

PRETREATMENT AND SOURCE CONTROL:

A Guide for 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' authority that was created to design, build and operate joint use sewerage 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 wastewater 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 these facilities is carried out by a General Manager and a well trained staff. Treated wastewater is disposed of into the Pacific Ocean or recycled for landscape irrigation. Biosolids are 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 sewerage facilities. The purpose of these regulations is threefold: 1) to protect the Member Agencies' collection systems and wastewater 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 wastewater 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 sewerage facilities to prevent hazardous substances from causing problems to the system itself or passing through into the environment.

POTWs 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 sewerage facilities.

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 sewerage facilities in order to make sure that the products produced by the treatment process (treated wastewater, reclaimed wastewater used for irrigation, and biosolids 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 Pretreatment and Source Control Ordinance, provide 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 sewerage facilities.
- Require access to user sites for periodic inspection and sampling.
- Require "pretreatment" of process wastewaters before disposal into sewerage facilities.
- Require the user to provide an appropriate sampling location(s).
- Suspend service for non-compliance with discharge standards.
- Establish permit fees, when applicable, for users.

POLLUTANT LIMITS

The standards imposed on process wastewaters discharged in 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 sewerage facilities. These prohibitions prevent the introduction into sewerage facilities of:

- Substances that will pass through or interfere.
- Substances that can create a fire or explosion hazard.
- Substances that will cause corrosive or structural damage.
- Solid or viscous substances that can obstruct flow.
- Excessive amounts of heat/hot water that can cause temperatures at the wastewater 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 operations.
- Substances that can cause toxic gases, vapors, or fumes within sewerage facilities.
- 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 sewerage facilities is prohibited or controlled by permit.

Specific Pollutant Limits

Specific pollutant limits are specific limits on certain substances that can be introduced into sewerage facilities. Table ONE below lists the pollutants whose discharge into sewerage facilities is controlled by 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 sewerage facilities.

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 service area sewerage facilities.

| | | | |
|------------------|-----------|----------------|---------------------|
| Arsenic | 3.4 mg/L | Nickel | 9.5 mg/L |
| Cadmium | 0.93 mg/L | Sliver | 2.8 mg/L |
| Chromium (Total) | 4.9 mg/L | Zinc | 7.9 mg/L |
| Copper | 7.2 mg/L | Cyanide | 4.3 mg/L |
| Lead | 4.9 mg/L | Oil and Grease | 300 mg/L |
| Mercury | 0.19 mg/L | pH | between 5.0 to 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 sewerage facilities, are required to meet Federal discharge standards. These "categorical industries" have a high probability of causing problems in sewerage facilities. Their process wastewaters must comply with specific pollutant limits before it can be disposed into sewerage facilities. Table FOUR lists businesses that are included in the SOCWA service area program since they generate process wastewaters or waste fluids that could have a significant impact on sewerage facilities.

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 | |

Table FOUR – Other Businesses

| | | |
|---|---------------------------|---------------------------------|
| 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 | Dental Services | |

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 by contacting the SOCWA Industrial Waste Department office. You may also be given a permit application if an inspector visits your site during normal business hours. Please return this application to the address listed on its cover sheet within 45 days. If you have any questions about the application please call the SOCWA Industrial Waste Department.

After an application is submitted, the SOCWA Industrial Waste Department will review it and if necessary a permit may be issued to your site. In most cases SOCWA will also arrange to do a site inspection to get an accurate idea of what operations may need to be permitted at your site. 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 agency, you may have to reapply for a new permit.

Types of Permits

Your business may be classified according to the process of your discharge:

- Class I User Any user determined by SOCWA that meets the criteria of significant industrial user (SIU) as described in 40 CFR 403.
- Class II User Any user determined by SOCWA that is not a SIU and may discharge pollutants or non-compatible wastes which may impact sewerage facilities.
- Class III User Any user determined by SOCWA that is not a SIU and may discharge conventional pollutants or compatible wastes which may impact sewerage facilities.
- Class IV User Any user determined by SOCWA that may discharge or is proposing to discharge special wastewater that may contain toxic or conventional pollutants or non-compatible or compatible wastes which may impact sewerage facilities.

All requirements for necessary action are defined in the permit you are issued. In general, requirements are greatest for a Class I user and decrease successively for Class II and Class III permits. 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 user sites. If you are a permitted wastewater generator, your site may be inspected and process wastewaters may be sampled.

Inspections are conducted to verify the ongoing operations at your site. The inspection gives SOCWA staff a chance to evaluate your 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 site owner/operator a chance to ask questions and get recommendations from SOCWA. Inspections can be scheduled to fit into a business day, but can also be unannounced if problems are found in sewerage facilities.

Sampling of the discharge from a site may be done on an unannounced basis. This is to assure that the samples of wastewater collected from a site are as representative as possible of normal production operations. Samples may be collected as either grab samples or composite samples. You should also be aware that SOCWA may do random sampling in sewerage facilities to verify what is being discharged in different areas. Sites that have process wastewater discharges are encouraged to conduct their own wastewater sampling to assure that their processes are complying with permit standards and limitations.

In cases where collecting a representative sample from your site may be difficult, SOCWA may require that you install an accessible sampling structure at your site. The installation of this type of structure is done at your expense and is deemed part of the cost of using sewerage facilities for non-domestic wastewater disposal.

You may be required to monitor and test your own discharge and submit self-monitoring reports (SMR) to SOCWA as required by your permit. Your permit may specify the data keeping requirements; the frequency of sampling will depend upon your type of discharge, 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 discharge regulations, SOCWA and its Member Agencies have established an enforcement response plan (ERP). Enforcement starts when conditions are found at a site, either through inspection or sampling that could adversely affect sewerage facilities, are not in compliance with the pretreatment ordinance, or are not in compliance with the requirements and limits contained in your permit. Formal notification may be done by SOCWA in conjunction with the local Member Agency and requires that the site correct the condition in a timely manner. Continued disregard of a non-compliant condition may escalate the enforcement actions and can lead to fines, physical termination, and/or civil and criminal prosecution.

SOURCES OF ADDITIONAL INFORMATION

The specific regulations for 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