

DEVELOPING INDUSTRIAL USER PERMITS AND SEWER USE ORDINANCES

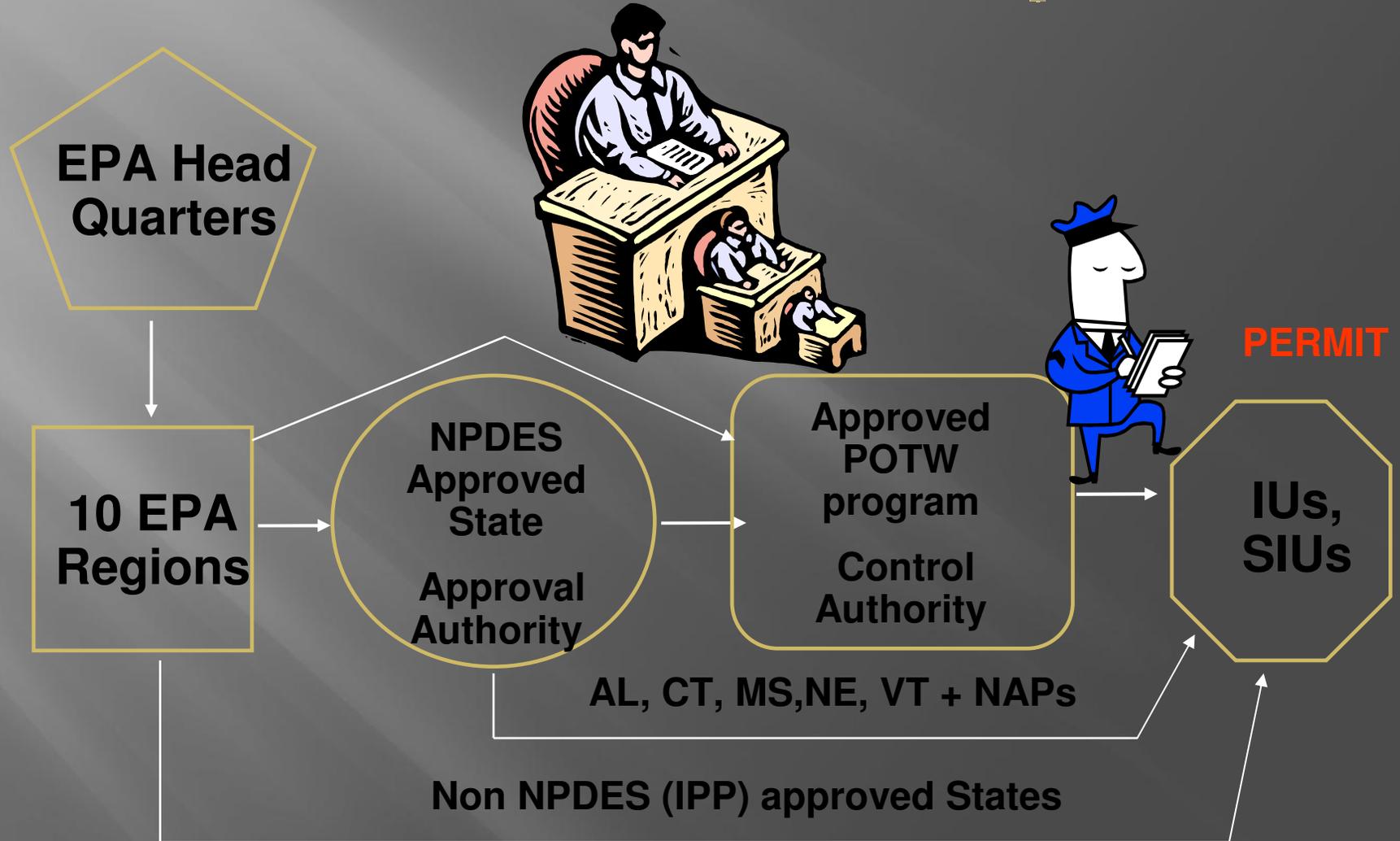
Colorado River Basin Regional Water Quality
Control Board

