Developing and Executing FOG Stakeholder Education and Training Programs

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Summary

- Overview of the Washington Suburban Sanitary Commission (WSSC) and the various FOG program stakeholders within its jurisdiction.
- Summary of the objectives of WSSC’s FOG Program for compliance by Food Service Establishments (FSEs) including these institutions.
- Interactive programs utilized between the entities.
- Conclusions and recommendations for any utility
Important note about this presentation

- The manufacturers, contractors, suppliers or any other vendors or commercial entities seen in this presentation are for illustrative purposes only and are not to be interpreted as recommended, allowable or otherwise approved equipment or vendor by the FOG Unit of WSSC.
Any unpermitted spill, release, or discharge from the Collection System (overflowing manholes, pumping stations, stream crossings, etc...)
WSSC Water/Sewer Service Area

- FREDERICK COUNTY
- HOWARD COUNTY
- MONTGOMERY COUNTY
- PRINCE GEORGE'S COUNTY
- CHARLES COUNTY

- Fredericksburg
- Damascus
- Silver Spring
- Potomac River
- Patuxent River
- Patuxent WFP
- Potomac WFP
- Laurel
- Accokeek
- Landover

**WSSC Water/Sewer Service Area**

**Not Served by WSSC**

*NOTE: The WSSC service area does not include parts of Rockville and Bowie that are serviced by those jurisdictions.*

**Water Filtration Plant**
NOTE: WSSC regulates/controls FOG and Plumbing Codes

THIS OFFERS AN ADVANTAGE OVER MANY TYPES OF FOG PROGRAMS
WSSC FOG Program “by the numbers”

- 6500 FSEs registered with region health departments;
- 4500 active FOG regulated FSEs in a 1000 square mile area;
- About 6000 total inspections per year;
- 560 FSEs per Investigator with staff of
  - 8 FOG Investigators
  - >2000 outdoor “interceptors”
- 33 licensed “grease” haulers
- 1 grease dumping site within the WSSC service district (WSSD)
WSSC FOG Program history

- 1990’s - 2005
  - WSSC had an active FOG Program with various procedures
- 2005 Federal/State Consent Decree regarding SSO attention and prevention; Article 3 – FOG Program addressed
- May 2007: An updated formal FOG Program began with several mandated parameters:
  - Update database with new or out of business FSEs
  - Proposed and adopted WSSC Code changes to better define formal FOG Program basics
  - Within 5 years, complete an initial inspection of all known FSEs; majority of systems were in non-compliance with permit/Code (9107 sites)
  - Scheduling and witnessing pump-downs at volume-based (outdoor) units
  - Prepared and issued all FSE Discharge Permits
- Presently (2013): entering the second phase of the “Modified FOG Program” with several ‘enhancements’ planned.
FOG UNIT ROLES AND RESPONSIBILITIES

• “INITIAL” INSPECTIONS
• “FOLLOW-UP” INSPECTIONS
• WITNESSING PUMP-DOWNS (OF INTERCEPTORS)
• ISSUING ENFORCEMENT ACTIONS/MAINTENANCE DIRECTIVES
• FOLLOWING UP ON ENFORCEMENT ACTIONS
• RECORDKEEPING AND INPUT
• TARGETED PLUMBING INSPECTIONS
• FSE INQUIRIES
• OVER 4500 FSEs REQUIRING AT LEAST AN ANNUAL INSPECTION IN 2012-2013
FOG Unit Goals and Objectives

WSSC’s plan to effectively balance the needs of the customers, regulators, mandates, environmental groups, and FSE organizations:

- Education
- Enforcement response plan
- Experienced staff
WSSC: Regulatory Services
Group Functions

- **Inspection Services**: performs plumbing and gas-fitting inspections
- **Licensing and Inspection Support**: Issue licenses to plumbers and schedules plumbing inspections
- **Plans Review**: reviews plumbing plans for commercial and residential work
- **Industrial Discharge Control**: regulates the discharge of wastewater to the sanitary sewer from industrial sources (Industrial Pretreatment Program) and waste haulers
- **FOG**: regulates the discharge of FOG-laden wastewater from **Food Service Establishments (FSEs)** to the sanitary sewer; investigates many FOG-related “incidents”.
Background-any program
What is your scope?

