Pretreatment Program Performance Measures Pilot Study Results

Jan Pickrel - Office of Water, Office of Wastewater Management
U.S. EPA Headquarters

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National Association of Clean Water Agencies
Brief Background

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

- 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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Performance Measures Project Approach

- 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?)

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

<table>
<thead>
<tr>
<th>Protect Infrastructure Investment Homeland Security</th>
<th>Basic Watershed Protection</th>
<th>Proactive, High-performance Environmental Protection</th>
<th>Enhanced, “beyond compliance” Environmental Performance</th>
</tr>
</thead>
</table>
Review of 9 Measures Chart

- (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

- 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

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

- 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

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

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)

- 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

For each of the Measures:

- Compiled Raw Data
- Compared Results found via Different Data Collection Tool(s)
Where was this Information Found?

... 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?

**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?

**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?

For example:

Per U.S. Capita in 2005:
- 13.1 pounds
- 4.5 pounds

Per U.S. Capita in 2006:
- 26 pounds
Is there Meaning to Raw Numbers Reported Today?

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
More Raw Numbers

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

- 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