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Who Issues the Permit? Pretreatment Family Tree

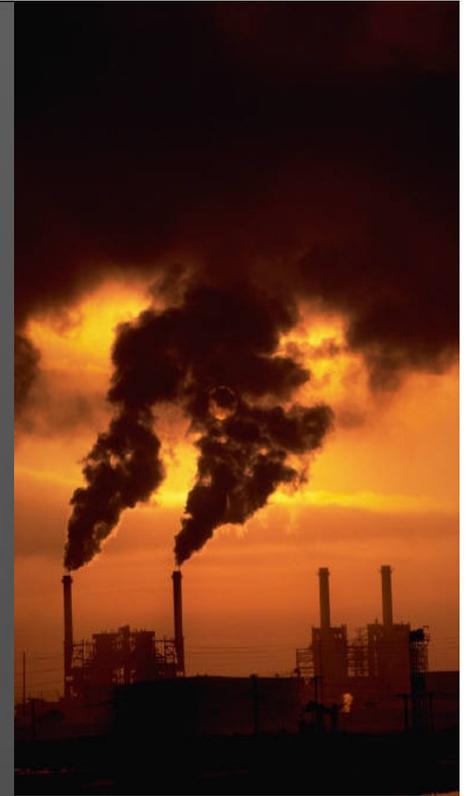


Who to Permit

- Significant industrial users (SIUs)
 - Categorical
 - Other

- Non-significant industrial users

- Waste haulers



Minimum Permit Contents

40 CFR 403.8(f)(1)(iii)(B)1-6

- ▣ 1. Statement of Duration (Maximum 5 years)
- ▣ 2. Statement of Non-transferability without specific criteria.
- ▣ 3. Industrial effluent limits
- ▣ 4. Self-monitoring, sampling, reporting notification and recordkeeping requirements.
- ▣ 5. Statement of applicable civil and criminal penalties and any applicable compliance schedules.
- ▣ 6. Requirements to control slug discharges.

Permit Structure and Wording

- Wording can affect permit enforceability
- Do's:
 - 4 Use specific language
 - 4 Develop concise and complete conditions and requirements
 - 4 Write clearly and simply
 - 4 Avoid conflicting language



Common Errors and Omissions

– Improper calculation of standards

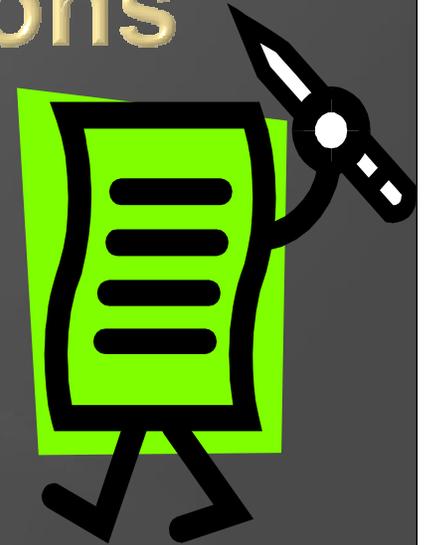
Failure to:

- ✓ Apply the most stringent limit
- ✓ Include all specific requirements
- ✓ Regulate all discharge points
- ✓ Include standard conditions
- ✓ Specify signatory requirements
- ✓ Account for predictable variations



5. Standard Conditions

- ▣ Developed once
- ▣ Reviewed by legal staff
- ▣ May be periodically re-reviewed
- ▣ Often reiterate local program provisions
- ▣ Outline the general duties and responsibilities of each IU



Examples of Standard Conditions

- ▣ Definitions
- ▣ Duty to comply
- ▣ Duty to mitigate
- ▣ Permit reopener clause
- ▣ Legal remedies and enforcement measures
- ▣ Terms for permit revocation
- ▣ etc.

Section VI.

