



# Pretreatment Standards





# Pretreatment Standards

- ❖ General and specific prohibitions
- ❖ Categorical standards
- ❖ Local limits



## General Prohibitions [40 CFR § 403.5(a)(1)]

No user shall introduce into a POTW any pollutants which cause Pass Through or Interference.



## **Specific Prohibitions** [40 CFR § 403.5(b)]

- Pollutant(s) creating a fire or explosion hazard
- Pollutants causing corrosive structural damage
- Solid/viscous pollutants causing obstruction
- Pollutants released at a flow rate or concentration causing Interference



# Specific Prohibitions, cont.

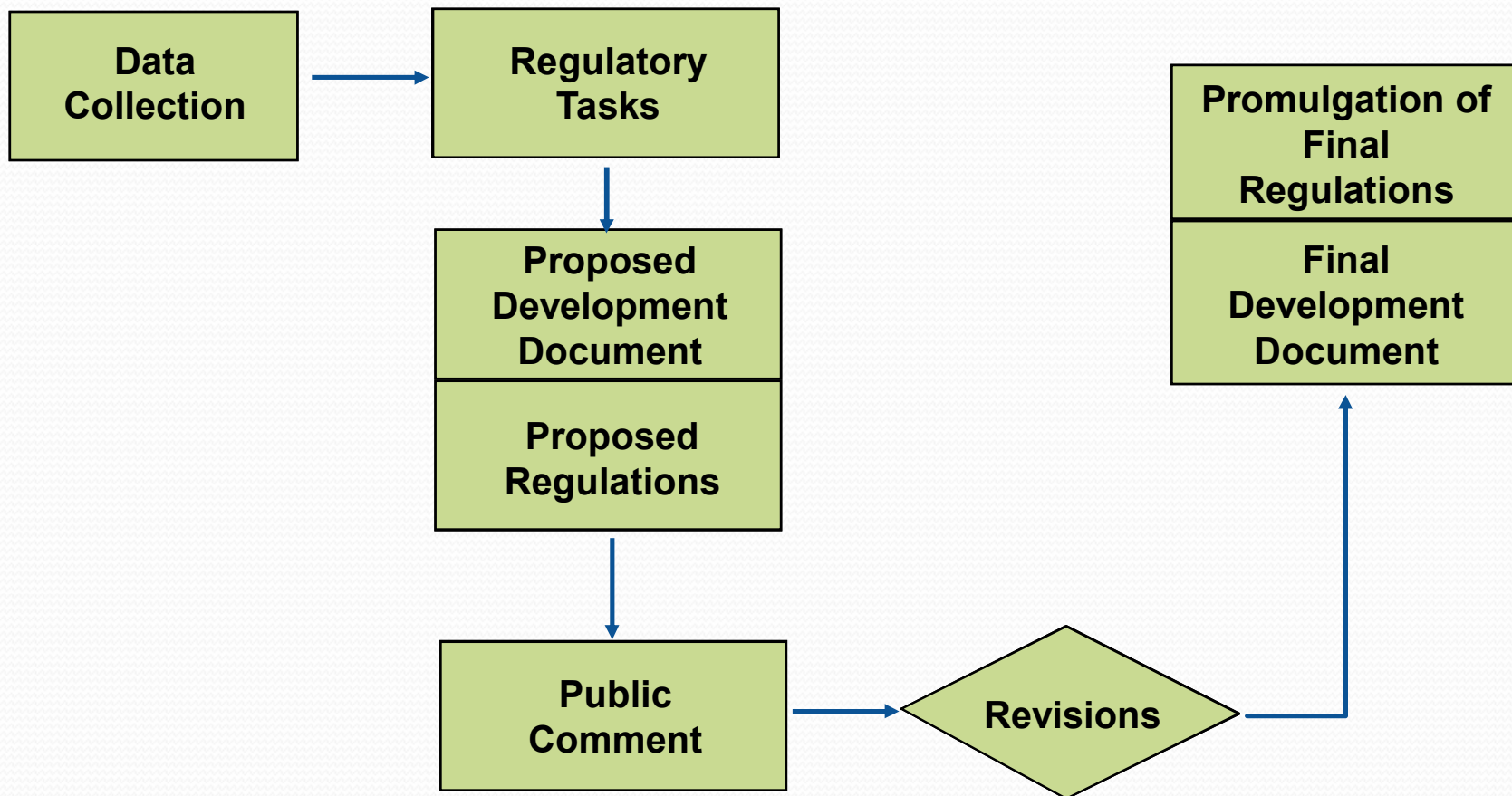
[40 CFR § 403.5(b)]

- Heat in amounts causing interference
- Certain oils in amounts causing interference or pass through
- Pollutants resulting in the presence of toxic gases, vapors or fumes above acute worker exposure levels
- Trucked or hauled pollutants

# Categorical Standards

- ◆ Applicable to specific industry categories
- ◆ Arose from 1976 EPA/NRDC agreement.
- ◆ Currently at 51 categories.
- ◆ Found in 40 CFR Parts 405-471.
- ◆ Applicable to direct & indirect dischargers.
- ◆ The CWA(304(m)) requires that every two years EPA develop and publish plans for effluent guidelines, review, revision, development, and adoption.

