

PRETREATMENT AND SOURCE CONTROL:

A Guide for Commercial and Industrial Dischargers in the SOCWA Service Area

Developed By:

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INTRODUCTION

The South Orange County Wastewater Authority (SOCWA) is a joint powers' authorities that was created to design, build and operate joint use sanitary sewage treatment facilities in southern Orange County for the authorities' Member Agencies. The formation of SOCWA allowed the Member Agencies to combine their resources and build larger, more economical, regional sewage treatment facilities instead of many smaller and more isolated facilities. Policy and budgeting issues are made by the Board of Directors composed of one representative from each of the Member Agencies. Day to day operation of the treatment facilities are carried out by a General Manager and highly trained staff. Treated wastewater is disposed either into the Pacific Ocean or recycled for landscape irrigation. Sewage sludge is processed into soil additives and compost, or is landfilled. About 40 million gallons of wastewater is treated daily in the SOCWA service area.

SOCWA and each Member Agency have adopted ordinances to regulate the discharge of wastewater from business processes into the sewer system. The purpose of these regulations is threefold: 1) to protect the Member Agencies' sewage collection systems and treatment plants from damage due to accidental or deliberate discharges of hazardous substances 2) to prevent the discharge of substances that could pass through or interfere with the treatment process, and 3) to comply with State and Federal laws and regulations.

THE NEED FOR THE INDUSTRIAL WASTE PROGRAM

Federal and State laws and regulations require Publicly Owned Treatment Works (POTWs) to control the discharge of non-domestic "process wastewater" into their collection and treatment systems to prevent hazardous substances from causing problems to the system itself or passing through into the environment.

Sewage treatment plants are effective at treating domestic sewage through a combination of physical and chemical processes. Domestic sewage (such as kitchen, bathroom and laundry wastewater) is characterized by its lack of toxic or potentially hazardous substances. Problems arise when a business discharges wastewaters from manufacturing or production processes containing large or highly concentrated amounts of harmful substances (dissolved metals, solvents, etc.). These pollutants, either by themselves or in combination with other substances, can cause problems ranging from nuisances (such as sewer backups or odors) to rapid deterioration or destruction of sewer pipelines and treatment facilities, and endangering agency employees and the public. When a business' process wastewaters contain toxic or hazardous

pollutants in significant quantities, SOCWA can require the wastewater to be "**pretreated**" to reduce or remove these substances before disposing of it to the public sewer system.

The monitoring program developed by SOCWA and its Member Agencies is similar to a vendor control program most manufacturers already have in place. Before a manufacturer will accept parts, chemicals, or other types of materials from a vendor, the materials must meet the manufacturer's specifications: to accept non-conforming materials could cause the manufacturer to produce a defective product. Similarly, SOCWA and the Member Agencies have to control what is accepted into the public sewer systems in order to make sure that the products produced by the treatment process (treated wastewater, reclaimed wastewater used for irrigation, and sludge used for compost) will meet the standards set by State and Federal agencies.

INDUSTRIAL WASTE PROGRAM AUTHORITY

Federal and State laws, along with the Waste Discharge Ordinance, provides the authority for SOCWA or its Member Agencies' staffs to:

- Identify and define prohibited wastes.
- Require businesses to obtain permits for the discharge of process wastewaters to the sewage system.
- Require access to facilities for periodic inspection and sampling.
- Require "pretreatment" of process wastewaters before disposal into the sewage system.
- Require the User/Discharger to provide an appropriate sampling location(s).
- Suspend sewer service for non-compliance with the discharge standards.
- Establish permit fees for dischargers.

POLLUTANT LIMITS

The standards imposed on process wastewaters discharged to the SOCWA service area can be divided into two categories, general prohibitions and specific numerical limits for specific types of substances.

General Prohibitions

General prohibitions are limitations that are used to prevent non-specific, but potentially disruptive, conditions from occurring in the sewer system. These prohibitions prevent the introduction into the sewer system of:

- Substances that will pass through or interfere with the sewage system.
- Substances that can create a fire or explosion hazard.
- Substances that will cause corrosive or structural damage to the sewage system.
- Solid or viscous substances that can obstruct the flow in the sewage system.
- Excessive amounts of heat/hot water that can cause temperatures at the sewage treatment plant to exceed 104°F (40°C).
- Excessive amounts of oxygen demanding pollutants (concentrated organic wastes, sugars, starches, etc.).
- Petroleum oil, nonbiodegradable cutting oil or mineral oil products in amounts that interfere with sewage system operations.
- Substances that can cause toxic gases, vapors, or fumes within the sewage system.
- Trucked or hauled pollutants (SOCWA and the Member Agencies do not accept any hauled wastes).

In addition, the introduction of stormwater, rainwater, street runoff or groundwater into the sewer system is either prohibited or limited.

Specific Pollutant Limits

Specific pollutant limits are just that, specific limits on specific substances that can be introduced into the sewage system. Table ONE below lists the pollutants whose discharge into the sewage system is controlled under Federal regulations. Table TWO is a list of specific substances and their concentrations for which SOCWA has established "Local Limits" due to the problems that these substances can cause in the local sewage system.