Special Conditions

- ▣ Tailored to the particular permittee
- ▣ Based on the fundamental principle of reasonableness...e.g.
 - Compliance schedules
 - Management practices
 - Special Monitoring Requirements

Effluent Limitations

- ▣ Applying Effluent Limits
 - **Point of application**, (CWF, FWA, etc)
 - **Type of limit** (daily max, monthly average etc.)
 - **Units** (mg/l, lbs/day etc)
 - **Most stringent limit** application
 - **Tiered Permit** applications



General & Specific Prohibitions

- ▣ Prohibit Pass Through & Interference
 - Narrative limit
 - Other approach
- ▣ Prohibit Specific parameters
 - pH
 - Oil & grease
 - Others
- ▣ Apply to all IUs

Select Pollutants to be Regulated

- ▣ Determine pollutants that are present
- ▣ Determine pollutants requiring regulation
 - National prohibited discharges
 - Categorical pretreatment standards
 - Local limits

Categorical Pretreatment Standards, Overview

- ▣ Technology-based standards for selected industry types
- ▣ Generally promulgated for both existing sources and new sources
- ▣ Can be concentration-, mass- or production-based
- ▣ May include daily-maximum and long-term average limitations

Applying Categorical Pretreatment Standards

- ▣ Category(ies) and subcategory(ies)
- ▣ Existing or new source
- ▣ Regulated, unregulated, and dilute wastestreams
- ▣ Sampling locations
- ▣ Calculations
- ▣ Compliance date
- ▣ Compliance schedule

Local Limits

- ▣ May be established for any number of pollutants
- ▣ Local regulations may contain all the local limits
- ▣ Allocation of loadings
 - Same limits to all IUs
 - Different limits to different IUs

Category Determination & Application of Standards

IU specific information, e.g., IWS questionnaire

Identify production process(es), raw materials, and products

Understand production process(es) and wastestreams generated

Contact EPA/State staff for assistance, if necessary

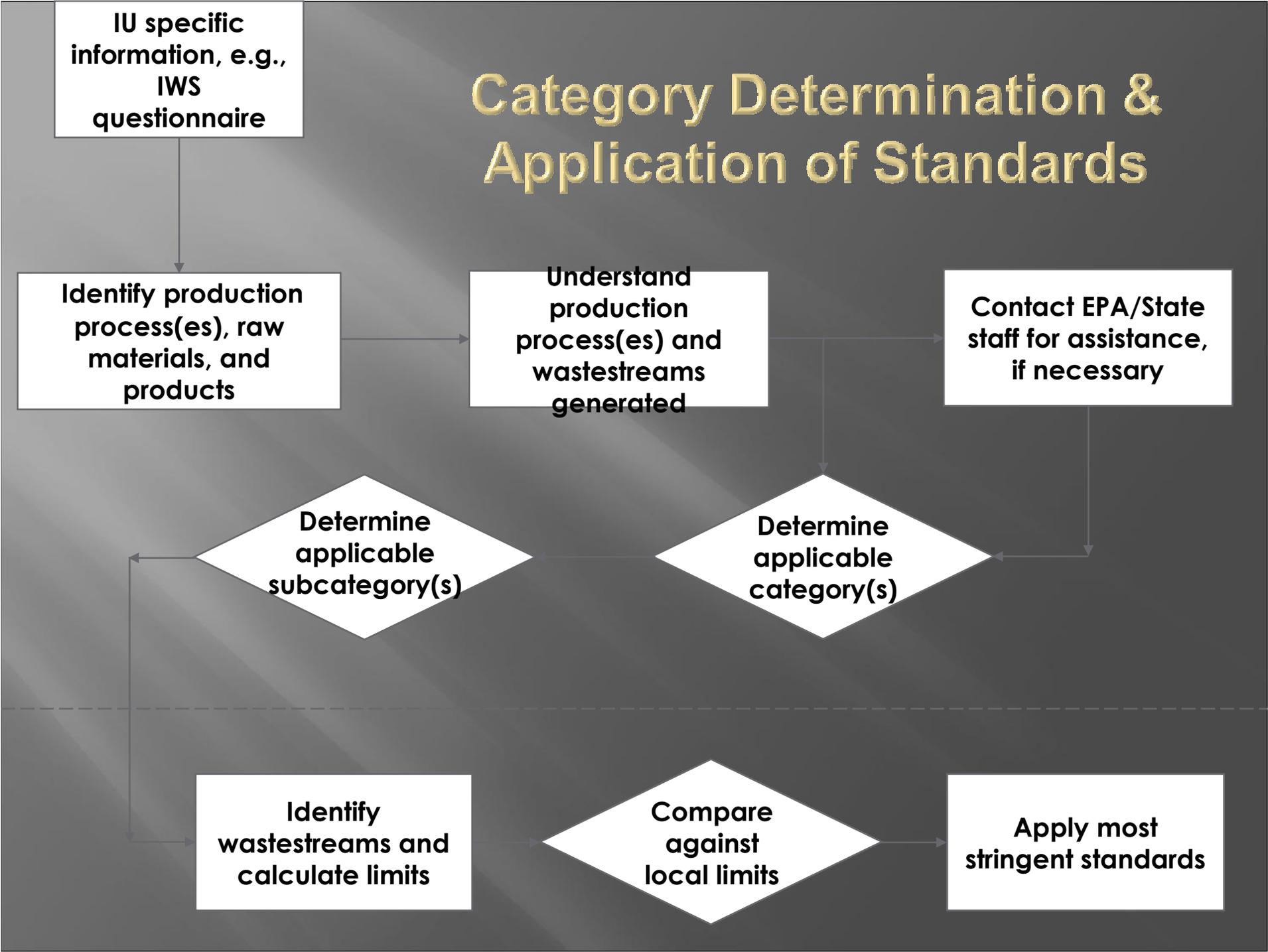
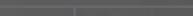
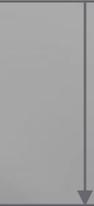
Determine applicable subcategory(s)

