Issue Paper: Looking at New (and Old) Models for Working with Satellite Communities on Regional Wet Weather Flow Issues

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Topics

- Drivers for the Issue Paper
- Goals of the Issue Paper
- Topics of the Paper
- Incentive Options for Reducing Wet Weather Flow
- Featured Case Study - MCES
- Next steps

Drivers for the Satellite Issue Paper

- Federal and state regulators are increasing pressure regarding SSOs
- Most pressure is applied to NPDES permit holders
- Regulatory expectations for satellite peak flow limitations (draft CMOM, proposed Blending Policy, etc.)
- Asset management principals demand thorough examination of cost-effective I/I reduction

Goals of the Satellite Issue Paper

- Review specific instances where satellites were engaged in wet weather issues
- Examine the landscape of approaches for working toward regional progress
- Summarize general approaches and highlight potential solutions
- Identify and detail pertinent case studies that show results

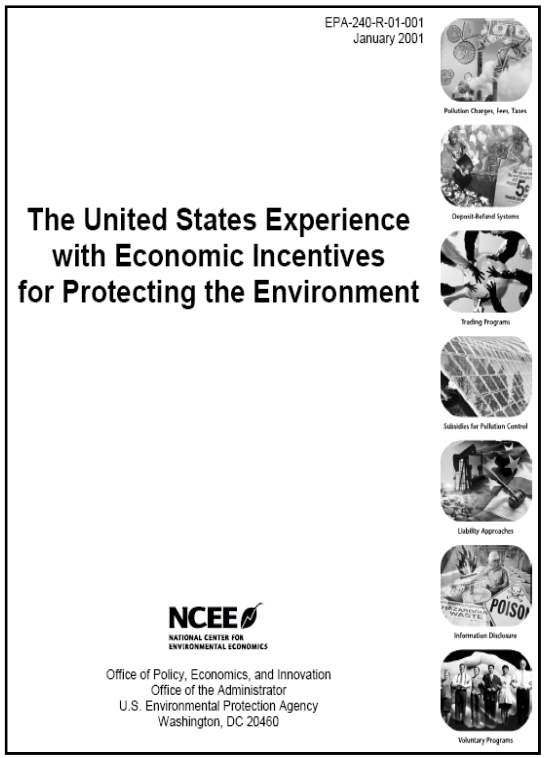
Topics of the Issue Paper

- Drivers and Benefits of Making Regional Progress
- Regulatory and Legal Pitfalls/Issues that Constrain Satellites and Regional Agencies
- Strategies for Making Progress
- Case Studies
  - Specific
  - Common Themes and Special Circumstances

Motivating Wet Weather Flow Reduction

- Motivating/incentive programs are probably necessary to achieve regional goals
- Incentives can encourage early compliance
- Incentives may achieve greater peak flow reduction than goals
- Few specific models exist in sewer industry, but frameworks do exist in other applications

USEPA Evaluation on Economic Incentives for Protecting the Environment



- Financial incentives in regulatory settings achieve pollution reduction
- Incentives were more successful than imposing regulations
- Market forces contribute heavily to the effectiveness of these programs
- *Conditions like "market forces" will apply and can ensure success of regional peak flow reduction goals*

Peak Flow Reduction Incentives
Examples of Mandatory Programs

- Fees, charges, permits
- Deposit-refund
- Marketable permits
- Subsidies
- Risk-based user charge
- Information disclosure
- Voluntary actions
- Prohibitions
- Flow restrictions
- Ineligibility for participation in regional programs

Fees, Charges, and Taxes

- Terms are largely interchangeable in terms of effect
- Fee rate should be set at either:
  - Equal to the amount of incremental impact
  - Sufficient to force change in behavior
- Disadvantage is that fees do not guarantee discharge reductions
- Implementation could be done through NPDES pretreatment permit programs

Deposit-Refund System

- Requires payment up front related to pollution potential "usage"
- Discharger redeems refunds based on actual spending and actual results
- If ultimate goal is achieved, entire deposit is refunded
- Up front deposit required of any areas in excess of regional peak flow limits
- After peak flow reduction work is completed, refunds linked to documented flow reduction

