

FOG Overview

A leading cause of sewer blockages across the U.S. is the Fats, Oil, and Grease (FOG) build-up in the sanitary sewers. Usually in conjunction with the tree roots growth and the accumulation of other sediment and debris, grease deposits are responsible for creating bottlenecks in the sewer collection system in the form of partial or complete pipe blockages. The blockages may cause or contribute to sanitary sewer overflows (SSOs) into local waterways and backups into homes and businesses, and thus can cause significant damage to properties and be a risk to public health and the environment. Municipalities experience a direct cost burden for responding to blockages, relieving the blockage, cleaning damage done, or paying regulatory fines and penalties for violating their NPDES Permits because of FOG related problems.

The maintenance costs associated with the blockages are ultimately passed along to sewer rate payers. SSOs and basement backups also present various levels of public health hazards and pollution of the environment. In addition, there are potentially advert impacts from FOG on the performance of the wastewater treatment plants (WWTPs).

State and local regulating agencies include FOG management programs as a key activity in their regulatory toolbox. The City of Tuscaloosa has been implementing grease pollution prevention measures for over five years by requiring large commercial or public kitchens to install and properly maintain grease removal devices (GRDs) in the drain line but a comprehensive FOG program has not been formulated and initiated until 2012.

Selected sections in the City's Municipal Ordinance establish the basic framework for the FOG Management Program. Different sections in Chapter 16, *Municipal Utilities and Services Ordinances*, Article III, *Sewers*, provide the legal authority to require installation and maintenance of grease control devices at commercial establishments, and to inspect the FOG handling practices used by FSEs and to enforce their compliance with the FOG management program. Additional sections in Chapter 1, *General Provisions*, and Chapter 7, Article II, *Business Licenses, Taxes and Regulations*, further regulate the program implementation. (The Ordinance, Sec. 16-40, defines "user" as any person, firm, or corporation, in charge, custody or control of a dwelling unit, establishment and/or premises or an industrial user, which contributes, causes, or permits the contribution or discharge of wastewater into the City's system.)

FOG Management Program

Purpose and Goals

The Fats, Oil, and Grease (FOG) Management Program is a formal program by the City of Tuscaloosa that incorporates applicable guidance, policies, and regulations governing FOG generators and haulers in order to manage grease waste generated by customers that discharge to the City's sanitary sewer system or treatment system.

The primary goal and purpose of the Tuscaloosa FOG Management Program is to prevent grease related pipe blockages and subsequent overflows from happening and thus avoid property damages, environmental problems in nearby surface waters, and public health hazards. By controlling the discharge of FOG to the wastewater collection system, FOG buildup in sewer lines and lift stations will be lessened, thereby increasing the wastewater collection system's operating efficiency and minimizing

system maintenance expenditures. In addition, an effective FOG Management Program will minimize potential revenue losses associated with enforcement FOG related actions.

Another important purpose of the program is to prevent FOG discharges at the City's wastewater treatment plan (WWTP) from containing concentrations of pollutants or pollutant properties that might interfere with the operation of the plant or cause the treatment plant to exceed the NPDES permit effluent limits or cause pass-through of pollutants to the receiving stream or atmosphere.

Goals of the FOG Management Program to reduce FOG related expenditures and protect the environment and the public health will be achieved by:

- Minimizing FOG entering the City's sanitary sewer infrastructure and keeping it in concentrations or rates allowed, and
- Public Education and Outreach

Establishing control over FOG discharges at the City's wastewater treatment plan and keeping discharged FOG in concentrations within allowed limits.

Program Components and Approach

Overall, the FOG Management Program consists of the following components:

- FOG characterization study
- FOG program resources requirements
- FOG related permitting requirements
- FOG recommended practices for FSEs including:
 - Kitchen best management practices (BMPs)
 - Grease removal device (GRD) maintenance
- FOG collecting and disposal proper practices including:
 - GRD cleaning
 - FOG disposal at WWTP
- FOG program implementation including:
 - Public FOG education and outreach
 - Achieving compliance with the FOG program from FSEs, including education and inspection of FSEs and enforcement measures if needed
 - Internal training within the City about FOG program
- FOG program effectiveness measures

While achieving goals of the FOG Management Program is important, it is in the City's best interest to keep residents and businesses affected by the program encouraged and willing to participate. Educating the public about FOG and the consequences of releasing it into the sewers usually makes people change their mindset and helps adopting new kitchen management practices. The program approach emphasizing education and public relations while minimizing enforcement through fines and penalties is thus set to motivate rather than enforce the compliance with program requirements. Every effort has been made to make compliance as easy as possible by providing clear guidelines for implementing kitchen best management practices and by creating easy to follow routine procedures for permitting and maintenance of grease removal devices.