The Local Limits Report – What Should it Include?

California Regional Water Quality Board
Colorado River Basin Training
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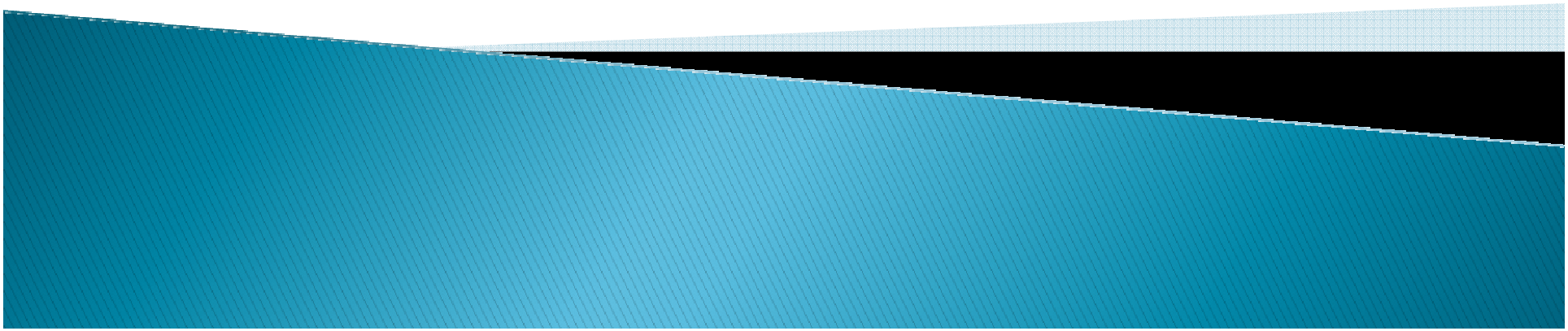
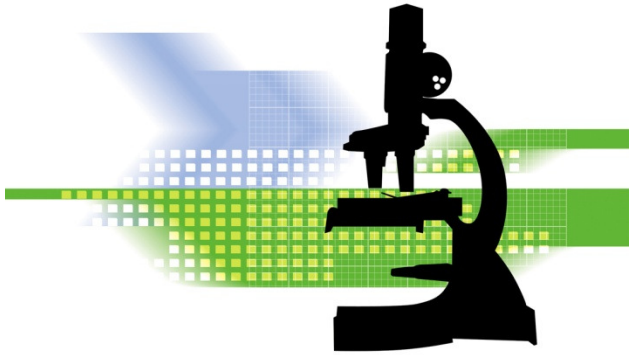


The Initial Review Process

- Is Sufficient Data Included?
  - Domestic Background data
  - WWTP Influent data
  - WWTP Effluent data
  - Sludge sample data
  - Sludge disposal quantity
  - WWTP removal efficiencies



- Why are these Elements important?

Example of the Region 5 Spreadsheet

H14 =IF(E14=0," -",(8.34*E14*C14)/(1-(D14/100)))

TABLE 1

Local Limits Determination Based on NPDES Daily Effluent Limits

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rpotw)	NPDES Daily Limit (mg/l) (Ccrit)	Domestic and Commercial Conc. (mg/l) (Cdom)	Domestic and Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic						0	-	0	-	-	
Cadmium						0	-	0	-	-	
Chromium						0	-	0	-	-	
Hex. Chrom.						0	-	0	-	-	
Copper	2.5	11	66	0.35	1.1	8.5	94.43823529	77.979	7.015411765	0.33647059	10
TSS	2.5	11	95	40	250	8.5	73392	17722.5	48330.3	2318	10
BOD	2.5	11	95	40	250	8.5	73392	17722.5	48330.3	2318	10

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Rpotw) Removal efficiency across POTW as percent.

(Ccrit) NPDES daily maximum permit limit for a particular pollutant in mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

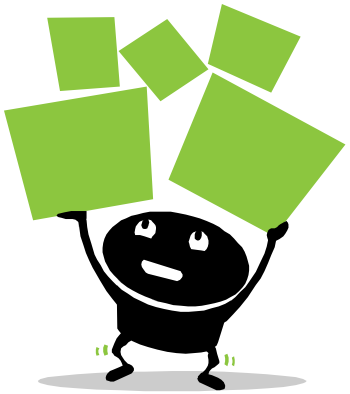
(SF) Safety factor as a percent.