Determine applicable category(s)

Identify wastestreams and calculate limits

Compare against local limits

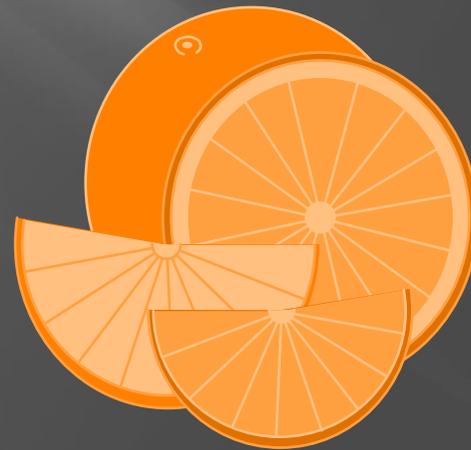
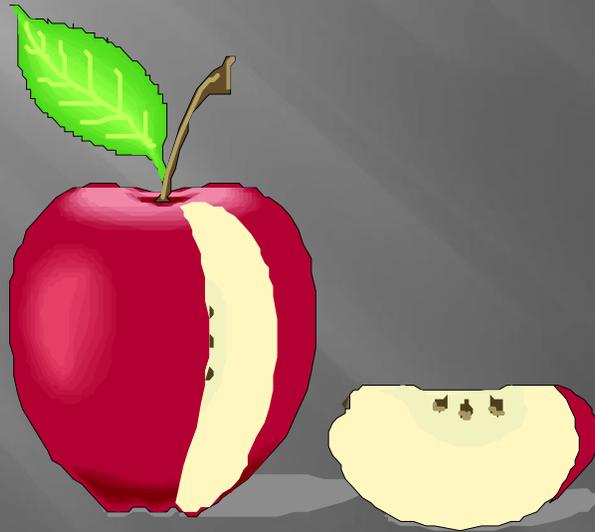
Apply most stringent standards



