



King County

Public Rules

Title

KING COUNTY INDUSTRIAL WASTE LOCAL DISCHARGE LIMITS

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Department of Natural Resources and Parks/Industrial Waste Program

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Title KING COUNTY INDUSTRIAL WASTE LOCAL DISCHARGE LIMITS	Document Code No. PUT 8-13-1 (PR) K.C.C. 28.84.060
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1.0 SUBJECT TITLE: King County Industrial Waste Local Discharge Limits

1.1 EFFECTIVE DATE:

1.1.1 FILE DATE:

1.2 TYPE OF ACTION: SUPERSEDING PUT 8-13 - (PR), February 12, 1999.

1.3 KEY WORDS: (1) Cyanide; (2) Director; (3) Metropolitan Sewer System; (4) pH; (5) Wastewater; and (6) Wastewater Treatment Division.

2.0 PURPOSE: To maintain local discharge limits for discharging to the Metropolitan Sewer System restricting the following parameters: metals; organics; pH; temperature; fats, oils, and greases of animal or vegetable origin; fats, oils, and greases of mineral origin; and other toxic substances as required including those defined in applicable state and federal regulation; and to redefine the violation criteria for the Non Polar FOG limit and the definition of composite sample for metals, and to allow the conversion of concentration-based limits to equivalent mass-based limits. K.C.C.28.84.060.F provides that the director shall publish and revise local discharge limits. This Public Rule is promulgated pursuant to this authority.

3.0 ORGANIZATIONS AFFECTED:

3.1 Any person, meaning any individual, company, partnership, association, corporation, society, joint stock company, trust, estate, governmental entity, or any other legal entity or group, or their legal representatives, agents, or assigns discharging wastewater into the metropolitan sewer system.

3.2 King County Department of Natural Resources and Parks; Wastewater Treatment Division; Industrial Waste Program.

4.0 REFERENCES: K.C.C. 28.84.060; Revised Code of Washington (RCW) Title 35.58; Clean Water Act (33 U.S.C. 1251 *et seq.*); and General Pretreatment Regulations (40 CFR 403). This King County Public Rule is a continuation of Municipality of Metropolitan Seattle (METRO) Public Rule 1.90, 'Local Discharge Limits.' The METRO rule was approved by the Executive Director effective November 26, 1990 under the same water pollution abatement policy that is now a function of King County (K.C.C. 28.81.020.). The King County Code may be accessed on-line at: www.kingcounty.gov. Laws of Washington may

be accessed on-line at: <http://leginfo.leg.wa.gov>. The federal register and regulations may be accessed on-line at: <http://www.archives.gov/federal-register/cfr/>.

5.0 **DEFINITIONS:** In addition to the definitions listed in Section 5 of this Public Rule, all definitions included in K.C.C. 28.82.010 - .1000 (Appendix 9.2) are hereby adopted by reference.

- 5.1 “Director” shall mean the Director of the Department of Natural Resources and Parks of King County or a duly authorized designee.
- 5.2 “Cyanide” shall mean all of the CN groups in cyanide compounds that can be determined as the cyanide ion, CN⁻. The cyanide compounds in which cyanide can be obtained as CN⁻ are classed as simple and complex cyanides.
- 5.3 “Metropolitan sewer system, metropolitan sewerage system, or metropolitan system” shall mean all or any part of the sewerage facilities acquired, constructed, or used by King County.
- 5.4 “pH” shall mean the negative logarithm (base 10) of the concentration of hydrogen ions expressed in grams per liter of solution. Neutral water, for example, has a pH of 7 and a hydrogen ion concentration of 10⁻⁷.
- 5.5 “Wastewater” refers to the liquid and water-carried industrial or domestic waste from dwellings; commercial, industrial and governmental activities; industrial facilities; and institutions, together that may be present, whether treated or untreated, that is contributed into or permitted to enter the POTW.
- 5.6 “Wastewater Treatment Division (WTD)” shall mean the division established in the Department of Natural Resources and Parks (DNRP) responsible for implementation of industrial waste and pretreatment programs defined by the Clean Water Act of 1972, as amended, the General Pretreatment Regulations (40 CFR Part 403), other applicable federal laws and regulations, and K.C.C. 28.84.060.

6.0 **POLICIES:**

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

- 6.1.1 Flammable or Explosive Materials

- 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, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees centigrade using the test methods specified in 40 CFR 261.21.