- SSO prevention
- Building back-up prevention
- Reducing collection system (piping) maintenance
- Sewage pumping station accumulations
- WWTP treatment issues
- Consent Decree or other mandate
- Tapping possible ‘new’ recycling source
Preliminary step
Who is your problem child?

Residential or Commercial
Of the "residential’s"

Multi-family Units (MFUs) or

Single family homes/townhomes
FOG “Stakeholders”
commercial source control

- FOOD SERVICE ESTABLISHMENTS
- PLUMBERS
- WASTE DISPOSAL / HAULERS
- HARDWARE / CHEMICAL VENDORS
- FOG PROGRAM STAFF
- EPA / STATE REGULATORS

Washington Suburban Sanitary Commission
• Training can consist of:
  – “Prepackaged” written materials
  – FOG Inspector interaction with manager on-duty
  – Website references
  – Site training (can be time consuming)
  – Group training (per area restaurant chain or mall/large property)
Plumbers (and plumbing inspectors)

- Do you have a Master Plumber on staff or one “on retainer”
- Practical vs. theoretical grease abatement systems
- “How to’s”
- Tips
- Vents, tailpieces, flows, piping, slope
FLOW BASED (usually indoor)
INTERCEPTORS NEED TO MEET UTILITY SPECIFICATIONS

NOTE:
NOT AN ACCEPTABLE ARRANGEMENT FOR ½" TAILPIECES

NOTES:
- INSTALL FLOW CONTROL FITTING PER MANUFACTURERS INSTRUCTIONS. FLOW CONTROL FITTINGS MUST BE ACCESSIBLE.
- STRAINER(S) REQUIRED PER CODE. (FIXTURES WITH ½" TAILPIECES MUST HAVE STRAINER BEFORE TAILPIECE.)
- MECHANICAL FLOW BASED UNITS MAY NOT BE RECESSED IN FLOOR UNLESS APPROVED BY WSSC CODE OFFICAL.
- TRAP REQUIRED FOR TAILPIECES OVER 4’ IN LENGTH.
Q&A #5

• Proceptor interceptor, how and what details do we need when it is inside the building?

• As with any interceptor it must accessible for pumping and routine maintenance, if you feel it does not meet this requirement send them back to Plans Review, in most cases this will or should have been addressed during the review. Please clearly identify your concerns on the Plumbers Copy of the plan (IN RED INK). We will identify some of the special requirements for interceptors of this type when installed outdoors in traffic or load bearing areas.
SCENARIO 12
Hardware/bio/chem vendors
“Things” to go over

• ADDITIVES
  – Your Code or Guideline language
  – “Keep your distance” about ‘approvals’
  – Minimum submittals:
    • MSDS
    • Line Card
    • Container label
    • Co. website
Claims vary but have a common theme
“Things” to go over

- **EQUIPMENT**
  - Known Code language
    - Sizing
  - Installation is critical
    - Importance of ‘flow control devices’
  - Importance of Operation and Maintenance (O&M) manuals and data plates
  - Potential for ‘waivers’, ‘variances’
  - Cleaning
    - Odors
Waste haulers

- Haulers have the potential to be your eyes and ears out in the utility’s service area.
- If a “hauler’s association” exists, they are a good resource to set up a training program.
Federal/State/Local Regulators

- E.P.A. (regional) and State representatives may be interested in being informed about training/education opportunities or progress

- Local regulators or associated gov’t organizations, such as health departments or plumbing code officials, should be involved at some level
• Opportunities usually exist to train and also for them to ‘train’ others
  – State or Region sponsored collection system, plumbing or specific FOG training
  – Environmental, food service, apartment/property manager expos
  – Be a “FOG Googler”
Other idea for staff(s)

• Is it a worthwhile effort to create an “independent” organization available to all of the stakeholders in FOG production, regulation, recycling and disposal within an area for the purposes of education, training, and networking both internally and with the general public.
Benefits to a utility
(paraphrasing WSSC objectives)

- **DEVELOPING PEOPLE**
  - Not only from within ("one stop shop" resource of information), but also our peers within the regulatory industry, the FSEs, and the ‘FOG professionals.’

- **CARING FOR CUSTOMERS**
  - Allowing the FSEs access to a navigable internet forum and ability to interact. Providing information “across borders” to what does and doesn’t work in public education.

- **STRENGTHENING COMMUNICATIONS AND COMMUNITY RELATIONSHIPS**
  - We get to promote our mission in a forum shared by organizations with common goals.