Apply Effluent Limits

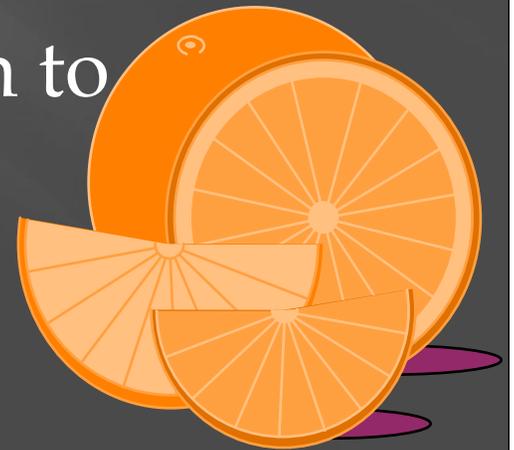
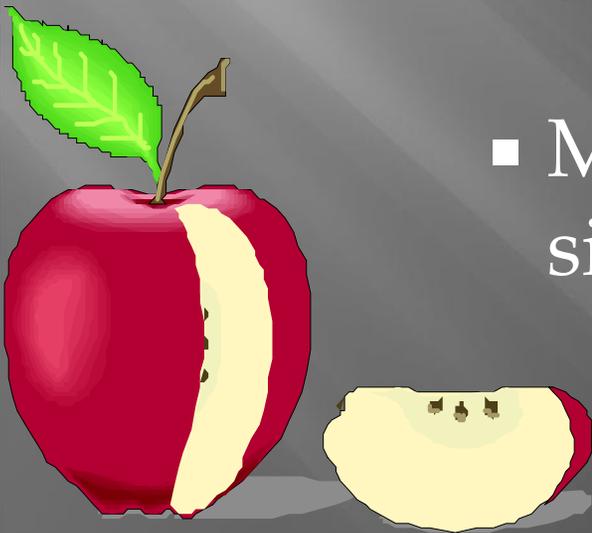
- ▣ Point where limits apply
- ▣ Limit units
 - e.g., mg/l, lbs/day
- ▣ Limit type
 - e.g., instantaneous maximum, daily maximum, 4-day average, monthly average

Relationship of Local Limits to Categorical Pretreatment Standards



Comparing Categorical Pretreatment Standards and Local Limits

- ▣ Direct comparison
 - Allowed where only regulated wastewater is discharged
 - May require conversion to similar units



	<u>PSES Daily</u>	<u>PSES Monthly</u>	<u>Local Limit Daily</u>
Cd	0.69	0.26	0.61
Cr	2.77	1.71	2.85
Cu	3.38	2.07	3.78
Pb	0.69	0.43	0.50
Ni	3.98	2.38	2.65
Ag	0.43	0.24	0.74
Zn	2.61	1.48	1.39
CN-	1.20	0.65	0.87
TTO	2.13	-----	-----

Commingled Wastestreams

- ▣ Adjustment of categorical pretreatment standards
- ▣ Combined wastestream formula (CWF)
- ▣ **Flow weighted average (FWA)**
Adjusts for commingling wastestreams prior to pretreatment

