San Francisco’s “SFGreasecycle”: How to Start a Successful FOG Program

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SFPUC Wastewater Enterprise, Source Control Program
Defining the Problem: The cost of Fats, Oil and Grease (FOG) still in sewers

FOG in S.F. Manholes and Sewer Mains

Beach & Embarcadero

California & Montgomery
Challenge: SF Regulatory Landscape

- Styrofoam Ban
- Plastic Bag Ban
- Health Care Requirement
- Noise Enforcement Program
- Nutrition Labeling Requirement
- Trans-fat Ban
- Outdoor Seating Restrictions
- Healthy Food Initiatives Ordinance
- Sick Pay Requirement

(San Francisco also prohibits kerchoo powders, stink balls, and elephants off leash)
Challenge: Political Sensitivity

San Francisco’s a world-class restaurant town

…with an ex-restaurant owner as Mayor, at the time
Program Strategies (Sources of Grease)

- Household kitchens
- Restaurant used cooking oil
- Restaurant grease traps
EVERY DROP COUNTS
Put USED COOKING OIL in its place.

How to handle used fryer oil
Quen hacer con el aceite de las freidoras

1. Filter oil from fryer
2. Filter the aceta
3. Keep out food particles
4. No particular de comida
5. No trash
6. No basura

Enjoy the benefits of fresh oil:
- No aceta contaminado
- No right
- No water
- No motor oil
- No trash
- No basura

Every drop counts!
Para el cuidado de la salud

Every drop counts!
For drop-off info, visit SFGreasecycle.org

How to store used vegetable oil
Cómo almacenar el aceite vegetal usado

1. Secure lid with ring
2. Keep area clean, free from oil drip
3. Maintain the area

Enjoy the benefits of fresh oil:
- No aceta contaminado
- No right
- No water
- No motor oil
- No trash
- No basura

Every drop counts!
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In this
End of year period, give the city government a big gift:
You used oil.

In the San Francisco Public Utilities Commission’s ‘San Francisco Greasecycle’ program (SF Greasecycle), we will turn it into biofuel.

End of year period
End of year
Give gifts to the city government
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Solution (Household Drop-offs)
Solution (Restaurant used cooking oil )
Solution (Targeting “Hot Spots”)
Technology developments and enterprising water agencies are solving environmental and energy issues by using the scrapings at the bottom of the grease trap barrel. Here’s how:

1. COLLECTION

Most, if not all, grease and food scrapings from dirty dishes and pots from commercial kitchens are captured in a grease trap. Instead of flowing straight from a restaurant’s sink drain down into the sewer pipes, brown grease is collected (restaurants pay $ for this service) and hauled to a wastewater treatment plant (haulers then pay $ for disposal).

2. CONVERSION

At the plant, the patent-pending conversion process occurs, refining brown grease and creating three kinds of biofuel:

1. High-grade, road-worthy certified biodiesel for vehicles;
2. Lower grade boiler fuel for running sewage treatment plant equipment; and
3. Electricity converted from methane to run the treatment plant
3. DIVERSION

Unlike cooking oil from deep fryers, which can easily be processed and recycled, trap grease is so rancid that it is considered a pollutant. It has typically been sent to an incinerator or landfill. Today’s technology enables this waste to be converted into alternative energy.

4. CONSERVATION & MARKET CREATION

Sewer maintenance, including repairs when brown grease clogs sewer pipes, costs municipalities millions of dollars annually. By being the raw material for biofuel, “brown grease” becomes a commodity. It assumes market value and less gets dumped down the drain, minimizing costs for sewer maintenance and repair.

In the end, every drop, every scrap is used to produce energy, leaving nothing wasted.
Existing FOG Source Control Program

- Wastewater Inspector visits (Began in 2004)
- FOG Best Management Practices taught
- Education and Handouts
- Not focused on grease capturing equipment
STEP 1: Address Restaurant Concerns

What will I be required to do?

How much will it cost to comply?

What if my restaurant has been complying with the existing ordinance?

We only make sandwiches!!

I don’t have time to pour through legislation…
STEP 1: Address Restaurant Concerns

What will I be required to do?

We only make sandwiches!!

What if my restaurant has been complying with the existing ordinance?

