

Document Code No.: PUT-8-13-2-PR

Title: Industrial Waste Local Discharge Limits

Effective Date: 30 days after filing with ARMMS

Authorities: King County Code, Chapter 28.82 and Chapter 28.84

Keywords: Industrial waste, local discharge limits

Sponsoring Agency: Department of Natural Resources and Parks,
Wastewater Treatment Division




King County

Signature: _____

Date signed: _____

DocuSigned by:


11/18/2020

I. Purpose

This rule implements the provisions of King County Code (K.C.C.), Section 28.84.060, regarding local discharge limits for industrial users discharging to the King County sanitary sewer system. The rule provides direction to industrial users on discharge requirements of their industrial waste.

Applicability and Audience This rule applies to any person, as defined in K.C.C., Section, 28.82.600, discharging industrial wastewater directly or indirectly into any public sewer, private sewer, or side sewer tributary to the King County sanitary sewer system.

II. Definitions

Unless otherwise stated herein, the terms, words, and phrases defined in this rule are exclusive to this rule. The terms, words, and phrases, when used in this rule, shall mean the following:

“Action level” is the numeric value for a pollutant or pollutant parameter that indicates a level that is of sufficient concern that King County can require the industrial user to conduct follow-up actions to reduce the level of that pollutant or pollutant parameter or verify that the exceedance of the numeric value does not have the potential to adversely affect the publicly owned treatment works (POTW) or worker safety.

“Ecology” stands for the “Washington State Department of Ecology.”

“Flammable or explosive materials” are any pollutant, as defined in 40 CFR 401.11, that creates a fire or explosion hazard in any sewer or treatment works, including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit (or 60 degrees Celsius) using the test methods specified in 40 CFR 261.21.

“Industrial waste pretreatment program” is the King County program that has delegated authority from Ecology to enforce the federal pretreatment regulations contained in 40 CFR 403.

“IU” stands for “industrial user,” as defined in K.C.C., Section 28.82.370.

“King County sanitary sewer system” shares the same meaning as “metropolitan sewer system,” as defined in K.C.C., Section 28.82.500.

“Local discharge limits” or “local limits” are the specific prohibitions or limits on pollutants or pollutant parameters developed by King County for application to industrial users of

the King County sanitary sewer system, pursuant to 40 CFR 403.5(d) and K.C.C., Section 28.84.060.F.

“Settleable solids” is the measured volume, via Imhoff cone, of settleable material per volume of sample in an hour of total settling time. Alternative methods may be developed by the Wastewater Treatment Division Director on a case-by-case basis.

“SIU” stands for “significant industrial user,” as defined in K.C.C., Section 28.82.800.

"Source control" refers to structures, operations, or activities that prevent contaminants from coming in contact with wastewater through physical separation or careful management of activities that are known sources of pollution.

“Wastewater Treatment Division Director” is the title of the director of the King County Wastewater Treatment Division; it is synonymous with the title, “Wastewater Treatment Division Manager,” as referenced in K.C.C., Chapter 28.84.

III. Policy

The King County Wastewater Treatment Division (WTD) owns, operates, and maintains wastewater facilities for the conveyance, treatment, recycling, and discharge of industrial and other wastewaters. WTD operates its publicly owned treatment works (POTWs) in a manner that protects worker safety, conveyance and treatment infrastructure, public health, and the environment. WTD is required to prevent pollutants from entering the King County sanitary sewer system that may interfere with, or pass through, its treatment systems to the environment, advancing opportunities to recycle and reclaim wastewater and biosolids generated during the treatment process.

King County’s rule concerning local discharge limits developed to regulate discharges of industrial waste is described below.

- A. In addition to the prohibitions and restrictions established in K.C.C., Section 28.84.060, no person shall discharge any of the following substances in excess of the limitations contained in this rule.

1. Corrosive Substances

Limits

Instantaneous Minimum:	pH	5.0 (s.u.)
Daily Minimum:	pH	5.5 (s.u.)
Maximum:	pH	12.0 (s.u.)
<i>s.u. = standard units</i>		

The instantaneous minimum pH limit is violated whenever any single grab sample or any instantaneous recording is less than pH 5.0.

The daily minimum pH limit is violated whenever any continuous recording of 15 minutes or longer remains below pH 5.5 or when each pH value of four consecutive

grab samples collected at 15-minute intervals or longer within a 24-hour period remains below pH 5.5.

