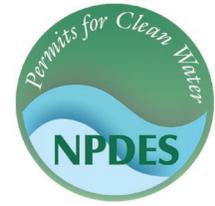




National Pretreatment Program

(40 CFR 403)



Controlling Fats, Oils, and Grease Discharges from Food Service Establishments

Summary

The National Pretreatment Program implements Clean Water Act requirements to control pollutants that are introduced into POTWs. As part of this program, EPA has promulgated General Pretreatment Regulations that require the establishment of State and local pretreatment programs to control pollutants which pass through or interfere with POTW treatment processes or may contaminate POTW sewage sludge. Meeting these requirements may require elimination of interference caused by the discharge to POTWs of Fats, Oils, and Grease (FOG) from food service establishments (FSE). More specifically, the Pretreatment Program regulations at 40 CFR 403.5(b)(3) prohibit "solid or viscous pollutants in amounts which will cause obstruction" in the POTW and its collection system.

What is the environmental problem with FOG discharges into sewers?

EPA's Report to Congress on combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs) identified that "grease from restaurants, homes, and industrial sources are the most common cause (47%) of reported blockages. Grease is problematic because it solidifies, reduces conveyance capacity, and blocks flow." See Impacts and Controls of CSOs and SSOs, EPA-833-R-04 001, August 2004.

Controlling FOG discharges will help POTWs prevent blockages that impact CSOs and SSOs, which cause public health and water quality problems. Controlling FOG discharges from FSEs is an essential element in controlling CSOs and SSOs and ensuring proper operations for many POTWs. The interference incidents identified in CSO/SSO Report to Congress may indicate the need for additional oversight and enforcement of existing regulations and controls. See 71 FR 76660 (21 December 2006).

What is the source of FOG at Food Service Establishments?

FOG wastes are generated at food service establishments (FSEs) as byproducts from food preparation activities. FOG captured on-site is generally classified into two broad categories: yellow grease and grease trap waste. Yellow grease is derived from used cooking oil and waste greases that are separated and collected at the point of use by the food service establishment.

The annual production of collected grease trap waste and uncollected grease entering sewage treatment plants can be significant and ranges from 800 to 17,000 pounds/year per restaurant.

What is the legal authority for POTWs to require FSEs to control FOG discharges?

The National Pretreatment Program already provides the necessary regulatory tools and authority to local pretreatment programs for controlling interference problems. Under the provisions of Part 403.5(c)(1) & (2), a POTW must establish and enforce specific local limits for industrial users to prevent interference with the operation of the municipally-owned treatment works in the following circumstances:

- (1) POTWs with approved pretreatment programs;
 - (2) POTWs that have experienced Interference or Pass-Through and such violation is likely to recur.
- See also 46 FR 9406 (28 January 1981).

Consequently, pretreatment oversight programs should include activities designed to identify and control sources of potential interference and, in the event of actual interference, enforcement against the violator.

How do POTWs determine whether they have FOG issues and how to address them?

POTWs should base their FOG programs on knowledge of their systems and a suite of best practices that have proven to reduce FOG discharges and related backups in their collection systems. These efforts are often best implemented through a Capacity, Management, Operations, and Maintenance (CMOM) or an Asset Management program which provides a framework for addressing FOG and other collection system challenges.

The use of Geographic Information System (GIS) mapping to inventory and locate entities that produce FOG constituents, paired with a complaint database that notes when FOG is responsible for blockages, can be a powerful tool in assessing problems and developing solutions. With knowledge of the sources and of

problems areas, a number of steps can then be taken to ensure that FOG does not impact the smooth functioning of the system. A POTW may work towards amending or putting in place a FOG ordinance to be followed in the community, or establish design requirements for grease traps or other structures to prevent FOG from entering the collection system. POTWs should establish an enforcement program to ensure compliance with FOG related policies and ordinances, including an inspection program to ensure that related equipment is working properly. In addition, POTWs may target or prioritize cleaning of the distribution systems based on discharges due to FOG or other root causes. For examples of controls, local limits, and/or pollution prevention measures, see "Where can I get more information?" below).

