

Wet Weather: USEPA History and NPDES Permitting Strategy

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DISCLAIMER (1)

- The following slides are
 - Only ideas
 - Meant to generate thoughtful discussion
- They do not say
 - SSOs are a good thing
 - SSOs should be allowed without restrictions or controls

DISCLAIMER (2)

If you see the world in black and white, you're missing important grey matter. ~Jack Fyock

Outline

- History
- Listening sessions
- SSOs
- Blending
- Peak excess flow treatment facilities (PEFTFs)
- NACWA (AMSA) 2004 SSO White Paper

History

- SSO FAC (1994 - ?)
- Almost SSO rule (1999 – 2000)
- Blending and then Peak Flows (2003 vs 2005)
- Some permitting, but more enforcement
- Listening Sessions (Summer 2010)

- Future – Workshop followup to Listening Sessions (July 14-15, 2011)

EPA Listening Sessions

- On June 1, 2010, EPA indicated it was considering whether to propose NPDES regulations that specifically addressed sanitary sewer collection systems and SSOs.
- During Summer 2010, EPA held 4 listening sessions

Major Topics in Listening Sessions

1. Reporting, recordkeeping, public notice
2. Capacity, management, operation and management (CMOM)
3. Municipal satellite collection systems
4. Prohibition on SSOs/exceptional circumstances
5. Peak flows (blending and side stream treatment)

IAWA Letter - Federal Register Notice for Listening Sessions

- Need clearly defined performance criteria
- EPA's Background section of FR Notice for Listening Sessions contained many inaccurate statements (CSS design, sanitary design, footing drains, etc.)
- Basement backups
- Peak wet weather treatment in the collection system

IAWA Letter (2)

- SSO reporting – Should be as site specific as possible
- Standard condition for CMOM – Generally support
- Permits for Satellite Communities – Maybe
- SSOs and NPDES permits – Permits based on performance measures
- Peak flows at treatment plants – should be permitted like in Illinois
- Cost/benefit of CMOM/Asset management – Very beneficial

Listening Sessions: What EPA Heard

Areas of General Agreement

- Clarify NPDES regulations for:
 - SSO reporting, public notice, and recordkeeping
 - Capacity, Management, Operation and Maintenance (CMOM) program requirements
- Municipal satellite collection systems should be required to obtain NPDES permit coverage

Listening Sessions: What EPA Heard

Areas of Varying Viewpoints

- Draft Peak Flow Policy
- SSOs caused by exceptional circumstances
- Reporting building backups



Key points

- SSOs cannot be fully eliminated, but can be controlled to a specified level on a site-specific basis
- NPDES permit program includes a lot of flexibility
- SSOs are point sources and should be addressed through the NPDES program like any other point source
- Blending is not a bypass. Cannot have a bypass if treatment plant is being operated as designed and meeting limits
- Limits for POTWs apply at the end of the POTW
- PEFTFs are point sources and a good idea in some situations – and can be permitted via NPDES

5. What is the appropriate role of NPDES permits in addressing unauthorized SSOs that are caused by exceptional circumstances?

■ Some ideas

- SSO discharges remain prohibited
- Enforcement defenses analogous to bypass/upset provisions
 - For wet weather SSOs, enforcement discretion if:
 - Severe natural conditions, and
 - No feasible alternatives
 - Does not contain advanced approval language but specific criteria (e.g. design storm) could possibly be in permit
 - For other SSO's, affirmative defense if notice and:
 - SSO was an exception, beyond reasonable control, and
 - Took all reasonable steps to stop and mitigate

SSOs

- EPA says - SSOs are prohibited
- SSO Prohibition is not specifically in the CWA
- Prohibition is a limit and the limit is not attainable
- “lex non intendit aliquid impossibile”
“the law does not compel the doing of impossible acts”

Federal Water Pollution Control Act – a.k.a. - CWA

- Section 301(a)
 - (a) ILLEGALITY OF POLLUTANT DISCHARGES EXCEPT IN COMPLIANCE WITH LAW—Except as in compliance with this section and sections 1312, 1316, 1317, 1328, 1342, and 1344 of this title, the discharge of any pollutant by any person shall be unlawful.

Permitting Process & Regulatory Requirements

- ▶ Point source discharge
- ▶ Permit application – identifying all discharges
- ▶ Permitting authority must identify limitations necessary for point source discharge to comply with CWA/State Statutes
 - For SSOs, what is appropriate limit?
 - Prohibition – Justified by what regulation?
 - Secondary treatment – what does that mean in context of non-continuous discharge?

