

PERFORMANCE INDICATORS

- What is going to be your standard or measure of how well the grease (FOG) management program is working?
- What difference did the FOG management program make in 6 months? One year? 2 Years? 5 Years?

Performance Indicators

- # of SSO events
 - Identify Primary Cause of the SSO
 - FOG or was Roots the primary cause
 - FOG or was it debris/gravel
 - May need CCTV to confirm cause
 - Keep SSO Tracking spreadsheet
- # of collection system maintenance calls due to FOG blockage
 - Many POTWs do not currently have good records for maintenance calls

Performance Indicators Collection System records

- The reason for blockage in the sewer may not be given or it is not considered to be high priority. Make sure maintenance and cleaning personnel know that the proper category is essential for determining performance and more importantly, to let you know where grease problem is located.
- Establish a list of most frequently cleaned areas in collection system. Monitor responses.

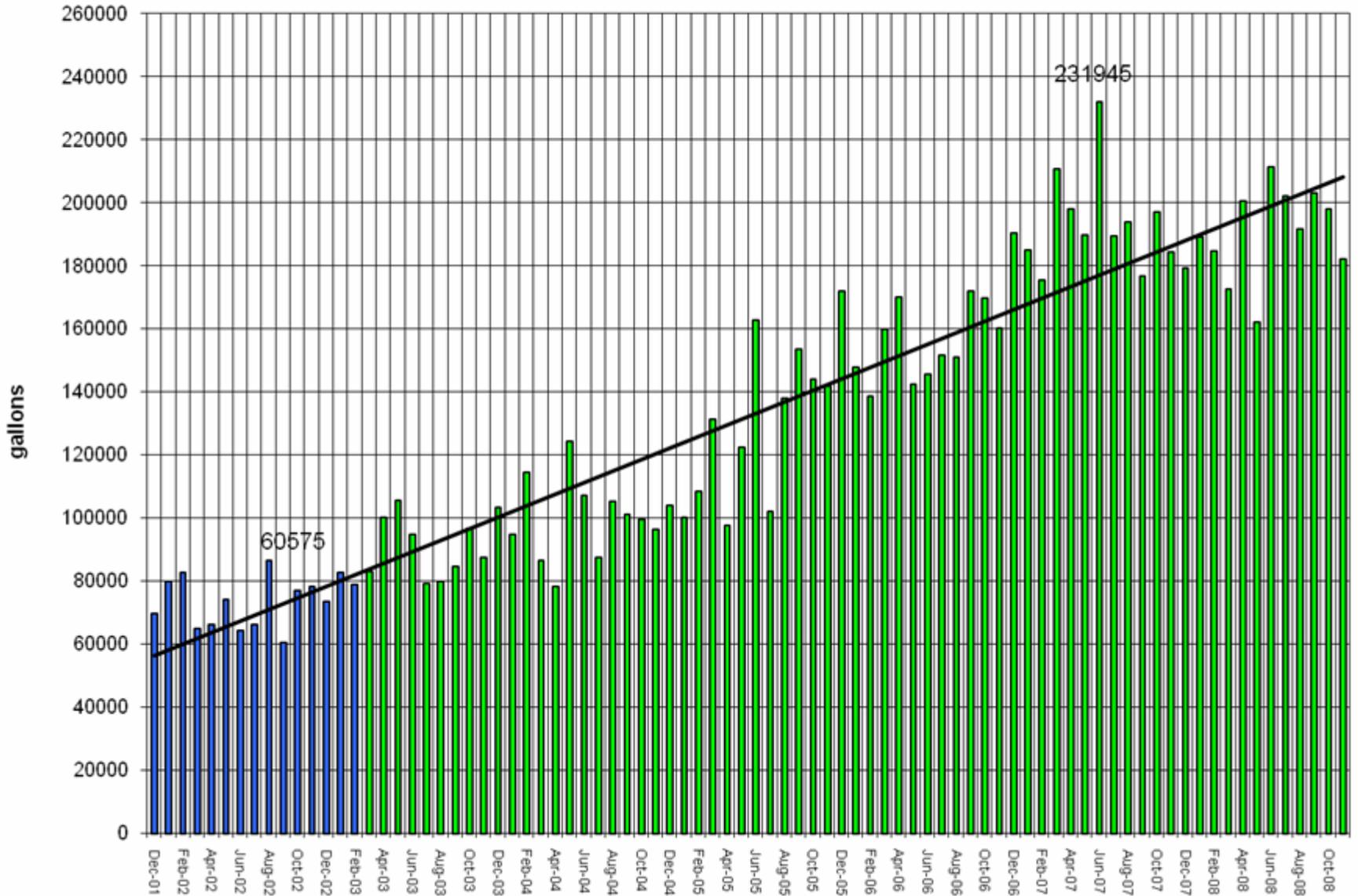


Performance Indicators

- # of Food Service Establishments
 - # of FSE inspections completed
 - # with grease control equipment
 - # maintaining their grease control equipment
- Records of FOG volume removed
 - Reports from Grease Waste Haulers
 - Reports on amount of grease received for treatment or disposal
 - Reports from private treatment facilities on volume of grease treated from your sewer jurisdiction

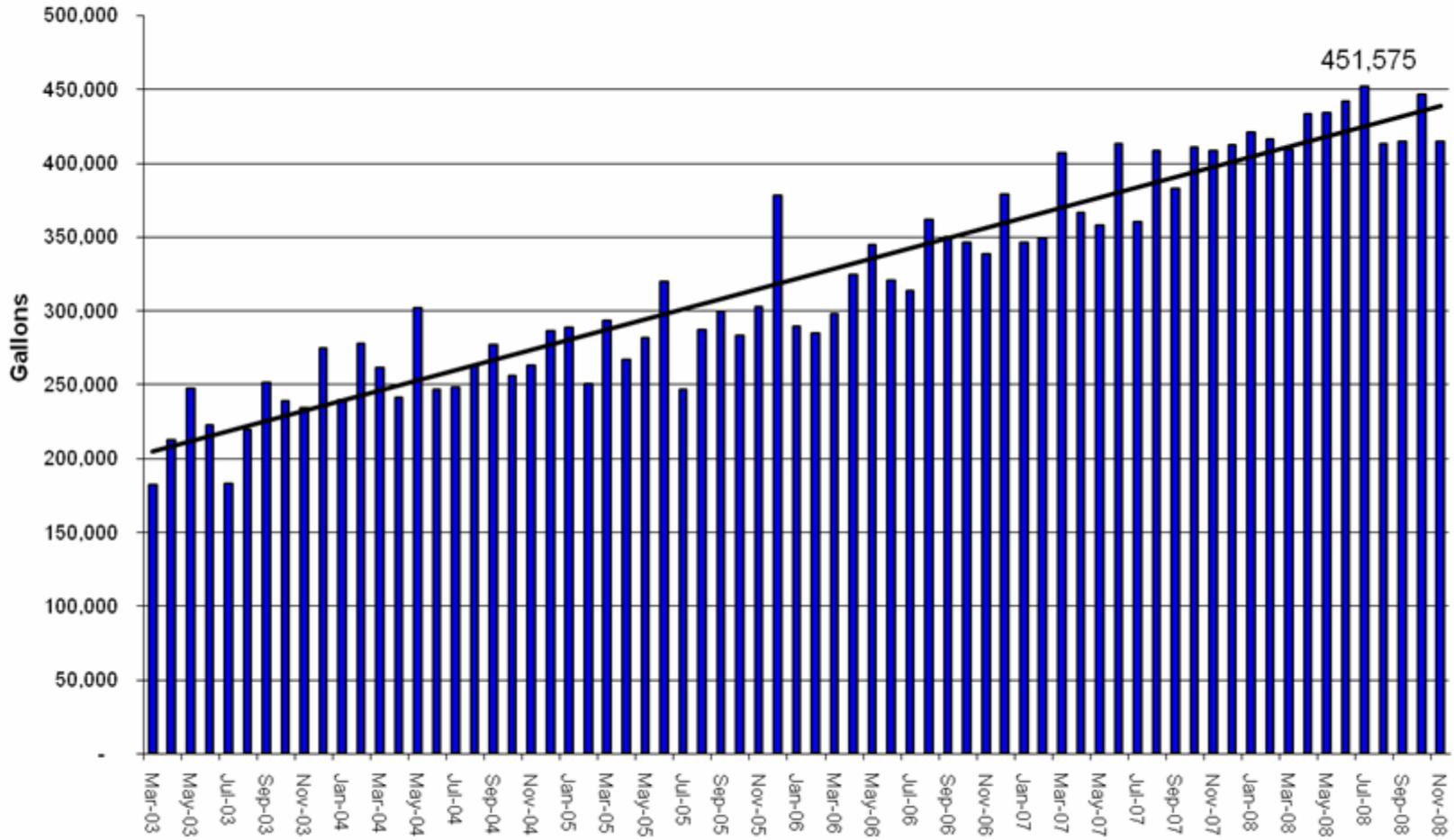
Metro Water Services, Nashville, TN-Central WWTP Grease Volume