How can CMOM help control FSE FOG discharges?

EPA expects that blockages from FOG discharges will decrease as POTWs incorporate FOG reduction activities into their Capacity, Management, Operations, and Maintenance (CMOM) program and daily practices. CMOM programs are comprehensive, dynamic, utility specific programs for better managing, operating and maintaining sanitary sewer collection systems, investigating capacity constrained areas of the collection system, and responding to SSOs.

Collection system owners or operators who adopt FOG reduction activities as part of their CMOM program activities are likely to reduce the occurrence of sewer overflows and improve their operations and customer service.

What can FSEs do to control FOG discharges?

Food service establishments can adopt a variety of best management practices or install interceptor/collector devices to control and capture the FOG material before discharge to the POTW collection system. For example, instead of discharging yellow grease to POTWs, food service establishments often accumulate this material for pick up by consolidation service companies for re-sale or re-use in the manufacture of tallow, animal feed supplements, fuels, or other products.

Additionally, food service establishments can install interceptor/collector devices (e.g., grease traps) in order to accumulate grease on-site and prevent it from entering the POTW collection system.

How should FSEs design and maintain their FOG controls?

Proper design, installation, and maintenance procedures are critical for these devices to control and capture the FOG. For example,

- ◆ Interceptor/collector devices must be designed and sized appropriately to allow FOG to cool and separate in a non-turbulent environment.
- ◆ FSE must be diligent in having their interceptor/collector devices serviced at regular intervals.

The required maintenance frequency for interceptor/collector devices depends greatly on the amount of FOG a facility generates as well as any best management practices (BMPs) that the establishment implements to reduce the FOG discharged into its sanitary sewer system.

In many cases, an establishment that implements BMPs will realize financial benefit through a reduction in their required grease interceptor and trap maintenance frequency.

What are some POTWs doing today to control FOG discharges from FSEs?

A growing number of control authorities are using their existing authority (e.g., general pretreatment standards in Part 403 or local authority) to establish and enforce more FOG regulatory controls (e.g., numeric pretreatment limits, best management practices including the use of interceptor/collector devices) for food service establishments to reduce interferences with POTW operations (e.g., blockages from fats, oils, and greases discharges, POTW treatment interference from *Nocardia filamentous* foaming, damage to collection system from hydrogen sulfide generation).

For example, since identifying a 73% non-compliance rate with its grease trap ordinance among restaurants, New York City has instituted a \$1,000-per-day fine for FOG violations.

Likewise, more and more POTWs are addressing FOG discharges by imposing mandatory measures of assorted kinds, including inspections, periodic grease pumping, stiff penalties, and even criminal citations for violators, along with 'strong waste' monthly surcharges added to restaurant sewer bills. Surcharges are reportedly ranging from \$100 to as high as \$700 and

more, the fees being deemed necessary to cover the cost of inspections and upgraded infrastructure. Pretreatment programs are developing and using inspection checklists for both food service establishments and POTW pretreatment inspectors to control FOG discharges. Additionally, EPA identified typical numeric local limits controlling oil and grease in the range of 50 mg/L to 450 mg/L with 100 mg/L as the most commonly reported numeric pretreatment limit.

Where can I get more information?

Report to Congress: Impacts and Controls of CSOs and SSOs, EPA-833-R-04 001, August 2004, http://cfpub.epa.gov/npdes/cso/cpolicy_report2004.cfm

Local Limits Development Guidance, EPA-833-R-04-002A, July 2004, and EPA's Pretreatment Web site, http://cfpub.epa.gov/npdes/home.cfm?program_id=3

CMOM information is located in the following document, Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems, EPA-305-B-05-002, January 2005, http://www.epa.gov/npdes/pubs/cmom_guide_for_collection_systems.pdf

Additional information is also available from your state or EPA Region.