Permit Process

- ▶ Permit Application – Identifies all outfalls, including SSO points
- ▶ Permit development must include
 - limits for all outfalls -- 122.45(a)
 - Technology-based limits -- 122.44(a)
 - Is the outfall for a POTW or non-POTW?
 - If POTW, technology-based limits **must be based upon secondary** treatment standard - 40 CFR 125.3 & 133.102.
 - Based upon does not necessarily mean weekly and monthly limits, especially when the discharge is non-continuous - see 122.45(d) & (e).
 - If Non-POTW, then BAT/BCT limits using BPJ

Continuous versus Non-continuous

- 122.45(d) & (e)
 - Continuous – requires daily maximum and monthly average for non-POTWs and weekly and monthly average limits for POTWs
 - Non-continuous – allows permit writer to consider a number of options based on the type of discharge.

Based upon Secondary

- 40 CFR 133.102 – Limits for secondary are 30/45 mg/l (monthly/weekly) for BOD & TSS
- Continuously discharging plant
- Play with statistics and the curves that developed these limits, you cannot reproduce the 30/45 numbers, but get close.
- Can use the curves to develop a daily average number that is around – 90 mg/l
- Can also use 122.45(e) and 122.44(k) and EPA policy memos to argue for BMPs (CMOM)

Water Quality-based Limits (40 CFR 122.44(d))

- EPA 1986 Guidelines - Bacteria criteria
- BEACH Act rule – good source of background information that can be used in establishing WQS
- Very difficult to set a WQBEL with a highly variable, noncontinuous discharge

BMPs and CMOM and Asset Management

- Note consent decree ends with CMOM (and some form of “enforcement discretion”)
- At the end of a consent decree, what does the next permit look like?

Permits and SSOs

- Using 40 CFR 122.45(e) and 122.44(k) apply CMOM as BMP limit
- Serves as both a technology-based and water quality-based limit
 - Caveat – where WQS allow flexibility to address wet weather conditions
- Provides necessary flexibility to develop permits on a watershed basis, integrate requirements and apply resources where it makes the most sense.

Another Option

- SSOs and CSOs what is the difference?
- CSOs are not POTWs because they are designed to discharge, not to convey wastewater to a treatment plant (CSO Policy, citing Montgomery Coalition decision)
- SSOs that are from designed overflow points are also “designed to discharge, not convey wastewater to the treatment plant.”
- Permit SSOs like CSOs

Peak Excessive Flow Treatment Facility in collection system

- Similar to SSO approach
- Non-Continuous (122.45(e))
- Argue not a POTW based on Montgomery Coalition and CSO Policy
- Permit using BAT/BCT
- BMPs with some performance guidelines

Blending/Peak Flows at the Plant

- 40 CFR 125.3 – Secondary treatment standards are applied to the “POTW.”
- The discharge must meet effluent limits (Technology-based and water quality-based, as necessary)
- Not a bypass – bypass requires “intentional diversion.” Cannot have diversion when operating as designed.
- Bypass regulations applies to industrial and municipal

Other Permit Language Issues

- Blending/Peak Flows – these are not bypasses. They do not “divert” flow “from” the treatment facility – Definition of Bypass
- CSO related Bypass – Draft CSO policy in 1992 clearly states, "For a POTW a bypass does not refer to flows or portions of flows that are diverted from portions of the treatment system but that meet all effluent limits for the treatment plant upon recombining with non-diverted flows prior to discharge."
- Basement backups – are not point sources and should not be mentioned in NPDES permits.

One Last Thought

- “Even with exemplary management, a collection system operator cannot prevent acts of vandalism, third party negligence, acts of war, extreme wet weather events and other acts of God. For example, one of Rockville’s recent overflows was the result of a student flushing a T-shirt down the toilet as a prank at a local high school. The resulting blockage caused an overflow that triggered a State enforcement response against the City. Municipalities should not face Clean Water Act liability for acts of others or nature beyond their ability to control.”

Looking Ahead

- Potential 'Overflow Right-To-Know' legislation
 - Requirements for detection programs
- Technology Advancements
 - Monitoring for Detection/ Telemetry
 - Trenchless technologies
 - Modeling
 - EPA's SSOAP approach
 - Electronic Reporting
 - Wet Weather Treatment

Summary and main points

- SSOs cannot be fully eliminated, but can be controlled to a specified level on a site-specific basis
- NPDES permit program includes a lot of flexibility
- SSOs are point sources and should be addressed through the NPDES program like any other point source
- Blending is not a bypass. Cannot have a bypass if treatment plant is being operated as designed and meeting limits
- Limits for POTWs apply at the end of the POTW
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