8.34 Unit conversion factor

$$Lhw = \frac{8.34 * Ccrit * Qpotw}{1 - Rpotw}$$

Submittal Content

- Plant Description
- Pollutants of Concern
- Sample Collection
- Data analysis



Submittal Content

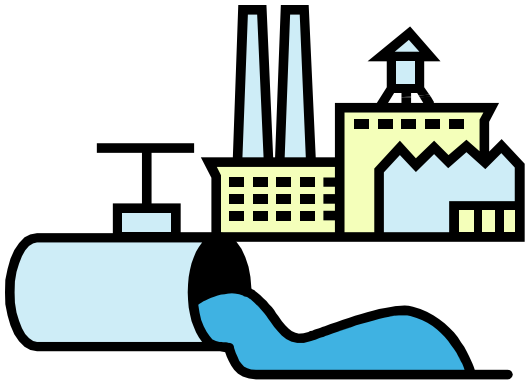
- MAHL and MAIL calculations
- Allocation
- Recommendations
- Public Participation

Submittal Content

- Plant Description
  - Plant capacity
  - Average plant influent (wet and dry season)
  - Average nondomestic flow
  - Plant processes
  - Number of outfalls
  - Is Hauled Waste Received? Type, volume
  - Any plant specific issues (i.e., joint NPDES holder requirements)

Submittal Content (continued)

- Pollutants of Concern (POCs)
  - Documentation of how the POCs were determined
- Sample Collection
  - How samples were collected
  - When samples were collected
  - Where the samples were collected
  - Summary of sample data

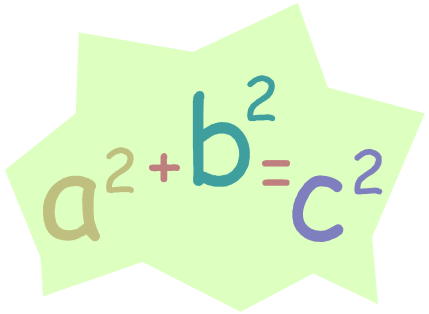


Submittal Content (continued)

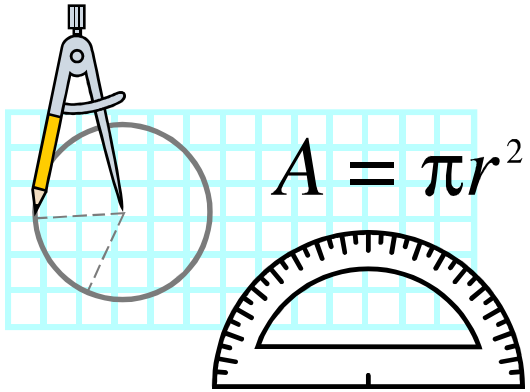
- Data Analysis
  - Summary of influent, effluent, hauled waste, domestic and sludge data
  - Documented rationale for any data that was irregular

Submittal Content (continued)

- MAHL and MAIL calculations and determinations

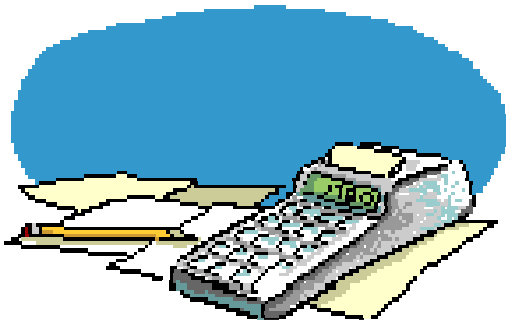


  - Formulas used to calculate MAHL
  - Formulas used to calculate MAIL
  - Safety or growth factors
  - Most limiting factor



Submittal Content (continued)

- Allocations
  - Consideration on how local limits should be applied
    - Instantaneous maximum limits
    - Daily maximum limits
    - Monthly average limits
  - Limits based on acute or chronic criteria



Submittal Content (continued)

- Proposed Limits
  - Documentation of any proposed BMPs
  - Documentation of any narrative limits
  - Table including:
    - Existing numeric limits
    - Proposed numeric limits

Submittal Content (continued)

- Public Participation
  - Documentation of public participation efforts

Missing in Action

- Sufficient Domestic Sampling
- Plant Performance Data (Actual)
- Data Summaries (Inf., Eff., and Domestic)
- Formulas
- Evaluation of all POCs

Missing in Action (con't)

- Information on How Limits will be applied
- Safety or Growth Factors
- Description of the CA's Sampling Regime
  - Junk in = Junk out
- Characteristics of Hauled Waste
  - If accepted by the CA

What Common Mistakes are Made?