- **PRACTICING ENVIRONMENTAL STEWARDSHIP**
  - A classic win-win; we should reap success with what we sew to get this Alliance underway.
SECONDARY BENEFITS

- Possible State reg. / EPA participation allows ‘mutual understanding relationships’ to develop
  - Potential for a conduit to State/Federal grants to help programs or FSEs comply.
- Potential for private industry sponsorships
  - “controlled” advertising
- Formal training / workshops hosted by members with presentations by members.

EXAMPLE DRAFT MISSION STATEMENT

The purpose of MAFA Is to maintain a coalition of stakeholders among wastewater professionals, regulatory agencies, restaurant owners and/or associations, and related industry representatives that strives to prevent, reduce and mitigate grease related sanitary sewer blockages and overflows (SSOs) in wastewater collection systems.
Program options and steps

- The Basics
- Intermediate
- Advanced
The education breakdown

• Basics
  – Needs to be part of any program
  – Residential vs. commercial customizing

• Intermediate
  – Requires a commitment by FOG ‘managers’
  – Be ready to start small but think big
  – Temper your expectations

• Advanced
  – Dedicated budget and personnel to execute
  – May include independent contractors such as video production
Example Presentations
Major educational institutions within the WSSD

- Montgomery County Public Schools (MCPS)
  - 146,500 students
  - 200 schools
  - $2.1B operating budget
- Prince Georges County Public Schools (PGCPs)
  - 125,000 students
  - 205 schools
  - $1.6B operating budget
- University of Maryland (UM)
  - Undergraduate population of 30,000; 40 individual FSEs
- Other-smaller community and four year colleges
First Challenge

• Training and Education

– FOG control must be tied with environmental stewardship
– The FOG pollution prevention strategies must become “second nature”
WSSC Communication Program

- The Office of Communications and Community Relations handles much of the public education/awareness programs for FOG control.
- They have made dozens of presentations and distributed scores of educational materials to various organizations.
In addition, the FOG Unit strives to provide educational materials to Food Service Establishments (FSE’s) recognizing the diversity of these businesses.

Every FSE receives an information package and program summary by their Investigator at the initial inspection.
Exposition presentations

- Restaurant Association, County Fairs, Environmental Stewardship Program and School System gatherings provide an outreach opportunity.
Enforcement
FOG Management follows the “cradle to grave” environmental mentality of various E.P.A. Laws
FSE Discharge Permits

Section I. General Conditions
– Contains Necessary Legal Language

Section II. Special Conditions
– Grease Abatement System Management, Operations, and Maintenance
– Best Management Practices (simple kitchen practices that minimize the amount of FOG going to the drain.)
Permit Process

- Overseen by Permitting Agent in the main FOG office
- Issued to all known FSE’s from a Health Department database
- Two types of permit:
  - FULL (requires grease abatement device(s))
  - BMP-Best Management practices
Random and Routine Inspections

- We are usually able to gain access to most grease interceptors during our normal working hours.
- “Off hour” checks are scheduled as necessary.
- Investigators can usually gauge the “pollution” level in any interceptor just by sight.
- The 25% Rule is the Code standard
“Initial” inspection early strategy (2007-2009)

• Complete the “obviously” exempt and truly “FOGgy” FSEs first; keep up with the annual changing inventory; save the schools, churches and small dairy-related ice cream and coffee shops until later in program.

• School inspections began in late 2009 with University of Maryland and Prince Georges County Public Schools

• Montgomery County Public Schools’ initial inspections followed in early 2010.
WSSC Enforcement program: “Progressive Discipline”

• The object of documenting poor performance is to execute guidelines and initiatives for improvement.
• Usual “first response” is a Notice of Violation (NOV) and/or a Compliance Directive.
• Senior Investigators are also authorized to issue Civil Citations if a violation continues or is severe.
 Plans were to look at the **middle schools** as full permit FSEs; the **high schools** as full permit FSEs that includes any and all food technology program classrooms and **elementary schools (ES’s)** as “satellite” facilities who may qualify for a BMP permit if they do not cook and have specific but limited clean-up procedures.

- This was anticipated to be consistent with planned practices in both Counties.
  - However PGCPS prepared meals at ES’s too.
School System and an NOV

- High potential for it to cause “heartburn” and anxiety for school officials at various levels
Where “it” started…2010

“Routine” initial inspection found several plumbing/grease abatement deficiencies within kitchen/cafeteria area.