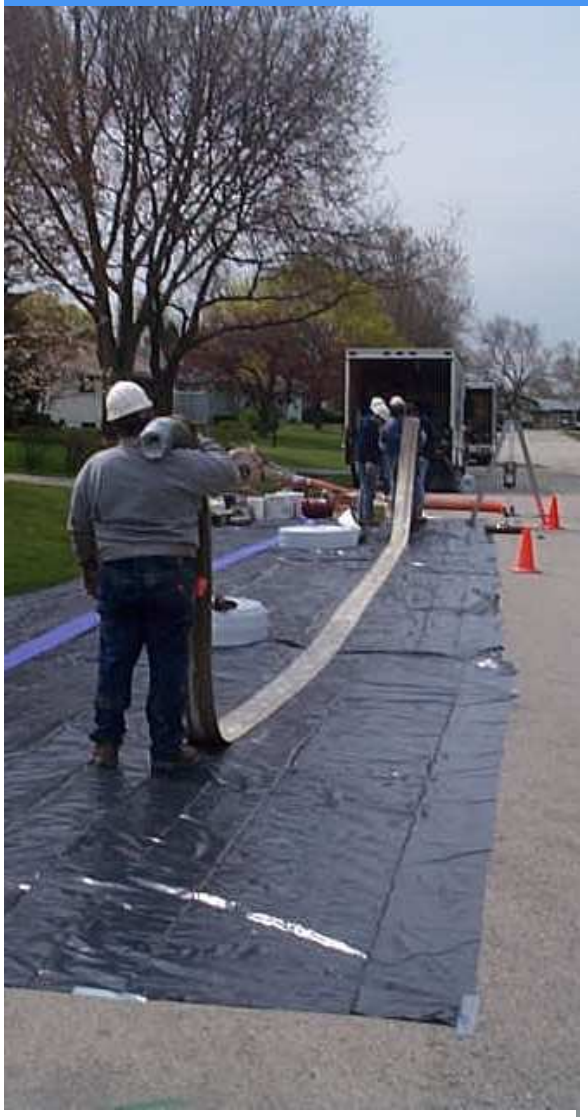
Marketable Permits

General Concept	Application to Peak Flow Limits
Hard limits for pollution emissions	Hard limit for peak flow discharges
Emitters over limit are required to reduce or mitigate by purchasing credits	Satellites over limit must reduce or mitigate
Emitters wishing to expand emissions can purchase credits	Satellites that anticipate increasing peak flow can purchase credits
Emitters that reduce below cap can sell credits	Satellites that reduce peak flows below limit can sell or keep for future

Subsidies -In General

- Can take the form of
  - Grants
  - Low-interest loans
  - Technical support
  - Procurement support
- Subsidies offset the cost of achieving the "emission" reduction
- Set up the cost in terms of value to the system
- Also has a potential for a credit system
- Several examples exist in wastewater industry

Subsidies



- Can take the form of grants, low-interest loans, technical support, etc.
- Strategies could target phases of the work (e.g. design) or elements of the system targeted (e.g. private I/I sources)
- Options could include having Regional Agency bond projects, allowing satellites to pay back over time

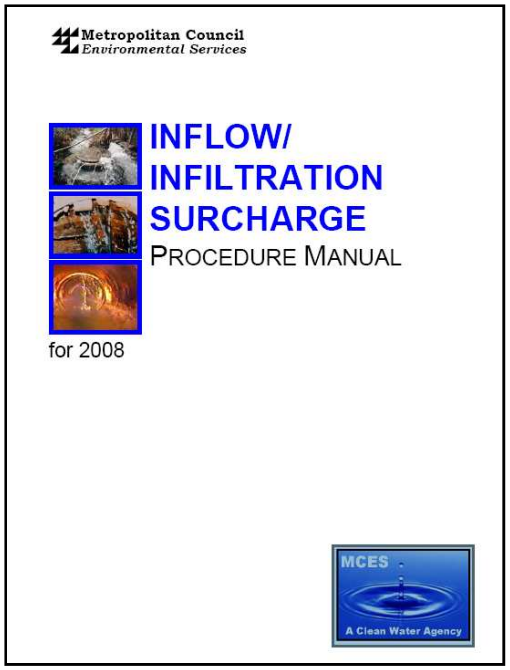
Voluntary Actions

- This is similar to the Status Quo position in many systems
- Drivers include improved public image and potential cost-savings
- Additional education activities could focus on
  - "I/I reduction buys conveyance and treatment capacity"
  - "Good system preventive maintenance includes I/I management and results in lower overall cost of ownership"
- Best approach is to couple Voluntary techniques with an incentive program approach

Case Study – MCES
A Charge-Based Incentive Program

- Metropolitan Council serves 104 communities within 7-counties in Minnesota
- Regional interceptor system and 8 treatment plants (372 MGD combined)
- Bill for flow on annual volume basis
- Master planning determined that wet weather flows would exceed capacity in future *unless something was done*