Adjusts for commingling wastestreams after pretreatment

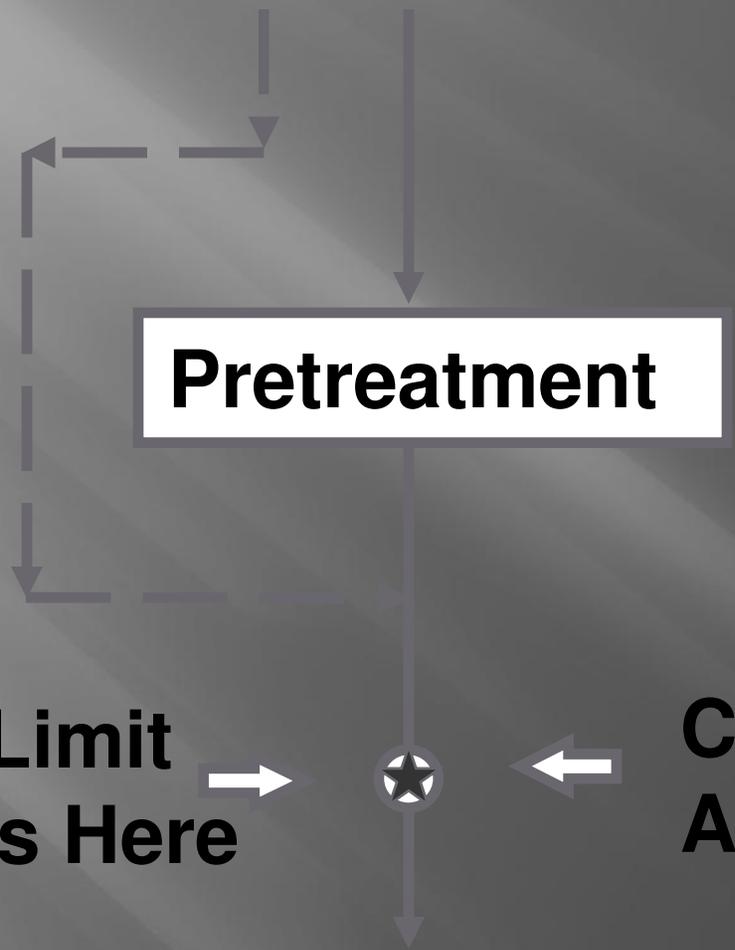
Regulated A

Pretreatment

**Local Limit
Applies Here**

