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LOCAL LIMITS & ECONOMIC DOWNTURNS

John R. Parnell **Pretreatment Solutions, Inc Your Compliance Partners**

FIPA Spring Meeting

Belleview Biltmore Hotel, Friday March 20, 2009



Allowable Headworks Loadings

Allowable Headworks Loadings



62-640.700 Residuals Cumulative copper = 1340 lbs/acre



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Calculate % Removal Rate

If a POTW has an influent Copper of 0.83 mg/l and an effluent BOD of 0.0034 mg/l, what is the %removal rate (efficiency)? 0.08 mg/l – 0.0034 mg/l x 100 = 95.8% 0.08 mg/l



Effluent-Quality Based AHLs

$$AHL_{npdes} = \frac{(8.34)(C_{npdes})(Q_{potw})}{(1 - R_{potw})}$$

$\overline{\text{AHL}} = 8.34 \text{ x } 0.0037 \text{ x } 20/(1 - 0.958)$

AHL = 14.7 lbs of copper = MAHL



DETERMINE THE MAIL





Allocate MAIL to IUs

- **1.** Uniform Concentration
- 2. Industrial User Contributory Flow
- 3. WYNIWYG
- 4. Mass Proportional Limits
- 5. Selected Industrial Reduction



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Can More than One Method be Used?

- EPA does NOT dictate allocation method
- Any allocation method can be selected as long as it is:
 - Protective, Enforceable, and Reasonable

One or more allocation methods can be used (different allocation methods for different pollutants)



Allocation Approaches 1. Uniform Concentration

Limit (mg/l) = <u>MAIL in POUNDS per Day</u> Total Controllable flow (MGD) x 8.34

Limit (mg/l) = $\frac{10.557}{10 \times 8.34}$ = 0.127 mg/l



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Uniform Concentration Allocation MAIL = 10.557 lbs COPPER) **ALLOCATE ONE LIMIT BASED ON FLOW FROM ALL SIUs** = 10.557 lbs / 10 x 8.34 = 0.127 mg/l TOTAL FLOW = 10,000,000 gallons **3 MILLION 1 MILLION 2 MILLION 1 MILLION 1 MILLION 2 MILLION** Limit applies at End of Pipe for all users (CIUs limits are End of Process)



Option 1 Advantages

- No economic advantages to any industry
- Easy to calculate and apply
- Allows for industrial growth in certain areas of the municipality
- Wastewater can be switched from one POTW to another
- Sewer Use Ordinance contains limits that apply to ALL users



Option 1 Disadvantages

- Limits may be overly stringent for some industries
- Inflexible, no consideration given for actual POC discharges
- Overprotection of the POTW
- Penalizes water conservation
- Can create unnecessary noncompliance



Allocation Approaches 2. Industrial User Contributory Flow

- Calculate total flow from SIUs that have a pollutant in their discharges at greater than background levels
- **Divide MAIL by this flow**



New concentration based limit applies ONLY to selected SIUs



Solutions, Inc. 665 Palos Paca Bataly Markey, RJ, 24838 227-744-3362

Industrial User Contributory Flow

MAIL = 10.557 lbs COPPER **ALLOCATE ONE LIMIT BASED ON FLOW FROM INDUSTRIES** THAT DISCHARGE POLLUTANT ABOVE BACKGROUND LEVELS = 10.557 (less 0.6 lbs) per 6 MGD = 0.199 mg/l



2 MILLION

1 MILLION

1 MILLION

2 MILLION



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Industrial User Contributory Flow

SIUs that discharge at or below the background level are given a background allocation

Sometimes a different allocation can be justified based on actual sample data



Advantages

- Common discharge limit established for all users identified as discharging a given pollutant
- MAIL apportioned more efficiently only to SIUs discharging the pollutant above background levels
- Limits usually higher than uniform method
- Unnecessary noncompliance reduced



Disadvantages

Need accurate flow and pollutant data for each SIU
 Penalizes water conservation
 SUO cannot contain limits



Allocation Approaches 3. What You Need is What You Get WYNWYG

- IU Limits Set on Case-by-Case Basis
- Limits Can Be Based on:
 IU current loading
 IU Ability to Pretreat Pollutants
 Any other Factor POTW determines
- Limits: Concentration or Mass based



retreatment Solutions, Inc. 665 Palos Parca Butaly Washing RL 24830 227-244-2302

Industrial User Contributory Flow

MAIL = 10.557 lbs COPPER

ALLOCATE ONE LIMIT BASED ON FLOW FROM INDUSTRIES THAT DISCHARGE POLLUTANT ABOVE BACKGROUND LEVELS = 10.557 (less 0.6 lbs) = 9.957 lbs



1 MILLION



Background 4M x 0.018mg/L

1 MILLION

FLOW = 6,000,000gallons



3 MILLION







2 MILLION

2 MILLION



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Industrial User Contributory Flow

MAIL = 10.557 lbs COPPER

ALLOCATE ONE LIMIT BASED ON FLOW FROM INDUSTRIES THAT DISCHARGE POLLUTANT ABOVE BACKGROUND LEVELS = 10.557 (less 0.6 lbs) = 9.957 lbs

FLOW = 6,000,000 gallons



1 MILLION 1.6595 lbs Pounds 2.50 lbs Limit 0.3 mg/l



2 MILLION 3.319 lbs 4.5 lbs 0.27 mg/l



3 MILLION 4.9785 lbs 2.957 lbs 0.118 mg/l



Advantages

MAIL apportioned more efficiently Only to SIUs discharging pollutant above background levels > No "unused" POTW capacity Limits higher than uniform method > Avoids setting excessively stringent or unachievable limits Provides flexibility Unnecessary noncompliance reduced



Disadvantages

More labor-intensive for POTW at permit issuance and permit renewal Requires more knowledge about IU Can't "xerox" permits-each is different! Need flow/pollutant data for each SIU Perception of "inequitable" allocation SUO cannot contain limits





POTW needs to assure that sum of allocated loadings is not > MAILMust have mechanism to track loading allocated to each **IU/compare to MAIL** POTW should provide for at least background allocation for each pollutant for each IU



WYNIWYG Allocations

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- Equitable method for all SIUs
- Most representative of actual POTW capabilities
- Reduces cost of compliance for most SIUs
- Properly administered, it is technically defensible

- Complicated method to administer
- Requires detailed tracking system
- Requires detailed support documentation for allocations
- Compliance evaluation is specific to individual permits