■ Before FOG Program ■ After FOG Program

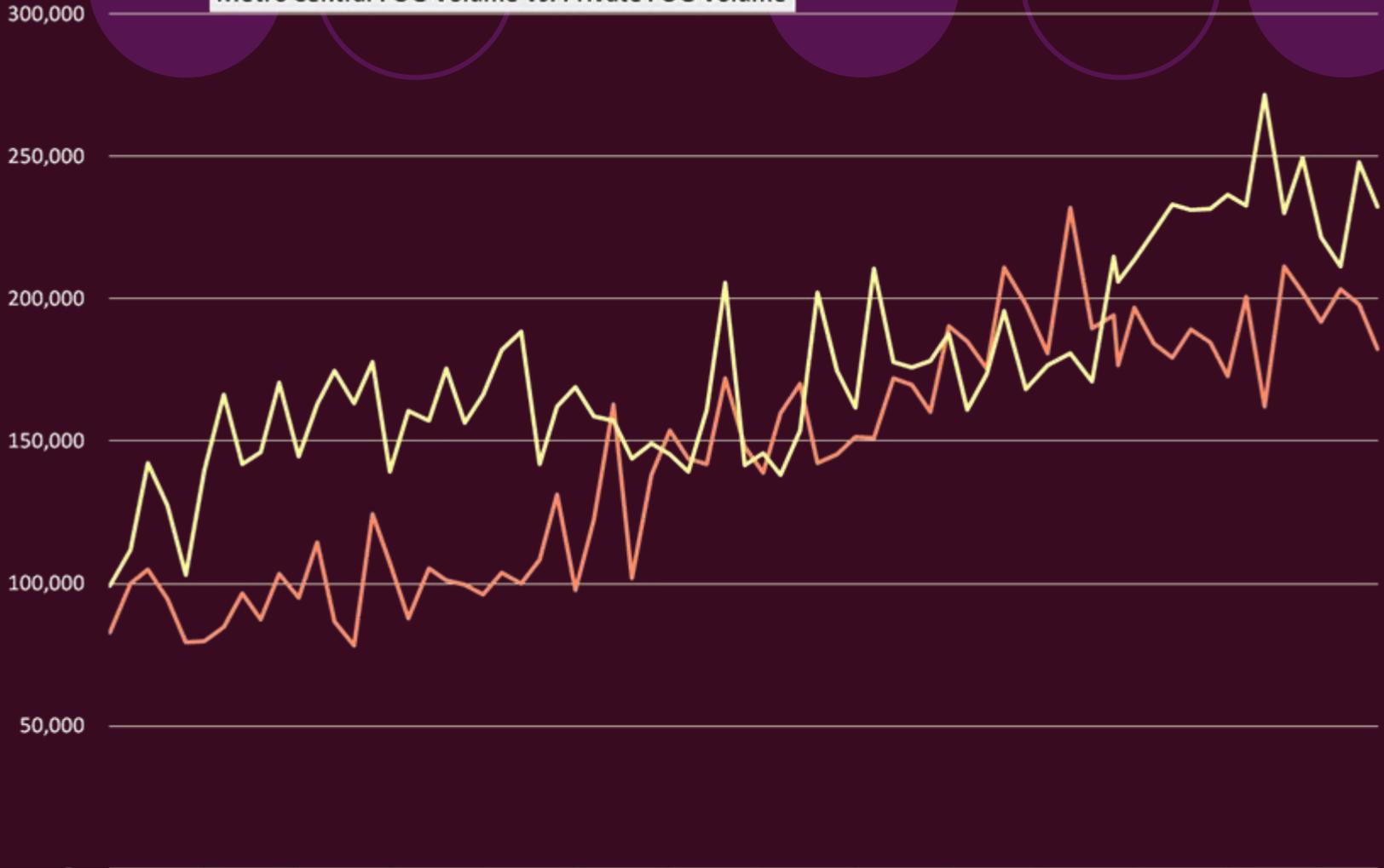


Metro Nashville Total Grease Pumped & Disposed

(Before FOG program: 2002 