Restaurants are divided into four simple categories, based on the number of appliances in their kitchen and their existing grease capturing equipment.
## Category Determination

### FOG DISCHARGER CATEGORY TOOL

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warm Only Equipment</td>
<td></td>
</tr>
<tr>
<td>Microwave</td>
<td>0</td>
</tr>
<tr>
<td>Toaster</td>
<td>0</td>
</tr>
<tr>
<td>Toaster Oven</td>
<td>0</td>
</tr>
<tr>
<td>Low Risk Cooking Equipment</td>
<td></td>
</tr>
<tr>
<td>Bread Oven</td>
<td>1</td>
</tr>
<tr>
<td>Combi-Oven (Convection/Steam)</td>
<td>2</td>
</tr>
<tr>
<td>Pizza Oven</td>
<td>2</td>
</tr>
<tr>
<td>Steamer</td>
<td>1</td>
</tr>
<tr>
<td>Moderate Risk Cooking Equipment</td>
<td></td>
</tr>
<tr>
<td>Stove (Range)</td>
<td>4</td>
</tr>
<tr>
<td>Oven/Range</td>
<td>4</td>
</tr>
<tr>
<td>High Risk Cooking Equipment</td>
<td></td>
</tr>
<tr>
<td>Char-broiler</td>
<td>8</td>
</tr>
<tr>
<td>Deep Fryer</td>
<td>8</td>
</tr>
<tr>
<td>Griddle</td>
<td>8</td>
</tr>
<tr>
<td>Grill</td>
<td>8</td>
</tr>
<tr>
<td>Kettle</td>
<td>8</td>
</tr>
<tr>
<td>Rotisserie</td>
<td>8</td>
</tr>
<tr>
<td>Smoker</td>
<td>8</td>
</tr>
<tr>
<td>Tilt Skillet</td>
<td>8</td>
</tr>
<tr>
<td>Wok</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
</tr>
<tr>
<td>Other Factors</td>
<td></td>
</tr>
<tr>
<td>Single Service Kitchen</td>
<td>0</td>
</tr>
<tr>
<td>Full Service Kitchen</td>
<td>4</td>
</tr>
<tr>
<td>Seating &gt; 100</td>
<td># of seats</td>
</tr>
<tr>
<td><strong>Total Score</strong></td>
<td></td>
</tr>
</tbody>
</table>
## Discharger Category Tool

<table>
<thead>
<tr>
<th>DISCHARGER CATEGORIZATION</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 9 Points</td>
<td>Category 4 (Limited Food Preparation Establishment)</td>
</tr>
<tr>
<td>10 – 15 Points</td>
<td>Category 3 (Less Significant Grease Discharger)</td>
</tr>
<tr>
<td>&gt; 15 Points</td>
<td>Category 1 or Category 2 (Category 2 has equipment already installed)</td>
</tr>
</tbody>
</table>
Category 4 Restaurants: Reheat Only?

- Yes: Category 4 No Action Required
- No: Must Have Grease Capturing Equipment
Categories 1 - 3

If you Cook…

You Must Have Grease Capturing Equipment

What Type is Required?

=

Grease Removal Device (GRD)

or

Trap
Trap (Hydro-mechanical grease interceptor)

Serviced

Not Serviced
Automatic GRD (Grease Removal Device)
STEP 1: Address Restaurant Concerns

How much will it cost to comply?

Restaurants that don’t have grease capturing equipment and are determined to generate a lot of grease will be required to install an Automatic Grease Removal Device (GRD)

One-Time Costs

- Average purchase costs for GRDs
  - $2,800 (≤ 30 gallon/min) to $5,500 for ≥ 30-50 gpm
  - Plus installation: ~$500 - $2,000
Reducing Financial Impact on Food Service Establishments

How much will it cost to comply?

1. Sewer Service Rate adjustment of \(-14.2\%\) for FSEs with Automatic GRDs and own water account
2. Lease-to-Buy Options
3. Loan Opportunities (ex: Opportunity Fund)
4. Categorized approach crediting existing equipment
Sewer Bill Reductions

• If you are required to install a Grease Removal Device, or if you wish to install one, you may qualify for a 14.2% reduction on your sewer service rate

Install a GRD
Rate Reduction Calculation

<table>
<thead>
<tr>
<th>B: Average Pollutant Concentrations (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;G(T)</td>
</tr>
<tr>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C: O&amp;G Compliance Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Violations</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D: Sewer Service Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction based on O&amp;G Load Reduction and related COD Reduction (no TSS change) [1, 2]</td>
</tr>
<tr>
<td>Average (mg/L)</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Total Recoverable Oil &amp; Grease</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
</tr>
<tr>
<td>Chemical Oxygen Demand</td>
</tr>
<tr>
<td>Flow ($/unit)</td>
</tr>
</tbody>
</table>

**Adjusted Sewer Service Charge Rate ($/unit):** $9.8731

**Historical Restaurant Sewer Service Charge Rate ($/unit):** $11.5018

14.2%
Micro-loan Opportunities
Step 2: Coordinated Outreach

The SFPUC invites you to a Town Hall regarding the upcoming Grease Removal Device Ordinance.