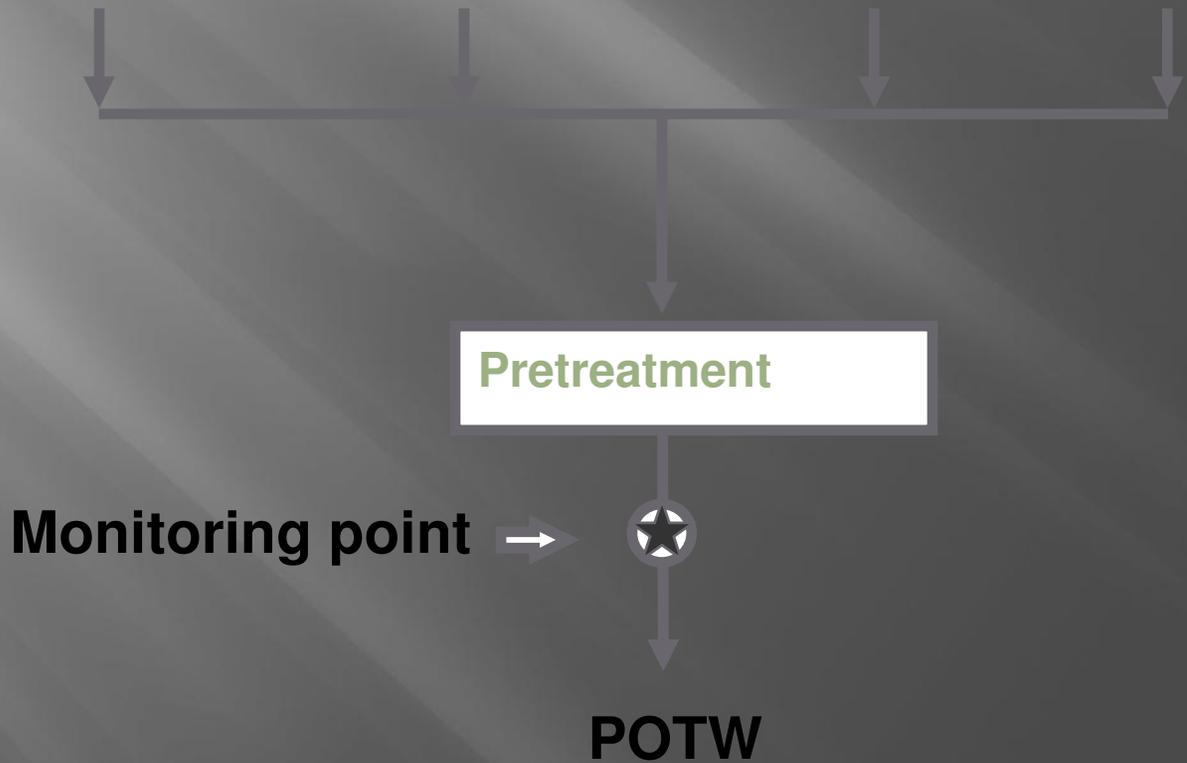
**Categorical Standard
Applies Here**

POTW

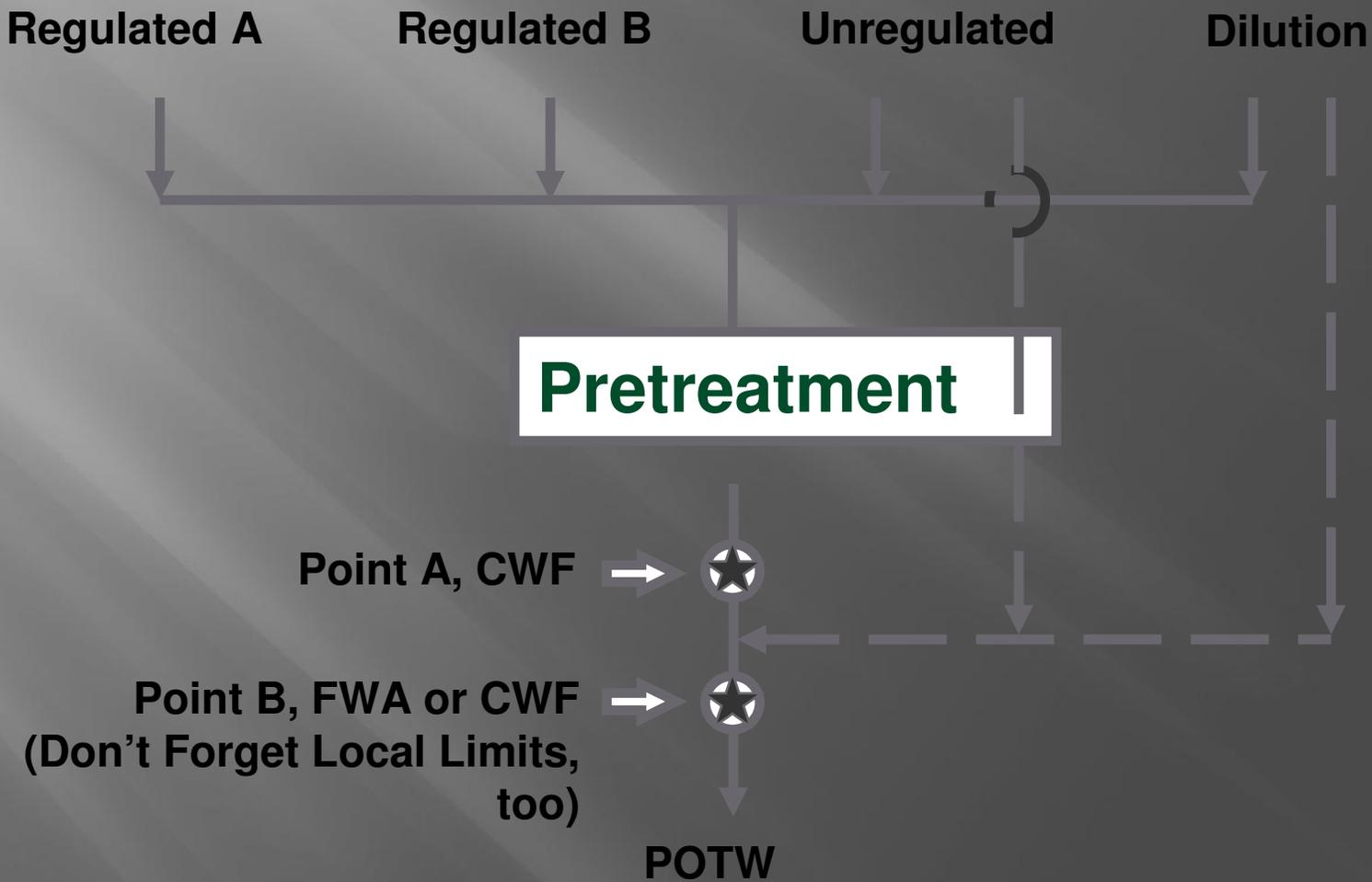


Combined Wastestream Formula (CWF)

