Are fat, oil and grease increasing your maintenance costs?
Cost of FOG
(Fats, Oils & Grease)

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What is FOG?

- **Fats, Oils or Grease (FOG)** means any hydrocarbons, fatty acids, soaps, fats, waxes, oils, and any other nonvolatile material of animal, vegetable or mineral origin that’s extractable by solvent in accordance with standard methods.
- Fats – Solid at room temperature
- Oil – Liquid at room temperature
- Grease – Viscous semi-solids at room temperature
FOG

Animal
- Lard (Pork)
- Tallow (Beef)
- Schmaltz (Poultry)

Vegetable
- Edible
  - Soy, Corn, Sunflower, Peanut, Cotton Seed
- Inedible
  - Linseed
  - Tung

Mineral
- Petroleum Oils
  - Gasoline
  - Lubricating oils
FOG Impacts

• Block & Obstruct
  – FOGs can create physical obstructions affecting the:
    • Collection system
    • Collection system appurtenances
      – Gates, Steps
    • Instrumentation sensors
FOG Impacts

• Flammability/Explosivity
  – FOGs are combustable over a range of temperatures
    • Chuyahoga River
    • Louisville (1981)
  – Worker health & safety
FOG Impacts

• Uncontrolled loss from System or Plant
  – Oil Spill
    • Cleanup costs
    • Reputation costs
• Treatability of FOGs
  – Positive – FOGs are:
    • (generally) 8-12% lighter than water, can be gravity separated
    • 88% average removal rate
  – Negative
    • FOGs are easily emulsified
    • Can mix with other waste materials (So what separates isn’t purely FOG)
Cost of FOG

• Soft numbers (variable)
  – Disposal options
  – Labor involved
  – Equipment required
  – Equipment impacted
Cost of FOG

- DWWTP Treatment – Cost of removal
  - 2006/07 = $0.164/lb (+ $15.6 M/yr)
- Maintenance Cost – physical cleaning assignable to a source
  - Approx. $500/event (labor, equipment, disposal)
- Oil Spill
  - 50,000 gallons = $320 k
- Un-assignable Costs - ?
Conclusion: Costs of FOG
Who should bear the cost?

User Pays

Public Pays

Source

Transport/Conveyance

Destination

Local Maintenance

Treatment Plant/Pump Station