MCES I/I Surcharge Program



- In 2006, MCES began program based on Met Council Statutory Authority
- Program has 4 Elements
  - Element 1 – Imposition of I/I Surcharge (2007) – $355k per 1 MGD above peak flow allocation
  - Element 2 – Incentives to Remove Excessive I/I (2008-2014) – credits and rebates
  - Element 3 – Limitation on Wastewater Service Increases (2013)
  - Element 4 – Imposition of I/I Demand Charge (2013)
- 2008 charges totaled approximately $20 million

Metropolitan Council - Environmental Services - Inflow & Infiltration - Windows Internet Explorer provided by Brown and Caldwel

http://www.metrocouncil.org/environment/ProjectTeams/I-I-Home.htm

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> Water > I/I

MCES Inflow and Infiltration (I/I) Program

What is Inflow/Infiltration?

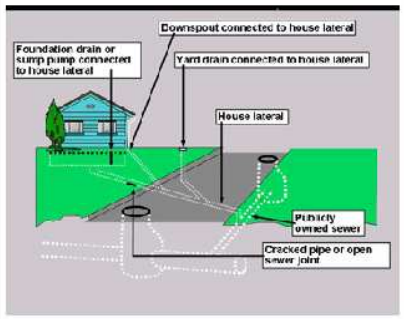
Inflow and infiltration is clear water that enters the sewer system from a variety of sources.

Infiltration occurs when ground-water seeps into sewer pipes through:

- Cracks
- Leaky joints
- Deteriorated manholes

Inflow, the much bigger problem, occurs in direct proportion to the amount of rainfall. The typical sources are:

- Storm water from rain leaders
- Basement sump pumps and foundation drains illegally connected directly to a sanitary sewer pipe



What is the Inflow/Infiltration Surcharge Program?

The I/I Surcharge Program is the result of the **Council's I/I Task Force,** which was a Council approved body of individuals from various cities in the region that served "at large" for at least one year to work on **strategies for reducing I/I** into the Metropolitan Disposal System.

To understand the rationale for and methodology of the surcharge, please view the I/I Surcharge Program Booklet (PDF).

For additional details and a timeline of key activities related to the I/I Surcharge Program, please view the 2008 I/I Surcharge Procedure Manual (PDF).

Inflow/Infiltration Tool Box

This guide (PDF) highlights possible programs and products that communities can use to **reduce I/I**.

For questions or comments, please email or phone Debra Rose, (651) 602-1479.

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Metropolitan Council

Inflow and Infiltration Tool Box

Overview

This "toolbox" or guide highlights possible programs and products as potential solutions to I/I problems that communities can use.

For communities in the Twin Cities area, the ideas outlined in this document are advisory only and are not part of the Metropolitan Land Planning Act's requirements.

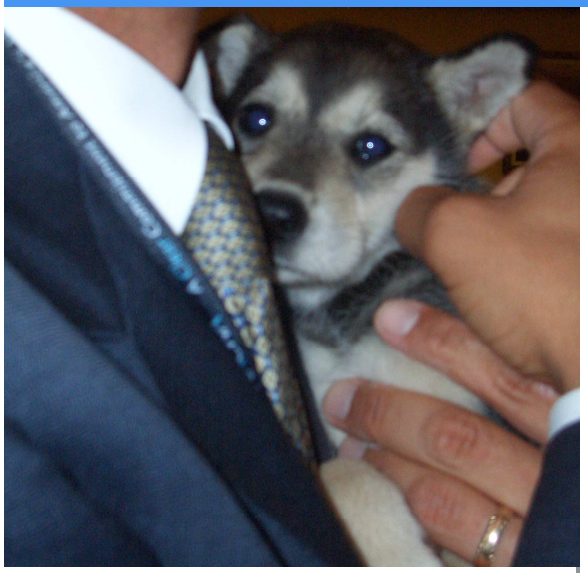
Please give your feedback about this guide to Kyle Colvin at the Metropolitan Council (kyle.Colvin@metc.state.mn.us).

(1 item remaining) Waiting for http://www.metrocouncil.org/environment/ProjectTeams/I-I-Home.htm...

Internet

http://www.metrocouncil.org/environment/ProjectTeams/I-I-Home.htm

Next Steps



- Refining draft Issue Paper with Review Committee
- Gathering Further Examples of Regulatory and Legal Pitfalls/Issues
- Anticipate release of Final Issue Paper in late Summer 2008