

# **Best Management Practice and Guidance Manual for Food Preparation Establishments**

**Prepared by CT DEP for the control of fats, oils, and grease  
(FOG) discharging to a sanitary sewer system by  
Food Preparation Establishments (FPEs).**

**Issued September 2, 2008**

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## **Introduction**

Best management practices (BMP) are designed to help facilities comply with environmental regulations and prevent pollution. This best management practice contains a set of recommended operating procedures and guidelines designed to reduce the amount of fats, oils, and grease (FOG) discharged to Publicly Owned Treatment Works (POTW) in Connecticut. The development of this BMP is intended to reduce the amount FOG introduced to the sanitary sewer system and protect the public health and environment from the hazards presented by sanitary sewer overflows.

This BMP Guide is a supplement for Food preparation establishments FPEs to aid them in complying with the requirements of the FOG General Permit (*General Permit for the Discharge of Wastewater Associated with Food Preparation Establishments*) issued on September 30, 2005.

## **Background**

Food preparation establishments (FPEs) are Class III or Class IV commercial or publicly owned facilities that prepare and or serve food or beverages for sale or consumption. Food Preparation Establishments are categorized by the CT Public Health Codes as follows:

- Class I – Prepackaged foods and beverages
- Class II – Cold or ready-to-eat processed foods,
- Class III – Exposed foods prepared by hot processes consumed within 4 hours
- Class IV – Exposed foods prepared by hot processes held for 4 hours or more

Through daily activities working with food, all FPEs generate varying amounts of FOG. While FOG is most commonly associated with fried foods, they are generated in significant quantities in all types of commercial food preparation:

- Cooking meats
- Mayonnaise and salad dressings
- Butter, ice cream and other dairy products
- Creams and sauces

## **Statement of Problem**

FOG tends to coat any pots, pans, ware, utensils, and equipment in which it contacts. When these materials are washed, the FOG is rinsed to the sewer. Sanitary sewer systems are neither designed nor equipped to handle FOG. In the sewer, the FOG coats the interior surface of the pipes. Over time, FOG accumulations restrict the flow of wastewater through the sewer. Eventually the FOG can clog the sewer pipes causing the sewage to back up and spill onto the ground or waterways, and to back up into homes or buildings. This is called a sanitary sewer overflow (SSO) and endangers both the public health and the environment.

FOG can also cause interference at the wastewater treatment facility (WWTF). The FOG can negatively impact operations resulting in improper treatment of pollutants. These pollutants that are otherwise removed by the treatment process could be discharged to the river.

## **Fats, Oils, and Grease (FOG) Management Policy**

As a result of the problems associated with the discharge of FOG to sewerage systems, the CT DEP issued a FOG General Permit that requires food preparation establishments discharging to the sanitary sewer system to abide by and implement the best management practices in this document to minimize the amount of FOG entering the sewerage system.

### Statement of Discharge Policy

- All discharges from Class III or IV FPEs must be in accordance with applicable state and local rules and regulations.
- All FPEs shall have a properly sized and operational grease interceptor either as an external (outside the building) grease interceptor or an internal (within the building) automatic grease recovery unit (AGRU).
- Sizing and design of grease traps and interceptors shall meet the criteria set forth in the *General Permit for the Discharge of Wastewater Associated with Food Preparation Establishments* (DEP-Water P&S-GP-001).
- All FOG bearing drains or fixtures shall be plumbed to the interceptor.
- All grease traps/interceptors shall be maintained on a regular basis.

### **Maintenance Practices**

- To minimize introduction of FOG into the sanitary sewer, grease traps and grease interceptors shall be maintained on a regular basis.
- Interior AGRU grease traps shall be maintained in accordance with the manufacturers' recommendations.
- Exterior grease interceptors shall have their entire contents removed and hauled offsite for proper disposal at a minimum frequency of once every three months unless otherwise determined by an authorized agent. These devices must be inspected for proper functionality during each pump out.
- Renderable fat and oil is material that comes directly from the cooking process which is not contaminated with wash water, detergents, chemicals, or other substances that would prevent it from being converted into other products.
- Nonrenderable fat and oil has come in contact with wash water, detergents, chemicals, or other substances preventing it from being recycled into other products. In Connecticut, nonrenderable fat and oil is separated from the wastewater and can be used as an alternative source of fuel to burn sewage sludge.

### **Kitchen Practices**

Maintenance costs and disposal costs will be minimized if the FPEs strictly control the discharge of grease and solids to the grease interceptor. By reducing the amount of these substances discharged, a food preparation establishment may be able to reduce the cost associated with a greater than quarterly pump out frequency. This will also lead to decreased plumbing maintenance cost.

For Renderable Grease:

- Fryer oil (yellow grease) must not be disposed of through the sanitary sewer. Yellow grease has re-use value and should be placed in a secured tank. Contract with a rendering service to haul the renderable grease offsite for beneficial re-use.
- Skim/filter fryer grease daily and change oil when necessary.
- Use a test kit provided by your grocery distributor to determine when to change the oil in fryers. This extends the life of both the fryer and the oil. Build-up of carbon deposits on the bottom of the fryer acts as an insulator that forces the fryer to heat longer, thus causing the oil to break down sooner.
- Develop a rotation system if multiple fryers are in use. Designate a single fryer for products that are particularly high in deposits, and change more often.