Table ONE - Federally Regulated Pollutants

Acenaphtlene	Acrolein	Acronitrile
Aldrin/Dieldrin	Antimony & Compounds	Arsenic & Compounds
Asbestos	Benzene	Benzidine
Beryllium & Compounds	Cadmium & Compounds	Carbon Tetrachloride
Chlordane	Chlorinated Benzenes	Chlorinated Ethanes
Chloralkyl Ethers	Chlorinated Naphthalene	Chloroform
Chromium & Compounds	Copper & Compounds	Cyanides
DDT & its Metabolites	Dichlorobenzenes	Dichlorobenzidines
Dichloroethylenes	2,4-dichlorophenol	Dichloropropane
Dichloropropene	2,4-dimethylphenol	Dinitrotoluene
Diphenylhydrazine	Endosulfans	Ethylbenzene
Endrin and its Metabolites	Fluoranthene	Haloethers
Halomethane	Heptachlor	Hexachlorobutadiene
Hexachlorocyclopentadiene	Hexachlorocyclohexane	Isophorone
Lead & Compounds	Mercury & Compounds	Naphthalene
Nickel & Compounds	Nitrobenzene	Nitrophenols
Pentachlorophenol	Phenol	Phthalate esters
Polynuclear Aromatic Hydrocarbons	Polychlorinated biphenyl's (PCB's)	Selenium & Compounds
Silver & Compounds	Tetrachloroethylene	Toluene
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	Thallium & Compounds	Toxaphene
Trichloroethylene	Vinyl Chloride	Zinc & Compounds

Table TWO - Local Limits

Limits for Specific Substances Discharged into the SOCWA Sewage System

Arsenic	3.4 mg/l	Cyanide	4.3 mg/l	Oil & Grease	300.0 mg/l
Cadmium	0.93 mg/l	Lead	4.9 mg/l	Silver	2.8 mg/l
Chromium (Total)	4.9 mg/l	Mercury	0.19 mg/l	Zinc	7.9 mg/l
Copper	7.2 mg/l	Nickel	9.5 mg/l	pH	between 5.0 and 11.0

WHICH BUSINESSES ARE AFFECTED?

Not all businesses or industries are affected by these regulations. Table THREE lists the business categories (known as "Categorical Industries") whose process wastewaters, when disposed into the sewage system, are required to meet Federal discharge guidelines. These "categorical industries" have a high probability of causing problems in sewage collection and treatment systems. Their process wastewaters must meet specific pollutant limits before it can be disposed into the sewage system. Table FOUR lists businesses that are included in the SOCWA regional program since they generate process wastewaters or waste fluids that could have a significant impact on the local sewage treatment system.

Table THREE - Businesses With Federally Regulated Process Wastewaters

Aluminum Forming	Battery Manufacturing
Cement Manufacturing	Coil Coating & Can making
Copper Forming	Dairy Products Processing
Electrical & Electronic Component Manufacturing	Electroplating & Metal Finishing
Explosives Manufacturing	Fruit & Vegetable Processing
Ferroalloy Manufacturing	Fertilizer Manufacturing
Glass Manufacturing	Gum & Wood Chemicals Mfg.
Ink Formulating	Inorganic Chemical Mfg.
Iron & Steel Manufacturing	Leather Tanning & Finishing
Meat Products Processing	Metal Molding & Casting
Mining Operations	Nonferrous Metals Processing
Organic Chemicals, Plastic & Synthetic Fibers Mfg.	Paving & Roofing Materials Mfg.
Soap & Detergent Mfg.	Petroleum Refining
Pesticide Manufacturing	Porcelain Enameling
Pharmaceutical Manufacturing	Plastic Molding & Forming
Pulp, Paper and Paperboard Mfg.	Timber Products Processing
Textile Mills	

NOTE: Any business that discharges over 25,000 gallons per day of non-domestic process wastewaters to the sewer system is also covered by the pretreatment program.

Table FOUR - Other Businesses Included in the SOCWA Regional Program

Automotive Services (General Servicing, Body & Paint, Transmission & Engine Rebuilding, Quick Lube, Radiator Repair, Vehicle Washing & Detailing)		
Beverage Manufacturing	Boatyards	Ceramics Manufacturing
Dry Cleaning	Electronic Assembly	Furniture Finishing/Refinishing
Hospitals	Laboratories	Machine Shops
Photodevelopment	Plastic Injection Molding	Printing
Screen Printing	Surfboard Manufacturing	Veterinary Services
X-Ray Processing		

Other types of businesses may be added to these lists if it is deemed necessary by SOCWA, the Member Agencies or other outside regulatory agencies.

WASTEWATER DISCHARGE PERMITS

Permit Applications

Permit applications may be obtained at the office of the Member Agency where you are located or by calling the SOCWA office. You may also be given a permit application if an inspector visits your facility during normal business hours. If you are a new business, you were probably issued an application when you applied for water and/or sewer service. Please return this application to the address listed on its cover sheet within 15 days. If you have any questions about the application please call our Industrial Waste Department.