• Floor drains not connected to interceptor system as well as a few sinks.
• Would require major expenditures to change capture/drainage options.
• Met with MCPS Capital Programs Engineer on-site over costs.
  – Unfamiliarity with program and its depth
• Tentative plan: agree to disagree; meet with key officials for an overview.
FOG Program Expectations

Montgomery County Public School Compliance

June 18, 2010
MCPS representatives

- Department of Facilities Management
  - Division of Construction
    - Design Team
    - Capital Budget team
  - Division of Maintenance
    - Environmental Services
  - Division of School Plant Operations
    - Plant Operations Group
  - Division of Food and Nutrition Services
    - Director’s office
  - Division of Long-Range Planning
  - School Energy and Recycling Team (SERT)
  - Energy and Utilities Team
"LEED" national program certified personnel
General objectives of the coordination process

• Provided an overview of the general WSSC FOG program.
• Provided specific duties and procedures of the FOG program staff.
• Provided a summary of the most common challenges for businesses subject to FOG program requirements.
• Established a preliminary plan for communication and implementation methods that MCPS could pursue with WSSC.
KEY POINT

• We tied it to GREEN
“SERT” and “LEED”
Recognizing “Common Ground” between W/S utilities and school systems

- We think green
- We’ve experienced environmental mandates
- We operate on a fiscal year plan basis
- We have a separate capital program
- We usually have separate operations, maintenance groups
- We have other similar support groups
Results of “introductory” meeting

- Communication network set-up
- Regular progress meetings
- Coordinated inspections
- Mutual understanding of needs
- System-wide training opportunities in several areas
- Assistance with planning a compliance program
- Execution of a systematic compliance work.
- $5M set aside by 2012
MCPS system-wide information exchange and training

- Division of Food and Nutrition Services
  - Cafeteria managers
- Division of Plant Operations
  - Janitorial services
  - Environmental services
- Division of Engineering
  - Capital projects
- Family Consumer Science
  - Curriculum Committee
Pursuing other ideas: getting FOG education to the classroom

- Finding the right contacts
- Preparing and participating in planning meetings
- One on one’s with teachers
- Coordinating with WSSC’s Office of Communications

[Link](http://www.wsscwater.com/home/jsp/content/sewerscience.faces)
Sewer Science Program

The Sewer Science program provides high school students the opportunity to learn what it takes to be a wastewater treatment plant operator. In a simulated laboratory, students gain hands-on experience by creating and treating their own wastewater treatment plant. Originally developed by the City of Palo Alto, California, the Sewer Science program is designed to give students a snapshot of a wastewater treatment plant operator’s day. In addition, the program incorporates the importance of math and science within today’s careers. Sewer Science classes are held at an actual wastewater treatment plant, taught by WSSC wastewater treatment operators, and concludes with a tour of the plant.

This action-packed, information-filled program is very popular among high schools throughout WSSC’s service area. Each fall and spring, WSSC conducts a lottery to select an equal number of high schools from Montgomery and Prince George’s counties to participate.

For more information, contact Angela Ballard-Landers at 301-206-8204.

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“Standard 4: Food and Nutrition Concerns of Individuals, Families and Society:"

• Grade 8
  – Students will select, store and prepare foods for optimal health and nutrition.
    a) Establish safety and sanitation practices including: (VSC Science: Safety Procedures)
      ● The prevention of food-borne illnesses
      ● Personal hygiene/health procedures. (FCSNS 9.2.5)
      ● Storage of raw and prepared foods
      ● Food product dating
      ● Waste disposal and recycling
"The Old College Try"

IT'S 50% OF YOUR GRADE...
SO GIVE IT THE OLD COLLEGE TRY!

DIYLOL.COM
University of Maryland Awards

• 1 of 18 universities on Princeton Review’s 2011 Green College Honor Roll.
• Campus Sustainability Leader: College Sustainability Report Card program
• 2009 America’s Greenest Campus Award
• 2011 Leadership Award: Maryland Green Registry
FOG Program Expectations

University of Maryland Dining Services Orientation Training

August 22, 2011

WAYNE H. LUDWIG, JR.  WSSC FOG UNIT COORDINATOR
UM Dining Services
Training/Info Exchange

• Provided access to both shifts of UM employees involved in the day to day operations/maintenance at the on-campus FSEs.

• FOG Program purpose, procedures and practices conveyed to all.