monthly avg = 178,500 gallons)



Metro Central FOG Volume vs. Private FOG Volume



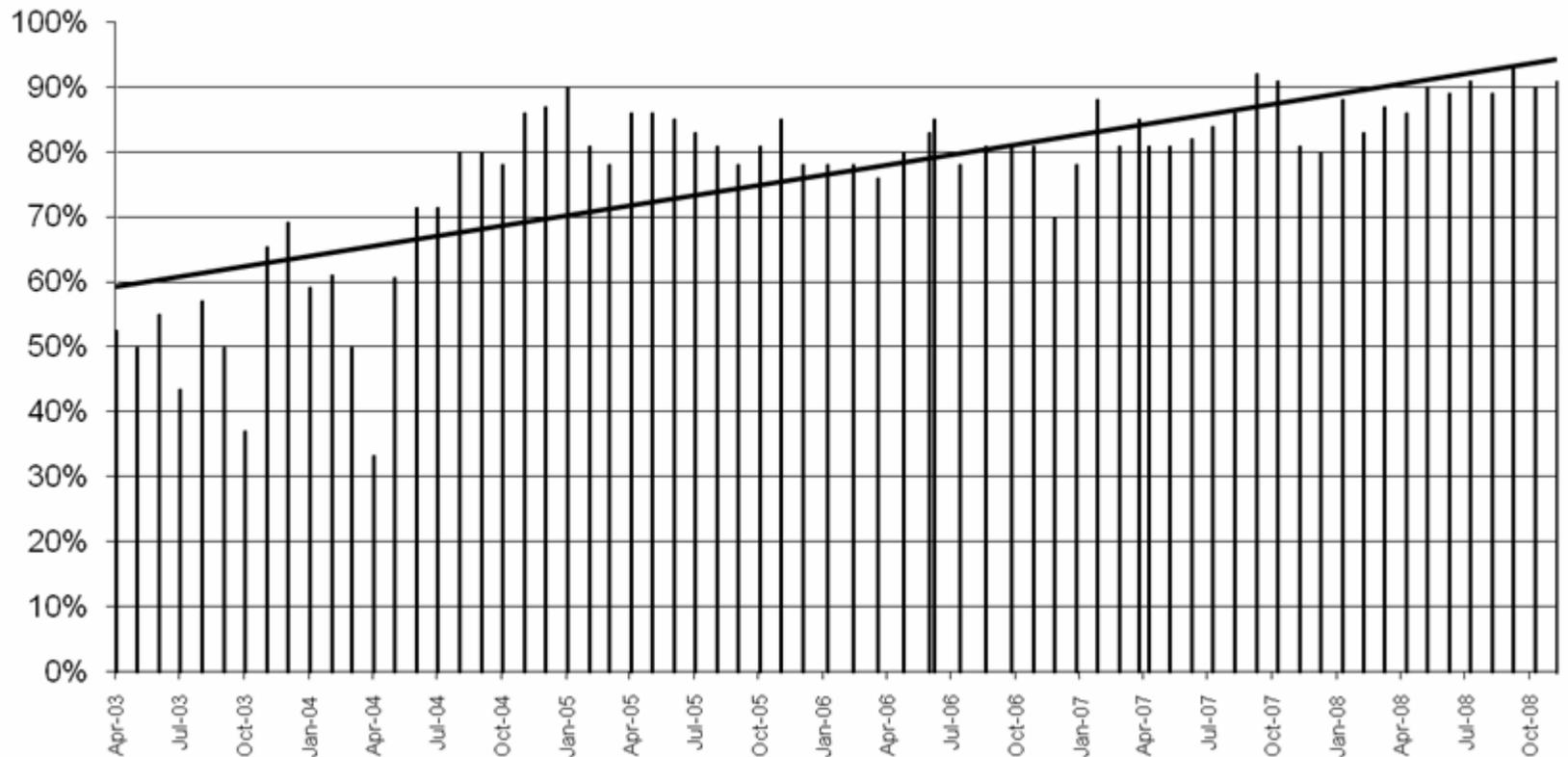
— Grease Hauled to Central WWTP:

