



# Pretreatment Program Performance Measures Pilot Study Results

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U.S. EPA Headquarters

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National Association of Clean Water Agencies



# Brief Background

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September 2004 Report

EPA Office of the Inspector General (OIG) :

*“EPA Needs to Reinforce Its National  
Pretreatment Program”*

Report No. 2004-P-00030



# Primary OIG Focus Areas

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- ❑ Completion of Specific Projects: Local Limits Guidance, Streamlining, etc.
- ❑ Guidance for EPA & States on IUs discharging to POTWs without pretreatment programs:  
SIU Oversight Where EPA/States are Control Authority,  
Memorandum from Linda Boornazian (Director, Water Permits Division) to Regional Division Directors,  
issued May 18, 2007
- ❑ Evaluate Program Resources
- ❑ Training
- ❑ Environmental Results Based Measures



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- Environmental Results Based Measures

# Performance Measures Project Approach

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- To briefly summarize what we presented to you all last year. . . .
  - Proposed Measures Chart
  - Launch Pilot Study
  - Report on Pilot Study
  - Brief Management
  - Proposed New Measures for GPRA



# Refining the Measures

(What were they again? Remember this Chart?)



Performance Measure	Explosions/ Hazardous Atmosphere	pH violations/ Corrosion	Sewer Overflows Associated with Nondomestic Users	Interference or Pass Through	Correct Permits and Representative Sampling	Full Compliance with Local Limits and Categorical Standards	Biosolids Voluntarily Meet Exception'l Quality (Table 3)	CIUs Voluntarily at Zero Discharge	Emerging Pollutant Controls Voluntarily Implemented (dental mercury, etc.)
Regulatory Authority	403.5(b)(1)&(7)	403.5(b)(2)	403.5(b)(3)	403.5(a)(1); 403.5(b)(4), (5), (6); 403.5(c)	403.8(f)(1)(iii) & (v); 403.12	403.6 CWA 1251 Eliminate discharges	503 Regs 403.2	CWA 1251 Eliminate discharges	CWA 1251 Eliminate discharges
Method to Quantify Measure	No. of explosions Instances of hazardous events (incl closed cup test)	No. of pH violations Observed corrosion	No. of spills	No. of instances of interference and pass through	No. of facilities with incorrect permits or unrepresentative sampling	No. of SIUs with no violation of cat'l stds and local limits	No. of facilities at Exception'l Quality	No. of facilities at zero discharge	No. of pollutants & facilities with effective control
	<b>Protect Infrastructure Investment → Homeland Security</b>		<b>← Basic Watershed Protection →</b>		<b>← Proactive, High-performance Environmental Protection →</b>		<b>← Enhanced, "beyond compliance" Environmental Performance →</b>		





# Review of 9 Measures Chart

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- ❑ (A) Explosion or Hazardous Atmospheres
- ❑ (B) pH problems &/or corrosion
- ❑ (C) Sanitary Sewer Overflows assoc. w/Nondomestic Users
- ❑ (D) Interference or Pass Through
- ❑ (E) Correct Permits and Representative Sampling
- ❑ (F) CIUs at Full Compliance w/Local Limits, Cat. Stds
- ❑ (G) Biosolids Quality at “Exceptional” Quality
- ❑ (H) CIUs Voluntarily at Zero Discharge
- ❑ (I) Emerging Pollutant Control Programs

# Pilot Study Purpose

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- ❑ Develop Questions and Tools to Gather Information about each Proposed Performance Measure
- ❑ Test the Tools
- ❑ Assess which Data is Already Being Collected by Each Tool and/or Identify Data that Isn't Currently Collected
- ❑ Identify Possible Ways to Obtain Missing Data



# Pilot Study Approach

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1. Refine the Proposed Measures
2. Develop Pilot Study Data Collection Tools  
(including: Evaluate Existing Tools)
3. Select POTWs for case study
4. Conduct Pilot:
  - As part of Pretreatment Audits
  - As part of Pretreatment Annual Reports
  - Separate Telephone Interviews
5. Summarize Findings





# Refining the Measures

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- ❑ For each “Data”, what is being assessed? How does it relate to about program effectiveness?
- ❑ Does this “Measure” require data (info) from other Performance Measures in order to be understood?
- ❑ Are there special “Target Groups”?
- ❑ Where/How is the Data kept?
- ❑ What Method (or Tool) should be used to Collect the Data (Who? How? What frequency?)