TOWN HALL MEETING DETAILS:

Scoma’s San Francisco
2:30 PM on Tuesday, March 2, 2010
Pier 47 on Al Scoma Way, San Francisco

Jewish Community Center of San Francisco – Fisher Family Hall
2:30 PM on Wednesday, March 3, 2010
3200 California Street at Presidio Ave, San Francisco

PLEASE RSVP TO
Townhall@ororkeinc.com or call (415) 543-5937

The San Francisco Public Utilities Commission (SFPUC), in partnership with the Golden Gate Restaurant Association (GGRA), invites you to a Town Hall to discuss the upcoming ordinance requiring installation of new grease removal devices (GRD) at food service establishments in San Francisco.

Your water, wastewater and municipal power utility.
Step 2: Coordinated Outreach

Fats, Oils and Grease (FOG) Control Ordinance 2011
How You Can Reduce Compliance-Related Costs

INSTALL A GREASE REMOVAL DEVICE¹ AND LOWER YOUR SEWER SERVICE CHARGES BY 14.2%
Implementation Timeline Prior-Ordinance

2007 – 2010: Lay the Groundwork with Key Stakeholders
- Golden Gate Restaurant Association (GGRA)
- Inter-departmental Cooperation (DBI, Port, DPH)

Outreach Began February 2010
- Draft Ordinance & Fact Sheet posted on sfwater.org
- Presentation to Restaurants: Town Hall Meetings
- Chinese Chamber of Commerce presentation
- Building Owners and Managers Association presentation
- Door-to-Door bilingual outreach to smaller restaurants
- Chronicle front page article [3/18/10]
- KCBS radio [3/3/10]
- All materials on website; Dedicated email for questions
Implementation Timeline Post-Ordinance

February 2011: Adoption of Ordinance

February - April 2011: Outreach & Education

Workshops, Presentations, Written Materials, Website, Equipment vendor fairs

- Work with key stakeholders (ex: GGRA, Office of Small Business, Inter-agency Restaurant Consultation Team led by OEWD, Chinese Chamber, Board of Supervisors)

April/May 2011:

- SFPUC Inspectors begin initial site compliance visits
# Restaurant Canvassing Sites Visited

<table>
<thead>
<tr>
<th></th>
<th>Name of Restaurant</th>
<th>Language Focus</th>
<th></th>
<th>Name of Restaurant</th>
<th>Language Focus</th>
<th></th>
<th>Name of Restaurant</th>
<th>Language Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>San Sun Restaurant</td>
<td>Cantonese</td>
<td>13</td>
<td>LA PALMA</td>
<td>Spanish</td>
<td>13</td>
<td>Penang Garden Restaurant</td>
<td>Mandarin</td>
</tr>
<tr>
<td>14</td>
<td>Joy Hing B.B.Q. Noodle House</td>
<td>Cantonese</td>
<td>14</td>
<td>IZALCO RESTAURANT</td>
<td>Spanish</td>
<td>14</td>
<td>Washington Bakery &amp; Restaurant</td>
<td>Mandarin</td>
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<tr>
<td>15</td>
<td>Good Mong Kok</td>
<td>Cantonese</td>
<td>15</td>
<td>TAQUERIA EL FAROLITO #3</td>
<td>Spanish</td>
<td>15</td>
<td>Chinatown Restaurant</td>
<td>Mandarin</td>
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<td>16</td>
<td>New Golden Daisy</td>
<td>Cantonese</td>
<td>16</td>
<td>TORTAS LOS PICUDOS</td>
<td>Spanish</td>
<td>16</td>
<td>Imperial Palace</td>
<td>Mandarin</td>
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<td>17</td>
<td>Napoleon Super Bakery Corp</td>
<td>Cantonese</td>
<td>17</td>
<td>LA GALLINITA</td>
<td>Spanish</td>
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<td>New King Tin Restaurant</td>
<td>Mandarin</td>
</tr>
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<td>18</td>
<td>Sam Wo Restaurant</td>
<td>Cantonese</td>
<td>18</td>
<td>Usulutan Restaurant</td>
<td>Spanish</td>
<td>18</td>
<td>Great Oriental Restaurant</td>
<td>Mandarin</td>
</tr>
</tbody>
</table>
Interdepartmental Implementation
Thank you