Western Monmouth Utilities Authority

Best Management Practice and Guidance Manual for Food Service Establishments

Prepared by the WMUA for the control of fats, oils and grease (FOG) discharged to the sanitary collection system by Food Service Establishments (FSE)

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Introduction

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

As part of the Federal Clean Water Act, a National Pretreatment Regulation (40CFR 403) was established to protect POTWs and the waterways in which they discharge. The United States Environmental Protection Agency (EPA) has delegated this responsibility in the State of New Jersey to the Department of Environmental Protection (NJDEP). Under the New Jersey Pollution Discharge Elimination System (NJPDES) regulations, NJDEP has delegated this responsibility to the WMUA within its service area under a NJPDES Surface Water Discharge Permit. It is the responsibility of the WMUA to control non-residential discharges to the POTW.

Through these regulations, food service establishments (FSE) and commercial kitchens are required to follow the guidelines and operating procedures delineated in this document.

Background

FSEs are commercial facilities that prepare and/or serve food or beverages for sale or consumption on the premises. Through daily activities of working with food, all FSEs generate varying amounts of FOG. While fats, oils and grease are most commonly associated with fried foods, they are generated in significant quantities in all types of commercial food preparation such as:

- Cooking meats
- Mayonnaise and salad dressing
- 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 items are washed, the FOG is rinsed to the sewer. Sanitary sewer systems are neither designed nor equipped to handle FOG. Once in the sewer, FOG coats the interior surfaces of the pipes. Over time, Fog accumulations restrict the flow of wastewater through the system. Eventually, a blockage can occur and cause sewage to back up and spill onto the ground, into waterways,
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 of the operation of both pumping stations associated with the collection system as well as at the POTW itself. Here, the FOG can negatively impact the treatment process resulting in the potential improper treatment of pollutants. These pollutants that would otherwise be removed by the treatment process could be discharged to the receiving waters.

**WMUA Policy**

Discharges of fats, oils, and grease present a potential problem to the proper conveyance and treatment of wastewater. The Western Monmouth Utilities Authority, as the control authority, is required to regulate discharges from food service establishments. It is the policy of the WMUA to require FSEs discharging wastewater to the sanitary sewer system to abide by this policy and implement the Best Management Practices in this document to minimize the amount of FOG entering the collection system and POTW.

**Statement of Discharge Policy**

1. All discharges from FSEs must be in compliance with applicable Federal, State, and/or local rules and regulations.
2. All FSEs, unless otherwise determined by the WMUA, must have a properly sized and operational grease interceptor (external device) or grease trap (“under the sink” fixture).
3. Type, sizing and design of grease traps/interceptors must meet the criteria set forth in the applicable State and local building codes and must be approved by the applicable local construction inspection department and the WMUA if determined necessary by the Authority Engineer.
4. All Fog bearing drain lines must be plumbed to the interceptor.
5. All interceptors and traps must be maintained on a regular basis.

**Suggested Maintenance Practices**

To prevent the introduction of FOG to the WMUA collection system, grease interceptors/traps should be maintained on a regular basis. Suggested frequency:

- **Interceptor (750 gallon capacity or over):** A minimum of every 90 days or more often if grease or solids levels reach 25% of the tank volume.
- **Intermediate (50 gallons to 750 gallons):** Every 30 days.
- **Trap (less than 50 gallons):** Every 15 days.
The devices should be inspected for proper operation and integrity including any associated baffles during each service event.

**Kitchen Practices**

By reducing the amount of FOG and other solid material discharged to the sewer, a FSE may be able to reduce the cost associated with a greater than quarterly pump out frequency. This can also lead to decreased plumbing maintenance costs.

- Fryer oil (yellow grease) must not be disposed of through the sanitary sewer. Yellow grease has a reuse value and should be placed in a secure tank. A rendering service should be utilized to haul this material off site for beneficial reuse.
- Reduce the amount of food particles washed down the drain. Food particles take up volume in the grease control device resulting in an increase in service requirements.
- Do not use grinders or garbage disposal units as this material also takes up volume in the grease control unit.
- Use rubber scrapers and paper towels to wipe off grease from pots, pans and ware into the garbage prior to washing.
- Clean up grease spills with paper towels and dispose of in the garbage.
- Do not allow straws disposable gloves, paper, towels, or any other inappropriate material to go down a drain.
- Skim/filter fryer grease daily and change oil when necessary. This extends the life of both the oil and the fryer. Build-up of carbon deposits on the bottom of the fryer acts as an insulator that forces the fryer to heat longer causing the oil to break down sooner.
- Develop a rotation system if multiple fryers are in use. If possible, designate a single fryer for products that cause particularly heavy deposits and change the oil in that unit more frequently.

**Documentation**

The WMUA requires that all records of services performed on grease control devices be kept on site and available for inspection for a minimum of 3 years.

**Training**

Suggested training activities include but are not limited to the following:

- Train all necessary staff in these Best Management Practices and the environmental impacts of FOG in the sewer system.
- Place yellow grease reuse containers in convenient access areas for use by the staff.
• Provide frequent reinforcement of the proper disposal practices regarding FOG with the staff.

Interceptor Additives

Many vendors service grease interceptors with chemicals or micro-organisms to remove FOG material. Known additives are:

• Emulsifiers, detergents or caustic (high pH) substances – these chemicals act to break up the grease and allow it to pass through the control device and enter the sewer system where it can reform and cause a blockage. These substances obviously reduce the efficiency of the grease control device and should absolutely not be used as an additive.
• Enzymes – have the same effect as the previously listed substances and also should not be used as additives.
• Micro-organisms – typically cultured bacteria added to the interceptor. Ideally, these bacteria will “digest” the FOG converting it to innocuous substances. These can be used as an additive; however, since the bacteria need an environment with specific requirements to proliferate, the effectiveness of these organisms in the environment of an interceptor is questionable. The use of these organisms does not replace the need for regular service of a grease control unit.

Guidance for Working with Grease Hauling Companies

• Work closely with your hauling company to make sure your interceptor is serviced at the proper frequency.
• Ensure the required records are completed and the hauler leaves a copy of the pump out report and any other interceptor maintenance documents.
• Retain documents as per requirements.
• Review your reports to gauge accumulations of FOG and other solids. If the amounts are nearing or exceeding 25% of tank volume, review kitchen practices to find areas where improvements can be made in managing this material. If a report indicates a need for repair of grease control unit or interceptor, have it repaired by a qualified technician immediately.
• Ensure your hauler is disposing of the interceptor contents properly in an appropriate facility.
Conclusion

Food service establishments can have a significant impact on the environment. Through the use of a properly sized and functioning interceptor or trap, suitable kitchen operational practices and regular maintenance of FOG control equipment, FSEs can reduce the amount of fats, oils and greases discharged to the public sanitary sewer system and POTW.

By following the BMPs in this document, FSEs will be helping to reduce sanitary sewer overflows and protect the community’s health, protect the environment and reduce the cost to both the FSE and the Authority of plumbing and sewer maintenance cost associated with the excessive discharge fats, oils and grease.

Contact Information

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