For Nonrenderable Grease:

- Reduce the amount of food particles washed down the drain. Food particles take up volume in the grease interceptor, resulting in increased pump out frequency.
- Do not use grinders or garbage disposal units. Remove any grinders or garbage disposals currently installed. Ground food takes up volume in the grease interceptor, resulting in increased pump out frequency.
- Use rubber scrapers and paper towels to wipe off grease from pots, pans and ware into garbage cans before washing.
- Clean up all grease spills with paper towels and dispose of in the garbage.
- Do not flush straws, disposable gloves, paper, towels, or any other inappropriate materials down the drain.

**Documentation of Maintenance**

- For every grease interceptor/trap pump out event, a pump out report must be maintained.
- The FOG General Permit requires all records of pump outs or interceptor maintenance to be maintained on site and available for authorized agent inspection for a period of five (5) years at the subject facility.
- Grease collected from an internal Automatic Grease Recovery Unit (AGRU) shall be picked up for final disposal by a contractor and brought to a regional collection facility. Do not flush collected grease down the toilet nor freeze the grease and throw away with your trash. Both of these methods of disposal are illegal.

## Training

- Train all kitchen staff in these best management practices and the environmental impacts of grease in the sewer system.
- Post Best Management Practices signs in kitchens and near sinks.
- Place yellow grease re-use bins in easy access areas for staff. Follow up to ensure staff properly disposes of grease.
- Provide constant re-enforcement on proper disposal of FOG with staff.

## Interceptor Additives

The FOG General Permit states that the FPE "may use hot water, steam, chemicals, or biological additives in the normal course of facility maintenance, but may not intentionally use hot water, steam, physical means, chemicals or biological additives that will cause the release of fats, oils and grease from the grease trap/interceptor". The interpretation of this permit condition by the DEP is as follows:

- The key words in this permit condition are "facility maintenance". The facility is the entire FPE facility, not just the grease trap/interceptor. Therefore, in the course of maintaining the facility, the FPE may use, for example, hot water or steam or chemicals or biological additives to clean a meat room, wash down an area, or even to reestablish flow in a grease trap line prior to a grease trap.
- An FPE, however, may not utilize hot water, steam, chemicals or biological additives by applying them directly into a grease trap/interceptor that is operating to intentionally release the collected grease into the sewer to save disposal costs. Nor may an FPE or a vendor/supplier of the FPE utilize hot water, steam, chemicals or biological additives in any equipment or areas upstream of the grease trap/interceptor that would cause release of and/or degrade the grease from an operating grease trap/interceptor.
- When the grease trap/interceptor has been removed from service for maintenance and when no discharges are going into the grease trap/interceptor and any accumulated grease, water and food particles have been removed for proper disposal, the FPE may utilize hot water, steam, chemicals or biological additives for final cleaning of the grease trap/interceptor prior to putting the unit back into service
- The use of hot water, steam, chemicals or biological additives that are added to saponify, emulsify or biodegrade the FOG within the grease trap/interceptor are not permitted. In addition, manufacturers of AGRUs would void the warranty if any additives are used during the operation of the AGRU.

## Guidance for Working with Grease Hauling Companies

- Grease trap/interceptor cleaners may be found in the phone book under Septic Tank Cleaning.
- Work closely with your hauling company to make sure your interceptor is serviced at the proper frequency and all required paperwork is completed properly and promptly and maintained at the facility.

- Be sure your hauler leaves a copy of each pump out report and any other interceptor maintenance documentation.
- Reduced pumping of your outdoor passive trap may be permitted by the Authorized Agent if after one year of pumping quarterly demonstrates that the pumpings are much lower in grease and/or food waste per given load.
- Ask your hauler where/how grease interceptor contents are permitted to be disposed of. For disposal in Connecticut, the contents of all grease trap/interceptors, AGRUs and other approved units shall be disposed of at a regional collection/transfer/disposal site. For disposal outside of Connecticut, the contents of all grease trap/interceptors, AGRUs and other approved units shall be disposed of in an environmentally accepted manner.

### **Conclusion**

Food preparation establishments can have a significant impact on the environment. Through the use of a properly sized and functioning interceptor, suitable kitchen practices and regular maintenance of the interceptor, FPEs can reduce the amount of FOG discharged to the sanitary sewer system in addition to providing a beneficial reuse of FOG in the incineration of sewage sludge in Connecticut.

By following the practices in this document, food preparation establishments will be helping to reduce sanitary sewer overflows and protect our community's health and environment as well as reducing plumbing maintenance cost associated with the discharge of FOG.

### **Contact Personnel is the Authorized Agent:**

The local Water Pollution Control Authority (WPCA) is listed in the Blue Pages of the phone book and is the authorized agent. Food preparation establishments should contact the WPCA for any questions they have regarding the FOG General Permit.