloaded. elect "Search your choice of CFR titles..."

### **Local Pretreatment Programs**

The primary means for ensuring the standards discussed above are met is through the development and implementation of POTW pretreatment programs. All POTWs designed to accommodate flows of more than 5 MGD and smaller POTWs with significant industrial discharges are required to establish local pretreatment programs. Local POTW officials are familiar with their industrial users and are generally in the best position to understand and correct problems, and respond to emergencies within their own treatment systems.

Pretreatment programs must have certain elements to gain approval. To be successful, they must have the legal authority and procedures necessary to administer the program, a professional staff and sufficient funding. The POTW must adopt the national pretreatment standards in its sewer use ordinance and it must develop local limits adequately protective of local conditions.

The POTW must also undertake a number of activities to fulfill its responsibilities, including identification and notification of industrial users (IU), issuance of IU permits, inspections, monitoring, and enforcement. Finally, the pretreatment program must include a data management system and provide for public information and input.

### **Approval Authority Functions**

EPA Regions and States with approved Pretreatment Programs serve as Approval Authorities for the Pretreatment Program, and in that capacity review and approve requests for POTW pretreatment program approval or modification, Oversee POTW program implementation, review requested modifications to categorical pretreatment standards (i.e. removal credits and fundamentally different factors variances), provide technical guidance to POTWs and IUs, and initiate enforcement actions against noncompliant POTWs and IUs. In Pennsylvania, [EPA Region III is the approval authority](#).

### **Program Effectiveness**

Since 1983, the Pretreatment Program has made great strides in reducing the discharge of toxic pollutants to sewer systems, and hence, to waters of the U.S. and municipal biosolids, which are often land applied to croplands. The Pretreatment Program is thus considered by many to be one of the most successful Clean Water Act programs in reducing loadings of toxics and impacts on human health and the environment.