When you have returned the application, the Industrial Waste Department will process it and a permit will be issued to your facility. In most cases we will also arrange to do a facility inspection to get an accurate idea of what operations need to be regulated at your facility. In some instances we have even been able to suggest ways to reduce wastewater generation or even eliminate it entirely during a site visit.

If your business is relocating from another area and you have an existing permit issued by another sewer agency, you will have to reapply for a new permit.

Types of Permits

Your business will be classified into one of four permit categories or the NIWD Form, according to the nature of your discharge:

- Class ONE Businesses that discharge wastewaters from a process subject to EPA Categorical or Significant Discharger standards.
- Class TWO Businesses that discharge wastewaters containing toxic or hazardous substances, but are not subject to EPA Standards.
- Class THREE Businesses which discharge wastewaters containing compatible pollutants in a quantity or manner that impacts sewage collection and treatment facilities.
- Class FOUR Special Wastewater Dischargers. This includes groundwater, surface runoff, unpolluted water, etc.
- NIWD Form Non-Industrial Wastewater Discharger Form. This form is issued to businesses/industries that have any "waste of concern" removed from their facility instead of discharging it to the sewer system.

All requirements for necessary action are defined in the permit you are issued. In general, requirements are greatest for Class ONE industries and decrease successively for Classes TWO and THREE. All permits are granted for a specific period of time, not to exceed five years.

INSPECTION & SAMPLING

An integral part of SOCWA's pretreatment program is inspection and sampling of businesses. If you are a permitted wastewater generator, your business will be inspected and process wastewaters will be sampled at least once per year.

Inspections are conducted to verify the ongoing operations of a business. The inspection gives the agency's staff a chance to evaluate your ongoing operations, to keep up with changes in production processes, chemicals and machinery, to suggest possible ways to reduce or eliminate waste generation, and to give a business owner/operator a chance to ask questions and get recommendations from the agency. Inspections can be scheduled to fit into a business day, but can also be unannounced if problems are found in the local sewer system.

Sampling of the discharge from a facility is done on an unannounced basis. This is to assure that the samples of wastewater collected from a facility are as representative as possible of normal production operations. Samples can be collected as either grab samples or composite samples over a business day. You should also be aware that the agency does random sampling in the sewer collection system to verify what is being discharged in different areas. Businesses that have process wastewater discharges are encouraged to conduct their own wastewater sampling to assure that their processes are complying with permit limitations.

In cases where collecting a representative sample from your facility may be difficult, the agency may require that you install an accessible sampling structure at your facility. The installation of this type of structure is done at the business' expense and is deemed part of the cost of being allowed to use the public sewer system for non-domestic wastewater disposal.

You may be required to monitor and test your own discharge and submit regular reports to the agency as required by your permit. Your permit will specify the record keeping requirements; the frequency of sampling will depend upon your type of business, wastewater flow, and current compliance status. ***The submission of false or fraudulent statements or data, or commission of acts that unjustly modify wastewater parameters, are subject to civil and criminal prosecution.***

ENFORCEMENT OF REGULATIONS

In order to assure compliance with sewer discharge regulations, SOCWA and its Member Agencies have established an enforcement protocol. Enforcement starts when conditions are found at a business site, either through inspection or sampling, that could adversely affect the sewer system, are not in compliance with the pretreatment ordinance, or are not in compliance with the conditions in your wastewater discharge permit. Formal notification will usually be done by SOCWA in conjunction with the local Member Agency and requires that the business correct the condition in a timely manner. Continued disregard of a non-compliant condition will escalate the enforcement actions and can lead to fines, physical termination of sewer service, and/or civil and criminal prosecution.

SOURCES OF ADDITIONAL INFORMATION

The specific regulations for sewer discharge of process wastewaters are contained in Title 40, Section 403 of the Code of Federal Regulations (40 CFR 403) and proceeding sections 405-471.

Other agencies that can be contacted for more information on environmental compliance or wastewater disposal are:

Environmental Protection Agency
Region IX (CA, NV, AZ, HI)
75 Hawthorne Street
San Francisco, CA. 94105
(415) 972-3509

California Water Resources Control Board
P.O. Box 100
Sacramento, CA. 95801-0100

California Regional Water Quality Control Board - San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA. 92123
(858) 467-2952

California Regional Water Quality Control Board - Santa Ana
2010 Iowa
Riverside, CA 92507

Information on requirements for Hazardous Waste Generators can be obtained from:

**California Department of Health Services
Dept. of Toxic Substances Control**
P.O. Box 942732
Sacramento, CA. 94234-7320
(800) 618-6942

**Orange County Health Care Agency
Environmental Health/Haz Mat Mgmt Section**
2009 East Edinger Ave.
Santa Ana, CA. 92705

For information on stormwater/rainwater runoff, or to report illicit dumping into storm drains or streams, contact:

**Orange County Public Facilities and Resources Department
Stormwater Management Section**
10852 Douglas Road
Anaheim, CA. 92806