# Develop Pilot Study Data Collection Tools

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Look at Existing Methods or Data Collection  
“Tools”:

- Pretreatment Compliance Audit form
- Pretreatment Compliance Inspection form
- Annual Reports

... and, during Pilot Study:

- Augmented Questions



# Selecting POTWs for the Pilot Study

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## General Criteria

- Cross-Geographical scope
  - EPA Oversight, vs.
  - Approved State Program Oversight
- Multiple Sized Programs
  - Number of SIUs Size
    - ✂ 5 SIUs
    - 6-20 SIUs
    - > 20 SIUs



# Selecting POTWs . . . (continued)

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## □ Geographically

- Pennsylvania (East Coast, EPA Oversight)
- Delaware (East Coast, EPA Oversight)
- District of Columbia (East Coast, EPA Oversight)
- Illinois (Mid-West, EPA Oversight)
- Wisconsin (Mid-West, State Oversight)
- California (West Coast, State Oversight)
- Tennessee (South, State Oversight)

# Pilot Study Findings

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For each of the Measures:

- Compiled Raw Data
  - Compared Results
- found via Different Data  
Collection Tool(s)







# Where was this Information Found?

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## **... in Annual Reports?**

- Most Items were on Annual Reports (or if occurred, would be)
  - (A) Explosion or Hazardous Atmospheres
  - (B) pH problems &/or corrosion
  - (C) Sanitary Sewer Overflows
  - (D) Interference or Pass Through
- Some Items were only sometimes included in these Reports
  - (F) Number of IUs with Full Compliance
  - (H) Zero Discharging SIUs
  - (I) Programs on Emerging Pollutants or Sources
- Some Data Items could not be assessed via this method:
  - (E) Correct Permits and Representative Sampling
  - (G) Biosolids quality could be reported here, but typically reported elsewhere



# What Results Did We Find?

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**Audits and Telephone Interviews** show that POTWs have *LOTS* of information!

- All but one POTW did *not* experience –
  - (A) Explosion or Hazardous Atmospheres
  - (B) pH problems &/or corrosion
  - (C) Sanitary Sewer Overflows assoc. w/Nondomestic Users
  - (D) Interference or Pass Through
- Some things were difficult to assess –
  - (E) Correct Permits and Representative Sampling
- Some things were easy to discuss, but results were variable
  - (F) CIUs at Full Compliance w/Local Limits, Cat. Stds
  - (G) Biosolids Quality at “Exceptional” Quality
  - (H) CIUs Voluntarily at Zero Discharge
  - (I) Having Emerging Pollutant Control Programs

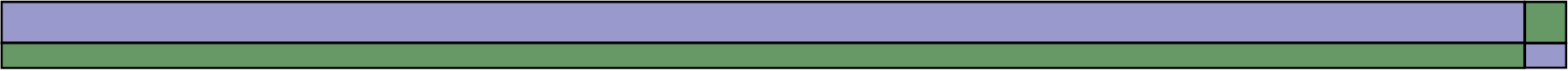


# What makes a Good Measure?

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## Selection Criteria for Performance Measure(s):

- ❑ Consistent Interpretation (least amount of subjectivity)
- ❑ Easy to Collect, Readily Available
- ❑ Able to Convey Clear “Picture” to non-technical people
- ❑ Distinct Tie to Pretreatment Regulation
- ❑ Ability to Show [appropriate improvement] Trends over Time
- ❑ Distinct Link to Environmental Achievement or Improvement
- ❑ Quantifiable
- ❑ Ability to Show “Bad Thing” can be “Fixed” or “Improved”
- ❑ Able to be Evaluated for all POTWs, not just traditional (“approved POTW program”) POTWs and programs



# Is there Meaning to Raw Numbers Reported Today?

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For example:

Per U.S. Capita in 2005:

- 13.1 pounds
- 4.5 pounds

Per U.S. Capita in 2006:

- 26 pounds

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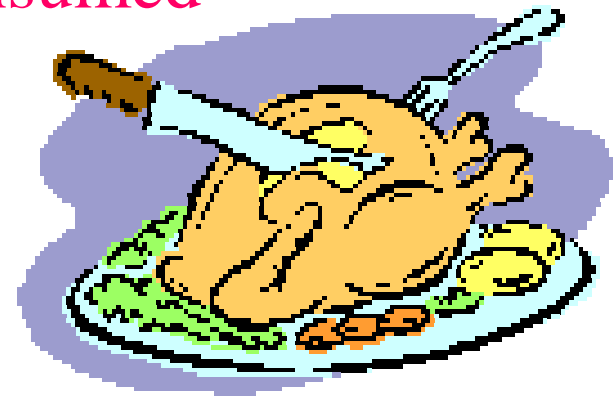
For example:

Per U.S. Capita in 2005:

- 13.1 pounds turkey consumed
- 4.5 pounds sweet potatoes consumed

Per U.S. Capita in 2006:

- 26 pounds candy consumed



*Source: U.S. Census Bureau*

*“Facts for Features: Halloween,” CB07-FF.15, August 30, 2007.*

*“Facts for Features: Thanksgiving Day,” CB07-FF.XX, October 18, 2007.*



# More Raw Numbers

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Forecasted Estimates for US in 2007:

- 272 Million
- Increase of 4% from 2006

Top 6 States (contribute approx. 2/3rds total of US Output)

- Minnesota – 46 Million
- North Carolina – 39 Million
- Arizona – 31 Million
- Virginia – 21.5 Million
- Missouri – 21 Million
- California – 16.8 Million

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# Next Steps

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- Evaluate Any Recommendations for changes to Existing Data Tools
- Compare Measures Results with Optimum Selection Criteria
- Make Recommendations to Management, Including:
  - *Context!*
  - Potential Development of Guidebook of Meaningful Pretreatment Program