Discharges of caustic solutions greater than pH 12.0 are prohibited unless King County provides prior written authorization. For these situations, the authorized caustic solution discharges above pH 12.0 must be less than pH 12.5 and must not contain an equivalent weight of sodium hydroxide (NaOH) that exceeds a daily loading rate of 21 pounds/day. The authorized discharge of caustic solutions greater than pH 12.0 shall be subject to special conditions to protect worker safety and the POTW.

2. Metals and Cyanide

	SIUs & IUs > 5,000 gallons per day		All other IUs
	Daily Average ^a (mg/L)	Instantaneous Maximum ^b (mg/L)	Daily Maximum ^c (mg/L)
Arsenic, Total	1.0	4.0	4.0
Cadmium, Total	0.5	0.6	0.6
Chromium, Total	2.75	5.0	5.0
Copper, Total	3.0	8.0	8.0
Lead, Total	2.0	4.0	4.0
Mercury, Total	0.1	0.2	0.2
Nickel, Total	2.5	5.0	5.0
Silver, Total	1.0	3.0	3.0
Zinc, Total	5.0	10.0	10.0
Cyanide ^d	2.0	3.0	3.0

Notes:

^a The daily average limit for metals is violated when a composite sample exceeds the limit or when a grab sample from a discharge with a duration less than one hour exceeds the limit. A composite sample for metals shall consist of four or more grab samples of equal volume collected at minimum intervals of 15 minutes and/or maximum intervals of 2 hours within a 24-hour period; or, a 24-hour composite sample must be obtained through flow-proportional composite sampling techniques that are representative of the discharge.

The daily average limit for cyanide is violated when a composite sample exceeds the limit or when a grab sample from a discharge with a duration less than one half-hour exceeds the limit. A composite sample for cyanide shall consist of a minimum of two grab samples of equal volume collected at minimum intervals of 15 minutes and/or maximum intervals of 2 hours within a 24-hour period.

^b The instantaneous maximum is violated whenever the concentration of any grab sample, including a grab within a series used to calculate daily average concentrations, exceeds the limitation.

^c The daily maximum is violated whenever any sample exceeds the limitation.

^d The limits for cyanide shall pertain to the amount of cyanide amenable to chlorination and not total cyanide.

3. Fats, Oils, and Grease (FOG)

a. FOG Accumulations and Obstructions

Discharges of FOG shall not result in significant accumulations which, either alone or in combination with other wastes, are capable of obstructing flow or interfering with the operations or performance of the POTW.

b. Non-Polar FOG (mineral/petroleum origin)

Non-polar FOG limit: 100 mg/L

The limit for non-polar FOG is violated when either

- the arithmetic mean of the concentration from the individual analyses of three grab samples, taken no more frequently than 5-minute intervals, exceeds the limitation, or
- the concentration of a single composite sample of three grab samples, taken no more frequently than 5-minute intervals, exceeds the limitation.

Industrial users that violate the non-polar FOG limit may be required to complete, for King County review and approval, a FOG control plan as identified in Section 3.d.

c. Polar FOG (animal and vegetable origin)

Industrial users that have the potential to discharge polar FOG shall minimize free-floating polar FOG. Industrial users must minimize the use of emulsifying agents, such as cleaners or detergents, to only the quantity needed to maintain industrial activities at their facility and to not impact the POTW, per Section 3.a.

Industrial users may not add emulsifying agents prior to or within FOG-removal devices, exclusively for the purposes of emulsifying free-floating FOG.

Industrial users that discharge free-floating polar FOG will be required to complete, for King County review and approval, a FOG control plan as identified in Section 3.d.

King County has the authority to include aqueous concentration-based discharge limits for polar FOG or total FOG (i.e., the sum of polar and non-polar FOG) in permits and discharge authorizations issued to industrial users that primarily discharge FOG of animal or vegetable origin. The concentration-based limits shall be based on what can be achieved through implementation of a treatment technology that the Wastewater Treatment Division Director determines represents all known, available, and reasonable methods of prevention, control, and treatment.

d. FOG Control Plans

The Wastewater Treatment Division Director has the authority to require that industrial users provide a FOG control plan for the purpose of implementing controls and practices to minimize the discharge of free-floating FOG.

4. Settleable Solids – Volumetric

Settleable solids limit: 7.0 ml/L

5. Hydrogen Sulfide

The following are atmospheric hydrogen sulfide limits as measured at a monitoring location designated by King County:

- Short-Term Limit: 15.0 parts per million volume (ppmv) as a 15-minute average
- 8-Hour Limit: 10.0 ppmv as an 8-hour average
- Weekly Limit: 3.0 ppmv as a 7-day average

More stringent weekly atmospheric hydrogen sulfide limits may be developed and imposed on a case-by-case basis depending on nuisance conditions or risks to workers and sewer infrastructure.