- Generosity killed the plant
- Focus is Too Narrow
- Documenting the Thought Process
  - Why were specific POC's eliminated
  - Why were others included

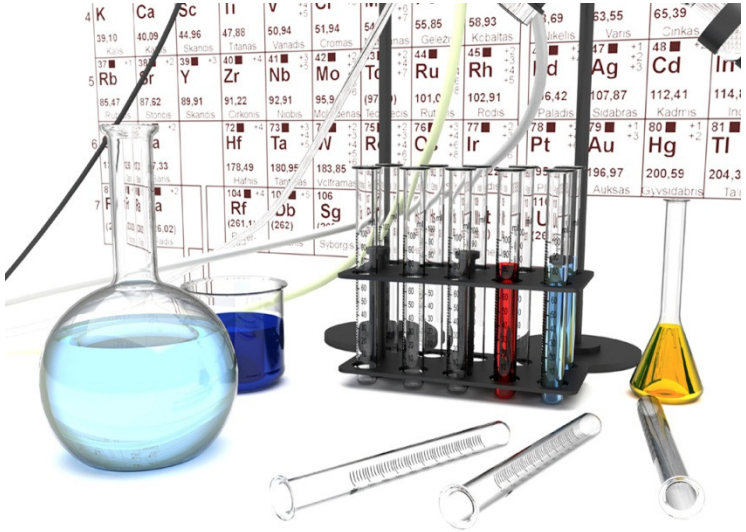
Common Mistakes (con'td)

- Lack of Communication
  - Between CA and Consultant
  - Between Management and Front Line
- Upper Limits for Compatible Pollutants
- Information Outdated
  - IU Inventory changes affect flow data
  - Recent WWTP upgrades

Common Mistakes (con't)

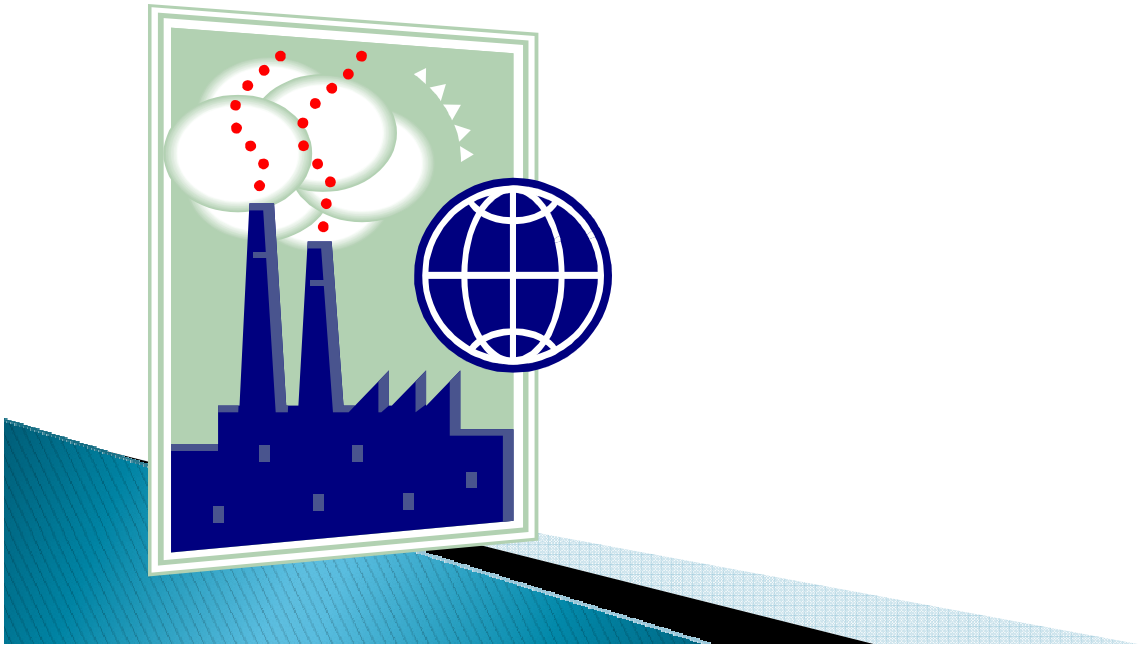
Sample Regime not Reflective of Actual Process

- Use of Incorrect Sampling Methods
- Lack of Public Participation



Common Mistakes (con'td)

Categorical limits used in the local limit calculation.



How Limits Are to be Applied

- What are my options?
  - Specific target: Inst. Max., Daily Max, Monthly Avg.,
  - General Application: “Max Limit”

- Things to consider
  - Standards used for calculation
  - Typical Variances in IU Flow and Processes
  - Frequency of IU Sampling

Most Important Thing about Your Local Limits Development Process

- Someone within your agency must have a familiarity with the decisions made
  - Consultant is not listed on the NPDES Permit
  - POTW is responsible for implementing the limits
- Don't adopt something you are not willing to enforce.

LOCAL LIMITS' RESOURCES

- U.S. EPA website

http://www.epa.gov/npdes/pubs/final_local_limits_guidance.pdf

http://www.epa.gov/npdes/pubs/final_local_limits_appendices.pdf

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