# Flow Chart of Development Process





# Categorical Standards

- National standards
  - ◆ technology available
  - ◆ economic impacts
  - ◆ processes performed
- Apply to regulated process flow only
- Concentration or mass based limits
- Daily maximum and long term averages
- Developed for new and existing sources





# **Why is Existing/New Source Determination So Important?**

- New source standards most times are more stringent
- New sources required to be in compliance upon commencement of discharge
- Existing sources can have up to three years after the effective date of the standard to achieve compliance



# Production Based Standards

## Equivalents

- ◆ mass based limitations
- ◆ concentration based limitation





## Standards

Daily/Maximum.....	0.004 kg Cu/ton of product
Maximum Monthly Average....	0.002 kg Cu/ton of product

## Conditions

Average Production (2009).....	500 tons of product/day
Average Flow (2009).....	200,000 GPD (0.2 MGD)

## Equivalent Mass Limits Calculations

Daily Maximum	0.004 kg Cu/ton X 500 tons/day	= <u>2 kg Cu/day</u>
Maximum Monthly Average	0.002 kg Cu/ton X 500 tons/day	= <u>1kg Cu/day</u>



## Standards

Daily/Maximum.....	0.004 kg Cu/ton of product
Maximum Monthly Average....	0.002 kg Cu/ton of product

## Conditions

Average Production (2009).....	500 tons of product/day
Average Flow (2009).....	200,000 GPD (0.2 MGD)

## Equivalent Concentrations Limits Calculations

Daily Maximum	$\frac{0.004 \text{ kg Cu/ton} \times 500 \text{ tons/day}}{0.2 \text{ MGD}}$	x 0.264*	= <u>2.6 mg/l</u>
Maximum Monthly Average	$\frac{0.002 \text{ kg Cu/ton} \times 500 \text{ tons/day}}{0.2 \text{ MGD}}$	x 0.264*	= <u>1.3 mg/l</u>

\* Factor converting kg/MGD to mg/l





# Wastestream Types

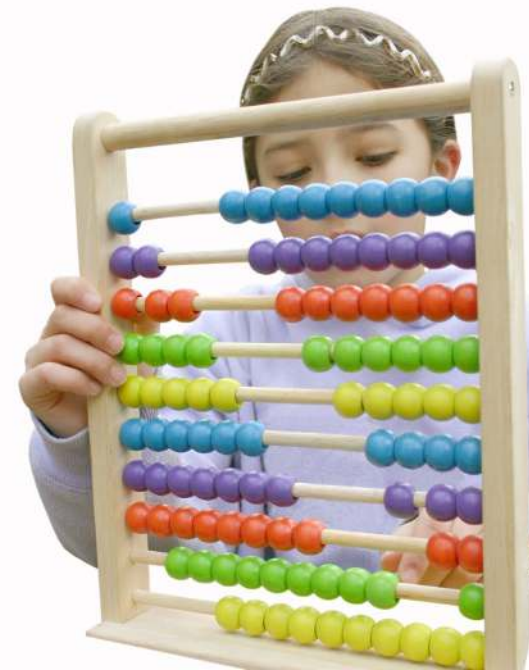
- ◆ Regulated process wastestreams
- ◆ Unregulated process wastestreams
- ◆ Dilute wastestreams

# Wastestreams and Calculations

## **Combined Wastestream**

**Formula(CWF)** is used where regulated, unregulated and/or dilution wastestreams are combined prior to pretreatment.

**Flow Weighted Average(FWA)** formula is used when regulated, and unregulated and/or dilution wastestreams combine after pretreatment, but prior to the specified monitoring location.