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 five percent (5%), nor shall any single reading be more than ten percent (10%) of the Lower Explosive Limit (LEL) 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, and sulfides, and any other substance that King County, a fire department, Washington State, or the U.S. Environmental Protection Agency (EPA) have notified the user are a fire hazard or a hazard to the system.

6.1.2 Settleable Solids - Volumetric

Settleable Solids Limit: 7.0 ml/L

The settleable solids - volumetric procedure is a volumetric approximation of the amount of matter that will not stay in suspension after a period of time.

6.1.3 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:

Any organic compound listed in 40 CFR Section 433.11(e), Total Toxic Organics (TTO) definition (Appendix 9.1).

Acetone, 2-butanone (MEK), 4-methyl-2-pentanone (MIBK), xylenes.

Dischargers are required to implement "housekeeping" and best management practices in order to prevent the discharge of a concentrated form of any of the above organic pollutants.

Individual permit limits for specific industrial discharges may be established for the above organic pollutants. Such limits shall be established on a case-by-case basis pursuant to K.C.C. 28.84.060 and shall be based on:

1. Conditions in public or private sewers downstream of the discharge, including dilution by other wastes upstream;
2. Worker safety and public health standards;
3. Type of chemical compound (toxicity, volatility, solubility);
4. Proximity to other discharges that may cause adverse conditions in combination with the discharge in question;
5. Technological achievability of removal; and

6. Potential impacts to public, private, or side sewers; treatment works; biosolids; or receiving waters.

6.1.4 Hydrogen Sulfide

Atmospheric Hydrogen Sulfide Limit: 10.0 ppm
(As measured at a monitoring manhole designated by King County)

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

6.1.5 Corrosive substances

Limits

Maximum	pH 12.0 (s.u.)
Instantaneous Minimum	pH 5.0 (s.u.)
Daily Minimum	pH 5.5 (s.u.)

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 more than 50 gallons per day of caustic solutions equivalent to more than 5% NaOH by weight or greater than pH 12.0 are prohibited unless authorized by King County and subject to special conditions to protect worker safety, the collection system, and treatment works.

6.1.6 Fats, Oils, and Grease (FOG)

6.1.6.1 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 that interfere with the operations or performance of sewer works or treatment facilities.

6.1.6.2 Non Polar FOG (mineral origin)

Non Polar FOG Limit: 100 mg/l

The limit for non polar FOG is violated when the arithmetic mean of the concentration of three grab samples, taken no more frequently than at five (5) minute intervals, or when the results of a composite sample exceeds the limitation.

When using approved EPA protocols specified in 40 CFR Part 136, multiple grab samples collected during a 24-hour period may be composited prior to analysis.

Companies which violate the non polar FOG limit may be required to complete, for King County review and approval, a FOG control plan as outlined in Section 6.1.6.4.

6.1.6.3 Polar FOG (animal and vegetable origin)

Dischargers of polar FOG shall minimize free floating polar FOG. Dischargers may not add emulsifying agents exclusively for the purposes of emulsifying free floating FOG. Companies which discharge free floating polar FOG will be required to complete, for King County review and approval, a FOG control plan as outlined in Section 6.1.6.4.

6.1.6.4 FOG Control Plans

The goal of the FOG control plan is to implement reasonable and technically feasible controls of free floating FOG. The basic components of the FOG control plan should include:

1. A written policy articulating management and corporate support for the plan and a commitment to implement planned activities and achieve established goals.
2. A description of the facility type and a summary of the products made and/or service provided.
3. Quantities of FOG brought into the facility as raw product, amounts contained in products, and quantities discharged to the sewer.
4. Schematics of process areas illustrating drains and discharge points connected to the sewer.
5. A description of current reduction, recycling, and treatment activities.
6. Identification of a full range of potentially feasible reduction opportunities.
7. A description of the reduction or control opportunities selected for implementation, process(es) affected, and estimated reductions to be achieved.
8. Specific performance goals and implementation schedule.