Aqueous soluble sulfide limits may be established on a case-by-case basis depending on the volume of discharge and conditions in the receiving sewer, including oxygen content, pH, and existing sulfide concentrations.

6. Organic Compounds

No person shall discharge any organic pollutants that result in the presence of toxic gases, vapors, or fumes within a public or private sewer or treatment works in a quantity that may cause acute worker health and safety problems. Organic pollutants subject to this restriction include, but are not limited to, the following:

- Any organic compound listed in the “Total Toxic Organics (TTO)” definition provided in 40 CFR Section 433.11(e) and 40 CFR Section 413.02(i)
- Acetone, 2-butanone (MEK), 4-methyl-2-pentanone (MIBK), xylenes

Industrial users are required to implement source control strategies and best management practices to minimize the concentration of any of the aforementioned organic pollutants.

Individual permit limits or action levels for specific industrial discharges may be established for the aforementioned organic pollutants. Such limits shall be established on a case-by-case basis pursuant to K.C.C., Section 28.84.060, and shall be based on the following:

- Conditions in public or private sewers downstream of the discharge, including dilution by other wastes upstream
- Worker safety and public health standards
- Type of chemical compound (toxicity, volatility, solubility)
- Proximity to other discharges that may cause adverse conditions in combination with the discharge in question
- Technological achievability of removal
- Potential impacts to public, private, or side sewers; treatment works; biosolids; or receiving waters\

7. Flammable or Explosive Materials

At no time shall two successive readings on an explosion hazard meter, at the point of discharge into the system (or at any point in the system), be more than 5%, nor shall any single reading be more than 10% of the lower explosive limit of the meter.

Pollutants subject to this prohibition include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, sulfides, and any other substance that local, state, or federal agencies have notified the user is a fire hazard or a hazard to the system.

- B. Discharges subject to federal categorical discharge limits shall be subject to those limits, or to King County discharge limits, whichever is most restrictive. Where federal categorical discharge limits do not apply, discharges shall be subject to King County discharge limits.
- C. Individual permit limits for specific companies may be established for compounds not specifically listed in this rule or for listed compounds at levels higher or lower than the limits in this rule, dependent upon a case-by-case evaluation. Such limits shall be calculated based on the following factors:
- Volume and concentration of the discharge
 - Proximity to treatment works
 - Type and size of treatment works operation
 - Proximity to other industrial waste discharges that may cause adverse conditions
 - Worker safety and public health standards
 - Characteristics of the chemical compound (volatility, solubility, and toxicity, including toxicity in treatment works effluent)
 - Dilution in the collection system and treatment works

- Technological achievability of removal, including achievability of treatment off-site
 - Potential impacts to public, private, or side sewers; treatment works; biosolids; or receiving waters
- D. In addition to concentration limits, permit limits may also include mass limits stated as total pounds of a pollutant allowed per day.
- E. Industrial users may request the conversion of concentration-based categorical pretreatment standards or King County local discharge limits to equivalent mass-based limits. However, King County has the discretion to decide whether an equivalent mass limit is appropriate. To qualify for an equivalent mass limit, the industrial user must meet certain eligibility conditions. If a mass limit becomes effective, the industrial user must meet certain conditions in order to retain coverage. Equivalent mass limits are not authorized for pollutants that cannot be appropriately expressed as mass (e.g., pH, temperature, etc.).

IV. Implementation Plan

This rule supersedes and replaces the public rule, “King County Industrial Waste Local Discharge Limits” (PUT-8-13-1), and becomes effective 30 days after filing with the King County Department of Executive Services, Records and Licensing Services Division, Archives, Records Management and Mail Services Section. WTD is responsible for implementation of this rule.

All authorities for implementation of this rule are delegated from the Department of Natural Resources and Parks Director, as defined in K.C.C., Section 28.82.220, to the Wastewater Treatment Division Director, who may delegate authority for applicable sections of this rule to a designee. Through an existing delegation of authority, WTD enforces the local discharge limits in this rule through its industrial waste pretreatment program.

V. Maintenance

- A. This rule will be maintained by WTD or its successor agency.
- B. This rule will remain in effect until it is repealed or replaced.

VI. Consequences of Noncompliance

Persons failing to comply with this rule shall be subject to all legal remedies, including those set forth in K.C.C., Section 28.84.060.