

LEGACY LOCAL LIMITS

A brief overview of a few limits found in many Pretreatment programs.



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PRESENTATION SUMMARY

LEGACY LOCAL LIMITS

- These numeric limitations were adopted many years ago, by many pretreatment programs nationally.
- Justification for the limits may have been forgotten, never documented, or never considered. Pollutants to be discussed currently incorporated into some of Metro District's Wastewater Discharge Permits as site-specific limits are listed below:
 - Oil and Grease (O&G or HEM)
 - Total Petroleum Hydrocarbons (TPH or HEM-SGT)
 - Benzene & BTEX
 - SIUs where applied: Industrial Laundries, Food Products, Railroad Ops.

WHY SITE-SPECIFIC?

- Metro District's Local Limits do not include conventional pollutants (BOD, TSS, oil & grease, etc.)
- In 1993 EPA submittal "exceptional discharges of such pollutants will continue to be handled on a case-by-case basis through individual control mechanisms."
- Site-specific limitations have continued to be utilized over the years and has been extended to other pollutants based on regulatory need.

LOCAL LIMITS vs. SITE-SPECIFIC

- Numeric limitations to control the discharge of pollutants in concentrations that might cause harm to the collection system, worker health, the wastewater treatment, or impact the reuse of biosolids.
- Local Limits – generally adopted in legal authority. Applied across the board. All CIUs / SIUs & perhaps others. Requires public notice.
- Site-specific – not in legal authority. Applied on an “as needed” basis. Requires public notice.

O&G, FOG, HEM

- Very common limit due to collection system impacts. Can vary widely among sewer districts / POTWs.
- Often based on Best Available Technology – grease interceptor / trap.
- No Observed (negative) Effect Concentration, NOEC.
- What's a good number? 100 mg/L, 200?, 500?

MWRD JUSTIFICATION

- Metro District site-specific limit for O&G is **200 mg/l**.
- Collection system observations downstream of facilities with this limit in place have shown a discernable reduction in O&G accumulation, backups, and lift station problems.
- 200 mg/l concentration evaluates proper treatment system operation and maintenance.
- Violation of this limit indicates; the facility has not properly maintained the treatment system, the facility is not properly operating the treatment system, or the facility has not installed adequate treatment to meet the limit.

TPH , HEM-SGT

- Total Petroleum Hydrocarbons
- Limited in General Prohibitions to levels that won't cause inhibition or interference. SO How much is that??
- As Measured by HEM - Silica Gel Treatment (**TRIVIA** – Polar or Non-polar materials...or Both??)
- NP - a **compound** composed of molecules that possess a symmetric distribution of charge, so that no positive or negative poles exist, and that are not ionizable in solution, for example, hydrocarbons. (credit - The Free Dictionary)

MWRD JUSTIFICATION

- TPH site-specific permit limit of **100 mg/L**
- Per the document EPA, Treatability of Oil and Grease Discharged to Publicly Owned Treatment Works (April 1975) limiting headworks concentrations to 50 mg/L of TPH prevents activated sludge interference.
- Calculation sheet demonstrates that a site-specific permit limit of 100 mg/L is protective and the total headworks concentration is well below 50 mg/L.



TPH Conclusion: Loading of maximum compliant discharge from all TPH discharges results in concentration well below recommended headworks TPH concentrations (50 mg/l) to prevent POTW treatment interference per EPA, Treatability of Oil and Grease Discharged to Publicly Owned Treatment Works (April 1975), p. 11 -14)

	Total Flow	Average of Max Flows	Units
	314615	24201	GPD
	3997000	102487	GPD
	1060655	81589	GPD
	833395	64107	GPD
	428399	35700	GPD
	254458	19574	GPD
Total of all max daily flows for TPH		327658	GPD
TPH Limit		100	mg/l
Loading lbs/day (mg/l*8.34*MGD)		273	lbs.
Metro District avg. daily flow		124.7	MGD
Concentration of TPH in headworks from max potential loading.		0.055	mg/l

BENZENE & BTEX

- Widely adopted by POTWs
- Associated with gasoline and petroleum products
- Benzene: 50 ug/l and BTEX: 750 ug/l
- EPA publication "Model NPDES Permit for Discharges Resulting from the Cleanup of Gasoline Released from Underground Storage Tanks", June, 1989. These limits are based on treatment technology capable of 95% efficiency for cleanup of gasoline from underground storage tanks.

BENZENE & BTEX

- 1997 EPA proposed in the federal register new Pretreatment Categorical standards for Industrial Laundries.
- Rule was never promulgated, EPA did evaluate pollutants from these facilities and identify pollutants of concern.
- In this rule, and in the 1989 publication discussed above, Benzene and BTEX are noted for their usefulness serve as indicator pollutants.
- Benzene & BTEX are less volatile, more soluble in water and therefore more difficult to treat.
- These limits, over time, have been shown to protect the POTW from interference, the collection system from LEL concerns, and limit exposure of utility workers to harmful gases.

QUESTIONS??