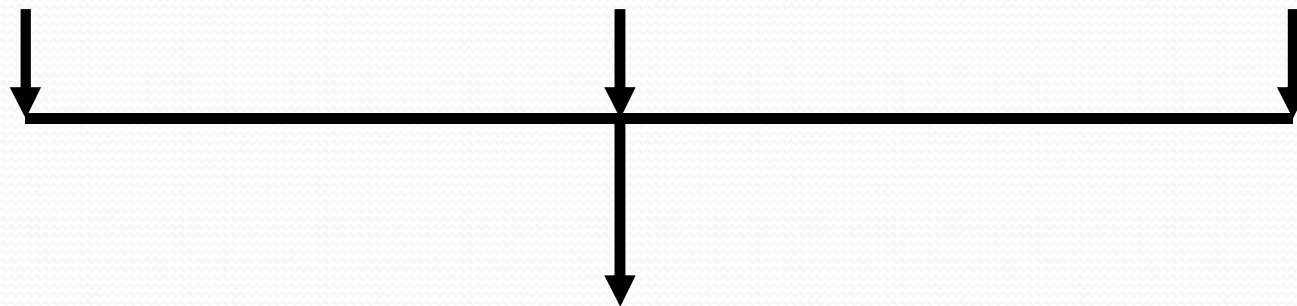


# CWF vs. FWA

Regulated

Unregulated

Dilution



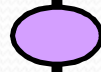
Pretreatment

Point A



← CWF

Point B



← FWA or CWF

Dilution

POTW



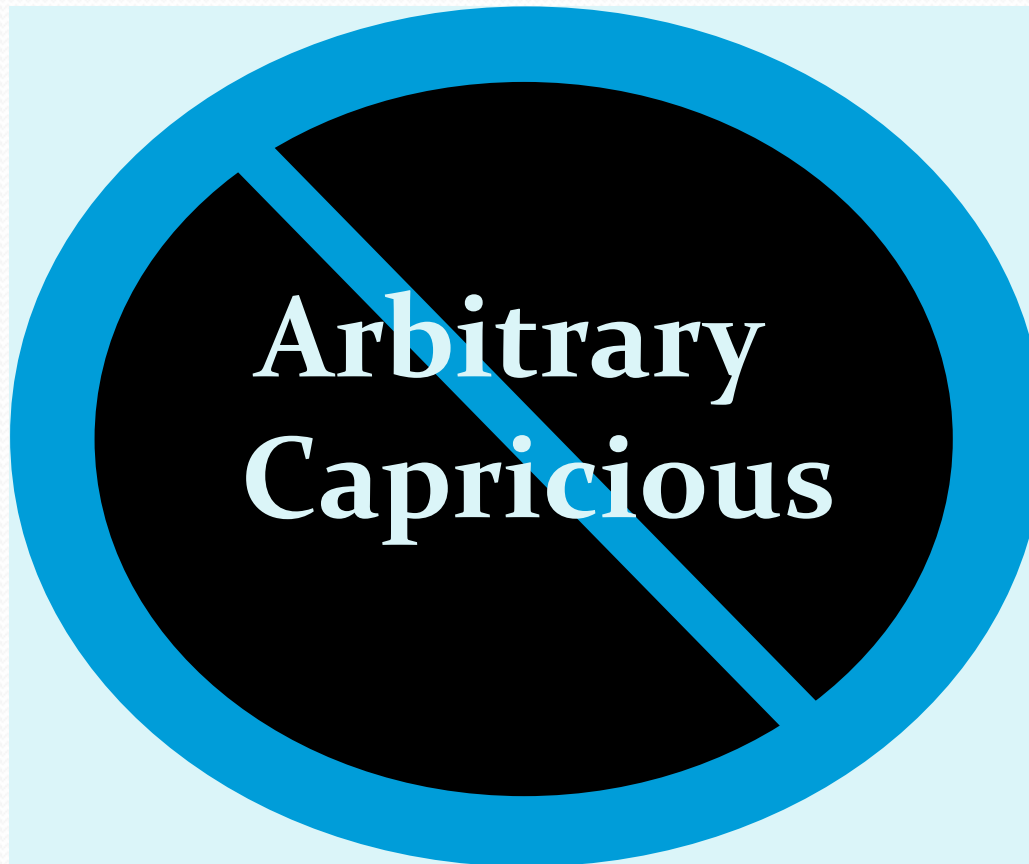
Category	Wastestream Type	Average Flow (MGD)	Daily Max ZN Limit (mg/l)	Max. Monthly Avg. Zn Limit (mg/l)
Metal Finishing	Regulated	0.020	2.61	1.48
Sanitary Waste	Dilution	0.003	N/A	N/A

## CWF Limit Calculations

Daily Maximum	$\text{Zn}_{\text{cwf}} = \frac{2.61 \text{ mg/l} \times 0.02 \text{ MGD}}{(0.02 + 0.003) \text{ MGD}} = \underline{2.27 \text{ mg/l}}$
Maximum Monthly Average	$\text{Zn}_{\text{cwf}} = \frac{1.48 \text{ mg/l} \times 0.02 \text{ MGD}}{(0.02 + 0.003) \text{ MGD}} = \underline{1.29 \text{ mg/l}}$



# Application of Categorical Pretreatment Standards





# Total Toxic Organics(“TTOs”)

- Defined in categorical regulation
- Toxic Organic Management Plan(“TOMP”)
  - ◆ toxic organic compounds used
  - ◆ method of disposal
  - ◆ spill prevention/control
- Certification in lieu of self-monitoring
- Oil and grease





# Other Things to Consider...

**Dilution prohibition** - [40 CFR § 403.6(d)]

**Removal credits** - [40 CFR § 403.7]

**Fundamentally different factors** - [40 CFR § 403.13]

**Net/Gross calculation** - [40 CFR § 403.15]



# Question

- A plating shop has been in business since 1980. In 1990, it was bought out by Such N Such Metal Finishing. Is Such N Such Metal Finishing, a new source?