— Private Hauler FOG Volume

Aug-08

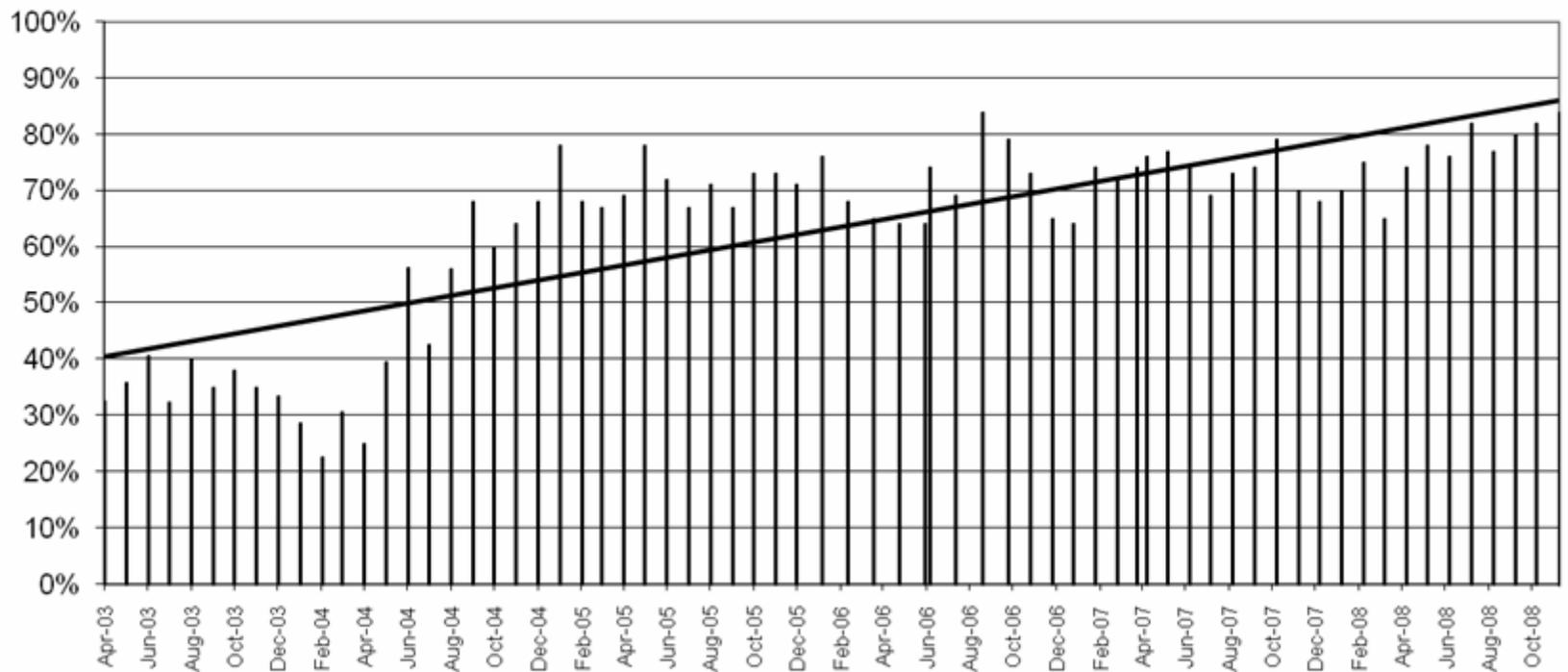
Interceptor maintenance improvement

Interceptors Maintained
Metro Nashville



Trap maintenance improvement

Traps (undersink, floor) Maintained
Metro Nashville



Track the number of FSEs that have installed new grease interceptors.

Reason for new install can be:

- *Leaking or deteriorated tank
- *Inadequate grease control equipment, with FOG in the downstream sewer line

Nashville TN has 280 new grease interceptor installations since 2004.

Enforcement



- Be consistent

- Some cities have adopted a Food Service Establishment Enforcement Response Guide
- or they use their adopted FOG Ordinance or FOG Management Policy

Noncompliance Notices, Notices of Violation

- 240 notification letters were sent to FSEs from April 2003 to September 2004. Main reasons:
 - No Grease Control Equipment installed (55%)
 - No maintenance, or GCE needs repair (45%)
- In September 2004 we started onsite noncompliance notifications.

Review Noncompliance Notification handout

Noncompliance Notification Summary

	Sept 2004-August 2005		Sept 2005-August 2006		Sept 2006-August 2007		Sept 2007-August 2008	
<i># of FSEs issued:</i>	201		255		221		125	
1. GI Eff T not attached or not acceptable	45	11%	42	6%	36	6%	18	5%
2. GI Eff T not visible or accessible, estimated as FOG discharge potential	28	7%	42	6%	24	4%	18	5%
3. GI walls indicates deterioration	5	1%	16	2%	17	3%	14	4%
4. GI FOG layer and food solids layer est. at >25%	44	10%	42	6%	63	11%	62	17%
5. FOG in downstream manhole from FSE	77	18%	183	28%	179	30%	95	26%
6. FSE has no GCE installed	16	4%	25	4%	10	2%	10	3%