6.1.7 Metals and Cyanide

	SIUs ¹ & IUs >5,000 gpd		All other IUs
	Daily Average ² (ppm)	Instantaneous Maximum ³ (ppm)	Daily Maximum ⁴ (ppm)
Arsenic	1.0	4.0	4.0
Cadmium	0.5	0.6	0.6
Chromium	2.75	5.0	5.0
Copper	3.0	8.0	8.0
Lead	2.0	4.0	4.0
Mercury	0.1	0.2	0.2
Nickel	2.5	5.0	5.0
Silver	1.0	3.0	3.0
Zinc	5.0	10.0	10.0
Cyanide ⁵	2.0	3.0	3.0

¹SIU, or Significant Industrial Users as defined in 40 CFR 403.3(t), includes federal categorical dischargers and all dischargers that have a reasonable potential for adversely affecting treatment works operation.

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

³The 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.

⁴The daily maximum is violated whenever any sample exceeds the limitation.

⁵The limits for cyanide shall pertain to the amount of cyanide amenable to chlorination and not total cyanide.

6.1.8 Domestic Waste Strength

The concentration of domestic wastes shall be defined as 300 milligrams per liter (mg/l) of biochemical oxygen demand (BOD) and 400 milligrams per liter (mg/l) of suspended solids. Users discharging waste with strength greater than domestic waste shall pay a high strength surcharge in addition to the basic fee. The surcharge for high strength industrial wastes shall be based on treatment or removal costs of those constituents whose concentration exceeds that contained in domestic wastes and which contribute to the costs of operation and maintenance of the metropolitan sewerage system. The constituents presently in this category are biochemical oxygen demand (BOD) and suspended solids.

6.2. Discharges subject to federal categorical discharge limits shall be subject to those limits, or to King County discharge limits, whichever is most restrictive.

6.2.1 K.C.C. 28.84.060 provides that “permit limitations shall be established to the extent necessary to enable the County to comply with current National Pollutant Discharge Elimination System requirements as promulgated by the EPA or the Washington State Department of Ecology (WSDOE), and...with requirements for the protection of sewerage facilities and treatment processes, public health and safety and the receiving waters and when determined by King County to be necessary for the protection of water quality and avoidance of nuisance in the metropolitan area.” Consistent with this directive, individual permit limits for specific companies may be established for compounds not specifically listed or for listed compounds at levels higher or lower than the above limits, dependent upon a case-by-case evaluation. Such limits shall be calculated based on the following factors:

1. Volume and concentration of the discharge;
2. Proximity to treatment works;
3. Type and size of treatment works operation;
4. Proximity to other industrial waste discharges that may cause adverse conditions;
5. Characteristics of chemical compound (volatility, solubility, and toxicity, including toxicity in treatment works effluent);
6. Dilution in collection system and treatment works;
7. Technological achievability of removal, including achievability of treatment off site;
8. Potential impacts to public, private, or side sewers; treatment works; biosolids; or receiving waters.

6.2.2 In addition to concentration limits, permit limits may also include mass limits stated as total pounds of a pollutant allowed per day.

6.2.3 Dischargers 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 Discharger must meet certain eligibility conditions. If a mass limit becomes effective the discharger must meet certain conditions in order to retain coverage. Equivalent mass limits are not authorized for pollutants which cannot be appropriately expressed as mass (e.g., pH, temperature, etc.)

7.0 PROCEDURES:

Action By: Department of Natural Resources and Parks (DNRP)

Action:

- 7.1 The Director shall publish and revise from time to time local discharge limits developed according to guidelines promulgated by the EPA and/or WSDOE using data specific to the metropolitan sewerage system and its industrial users.
- 7.2 The Director shall develop and implement an enforcement response plan that contains guidelines indicating how the county will investigate and respond to instances of industrial user noncompliance.
- 7.3 The Director shall publish and revise from time to time rules regarding the acceptance of clean water or unpolluted water (cooling water, contaminated groundwater, and construction dewatering) into the metropolitan sewerage system.

8.0 RESPONSIBILITIES:

- 8.1 Dischargers of wastewater into the metropolitan sewer system are responsible for ensuring that their wastewater meets the requirements of K.C.C. 28.84.060 and the local discharge limits contained in this Public Rule.
- 8.2 The King County Department of Natural Resources and Parks, Industrial Waste Program, is responsible for the enforcement of the local discharge limits contained in this Public Rule.

9.0 APPENDICES:

- 9.1 40 CFR Section 433.11 (e) Total Toxic Organics (TTO) Definition.
- 9.2 K.C.C. 28.82.010 - .1000, Definitions.