Regulated A Regulated B Unregulated Dilution



CWF vs. FWA



CWF Considerations

- ▣ Enforceable as categorical standards
- ▣ Established for each regulated pollutant
- ▣ May require converting concentration-based standards to mass-based, or vice versa
- ▣ Calculated for daily maximum and long-term averages
- ▣ Must be greater than analytical detection limit
- ▣ Special considerations

CWF: Alternative Concentration Limit Formula

$$C_T = \frac{\sum_{i=1}^N C_i F_i}{\sum_{i=1}^N F_i} \times \left(\frac{F_T - F_D}{F_T} \right)$$

Where:

C_T = Alternative CWF concentration limit

C_i = Categorical pretreatment standard concentration limit for regulated stream "i"

F_i = Average daily flow for regulated stream "i"

F_T = Average daily flow through combined treatment facility (TOTAL)

F_D = Average daily flow of "dilute" streams

Category	Wastestream Type	Average Flow(MGD)	Daily Max. Zn limit(mg/l)	Max. Monthly Avg. Zn limit(mg/l)
Metal Finishing	Regulated	0.025	2.61	1.48
Porcelain Enameling (Subpart A)	Regulated	0.020	1.33	0.56
Facility washdown	Unregulated	0.0005	full credit	full credit
Cooling tower bleedoff	Dilution	0.0003	N/A	N/A

CWF limit calculations

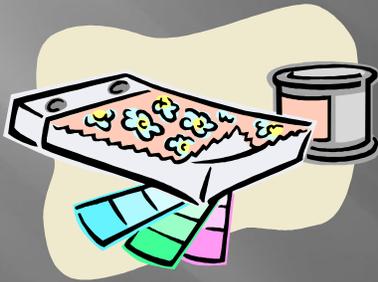
Daily Maximum Zn CWF

$$\frac{(2.61 \text{ mg/l} * 0.025 \text{ MGD}) + (1.33 \text{ mg/l} * 0.02 \text{ MGD})}{(0.025 \text{ MGD} + 0.02 \text{ MGD})} \times \frac{(0.025 + 0.02 + 0.0005) \text{ MGD}}{(0.025 + 0.02 + 0.0005 + 0.0003) \text{ MGD}} = 2.03 \text{ mg/l}$$

Maximum Monthly Average Zn CWF

$$\frac{(1.48 \text{ mg/l} * 0.025 \text{ MGD}) + (0.56 \text{ mg/l} * 0.02 \text{ MGD})}{(0.025 \text{ MGD} + 0.02 \text{ MGD})} \times \frac{(0.025 + 0.02 + 0.0005) \text{ MGD}}{(0.025 + 0.02 + 0.0005 + 0.0003) \text{ MGD}} = 1.06 \text{ mg/l}$$

Monitoring Requirements



Pollutants to be Monitored

- ▣ Include numerical limits
- ▣ Include all categorical pretreatment standards
- ▣ Include other parameters subject to local limits if justified
- ▣ Include monitoring for unregulated pollutants of potential concern if justified
- ▣ Include flow monitoring where required

Clarifying Alternate Options

- ▣ O&G in lieu of TTO
- ▣ Certifications in lieu of periodic monitoring
 - Prior sampling and/or plan required
 - Certification contents
- ▣ Engineering calculations

Fact Sheets: Documentation of Permit Decisions

- Permanent record
 - Procedures followed
 - Basis of decisions made
- Useful in the event of permit challenge
- Streamline future permit re-issuance

Sewer Use Ordinance

- ▣ Using the EPA Model Ordinance
- ▣ Legal Authority Checklist