7. No records of GI or trap maintenance	117	28%	176	27%	156	26%	80	22%
8. Sewer cleanout covers need to be replaced	49	12%	55	8%	38	6%	17	5%
9. FOG on ground/Stormwater impact	44	10%	68	10%	67	11%	48	13%
Total Deficiencies noted:	425		649		590		362	
Total FSEs issued:	201		255		221		125	
FSEs with responses submitted	201		255		221		111	

Performance Indicators

- FOG at the SPS stays on top of the wet well and does not allow oxygen transfer
- Track odor problem areas to determine if odors decrease as the GMP progresses



Sewer Pump Station FOG



Performance Indicators

- Monitor Sewage Pumping Stations for grease problems
 - Establish list of worse SPSs
 - Monitor grease depth and rate of build up
- WWTP Influent impact
 - O&G concentrations
 - Visual evidence at clarifiers

Performance Indicators

- Corrosion and Odor Problem Areas
 - FOG in the collection system creates conditions that favor the formation of hydrogen sulfide. FOG coats sewer pipes and makes anaerobic barrier layer where the pH decreases and bacteria breakdown the sulfates to sulfide.



Performance Indicators

- FOG financial impact
 - Establish baseline cost for response to FOG related problems in collection system & SPSs
 - Man Hours
 - Vehicle / Vactor Truck / Equipment Cost
 - Materials Cost for sewer repair
 - SPS pumps, repair
 - Establish baseline cost for FOG related problems at the WWTP
 - Pumps, Motors
 - Belt Filter Press parts replacement
 - Cleaning/Maintenance- Man Hours related to FOG

Sewer Maintenance Costs related to FOG – sewer line cleaning, CCTV, public and private back-ups

Mt. Juliet Public Works Department Sewer Maintenance Cost related to FOG