• Able to tie in applicability to “grease abatement” at home.
Green Dining
Dining Services is committed to environmental stewardship. Our approach is a comprehensive and ongoing process guided by campus and community experts. Our goal is to help ensure that resources used for today’s needs remain available for future generations while meeting our current guests’ needs in a cost effective and responsible manner.

Dining Hall Initiatives
Waste Reduction
Waste Recycling
Purchasing
Salvage and Reuse
Public Information/Education
Energy and Water Conservation
Building Design and Project Standards
Outdoor Environment
Into the Future
UMCP campus

• “Initial Inspections” were to be performed at any and all qualifying FSEs on the UMCP campus before June 2012.

• This was consistent with planned practices in both Counties.
BMP’s

- Train all kitchen staff in Best Management Practices for grease disposal and the impacts of grease accumulation in the sewer.
- Provide regular refresher training/discussion for proper disposal of fats, oils, and grease for all employees.
• Communication process took some time to develop.
• Once commitment was made, progress accelerated to the levels of the other school systems rather quickly.
Engineering/Operations Coordination

- Tours were set up of “typical” school cafeteria “footprints”
- WSSC Sr. Investigator (certified 25 year Master Plumber) was made available for advice, suggestions, ideas-without committing to a final plan.
- School system plumbers/contractors also on tour.
PGCPS Coordination

- All plans for complying with WSSC directives in a Notice of Violation (NOV) are reviewed and approved by the FOG Unit itself.
- Today, PGCPS is on a path to compliance with initial major work beginning in late 2012.
Regulator perspective:

• The FOG hauling industry is generally both business and environmentally oriented.
Regulator perspective:

• The business goal is to get from Point A (pickup) to Point B (discharge) in the least amount of time, at the least amount of expense, and emptying the vehicle in the safest and fastest manner without undue delay to get to Point C (new pickup) to start the process over again.
Regulator perspective:

Assure each law, regulation, rule, procedure or permit has a basis for implementation and be ready to communicate the reasoning.
Regulator perspective:

- Sometimes, you need to speak the non-technical language to get your point across.
Regulator perspective:

- The FOG hauling industry comprises of a very diverse group of personalities and agendas.
Regulator perspective:

• FOG-related materials are usually readily biodegradable and re-use, alternate use “disposal” methods should be explored.
Regulator perspective:

• The FOG hauling industry should understand the nature of their waste material
Regulator perspective:

- Although being aware of the FOG haulers “bottom line”, environmental regulations, checks and balances are critical
Regulator perspective:

- FOG Hauler vehicles usually need inspections/requirements beyond DOT; usually Health Department based
Regulator perspective:

- Understand driver’s and other first line personnel’s priorities and agendas
Regulator perspective:

- Always anticipate feedback (sometime “push back”) when adopting new or more stringent regulations. Allow “stakeholder” input.
Regulator perspective:

• Try to assure the FOG regulatory program is communicated with all types of hauler businesses and their employees from top to bottom.
Regulator perspective:

FOG haulers are a diverse group of businesses ranging in size, capital, equipment and trained personnel
Regulator perspective:

• Appreciate and respect the service provided
Presentations, training, inspections: Green pathway to “cooperative” compliance
Every presentation ended with “homework” problems

NO HOME COOKIN DOWN THE DRAIN

EDUCATE THE FAMILY

CAN THE GREASE !!!

PREVENT SEWAGE OVERFLOWS
Conclusions

- After WSSC presentations/interaction, since 2010 over 750 FSE ‘groups’ including all public school systems within the jurisdiction, a major retail center known as “National Harbor”, both County Governments committed to compliance without the need for additional enforcement actions of Civil Citations, Administrative or Consent Orders.

- In addition, presentations proved productive for both County Health Departments, the regional Master Plumbers Association, internal staff at WSSC and two major hauling companies.

- Communication and education efforts are key
  - Tying the message to modern-day green programs can help bolster enforcement activities without the need for “heavy” penalties.
Recommendations/comments

• An overall FOG stakeholder education program requires the following (in no particular order):
  – Committed, available FOG Program staff to produce and convey the message.
  – An open-minded, flexible regulated ‘community.’
  – A thorough understanding of the common ground found in both organizations as well as the nuances of the business practices for either side.

• Communicating directly to the ‘field’ personnel assures the message hits home both literally and figuratively.
Thank you!
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