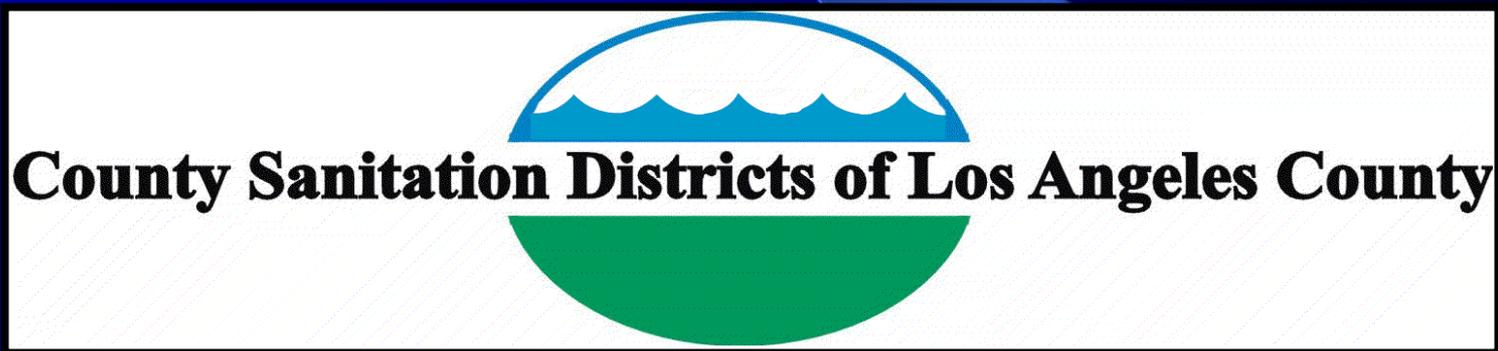


Common Violations at Metal Finishing Operations

John Boyd

Supervising Industrial Waste Inspector



- Los Angeles County Sanitation Districts (LACSD)

- Confederation of 25 independent special districts
- Service area of 792 square miles
- 78 cities
- 5 million people
- 11 Wastewater Treatment Facilities

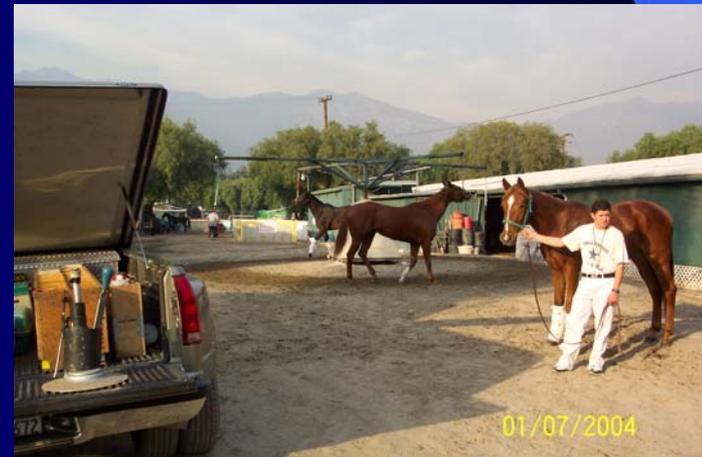


Pretreatment Program

- The LACSD has a Industrial Waste pretreatment program staff off 70, including Engineers, Field Inspectors, Technicians, and clerical support.
- The Districts regulate an extensive & varied industrial base consisting of 2900 industrial users.

Industrial Users

- 328 Metal finishing operations (433 + 413)
- 137 Other permitted categorical dischargers
 - Petroleum Refineries, Textile Dyehouses, Pharmaceutical Manufacturers, Metal Forming Operations, E&EC, etc.
- 208 Large Food making operations



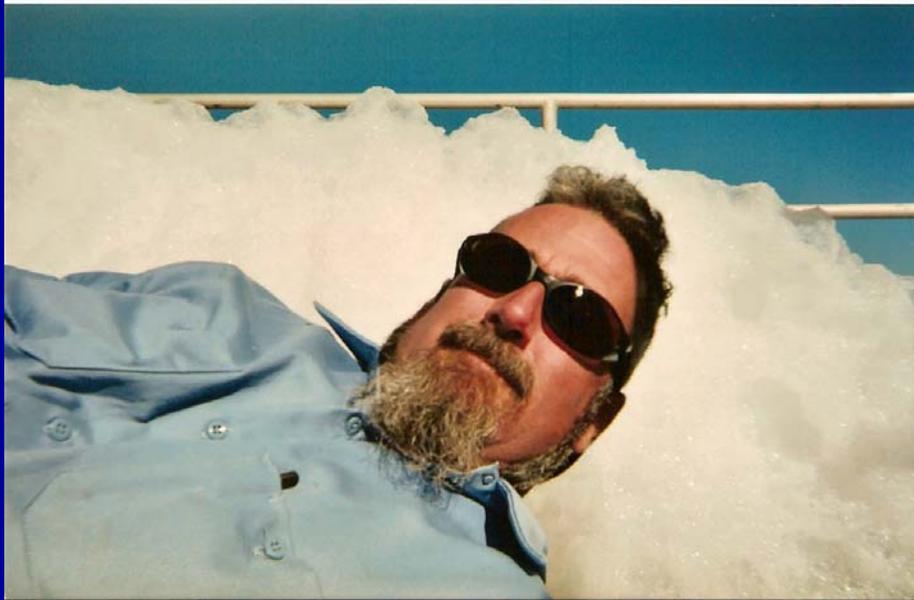
Incident Investigation

- In addition to normal inspections conducted at industrial users, the Industrial Waste Inspection staff is called upon to investigate an average of 110 “incidents” annually.
 - Sewer line problems
 - Treatment plant upsets
 - Citizen and anonymous tipster reports of illegal dumping into the sewers or storm drains
 - Multi agency investigations

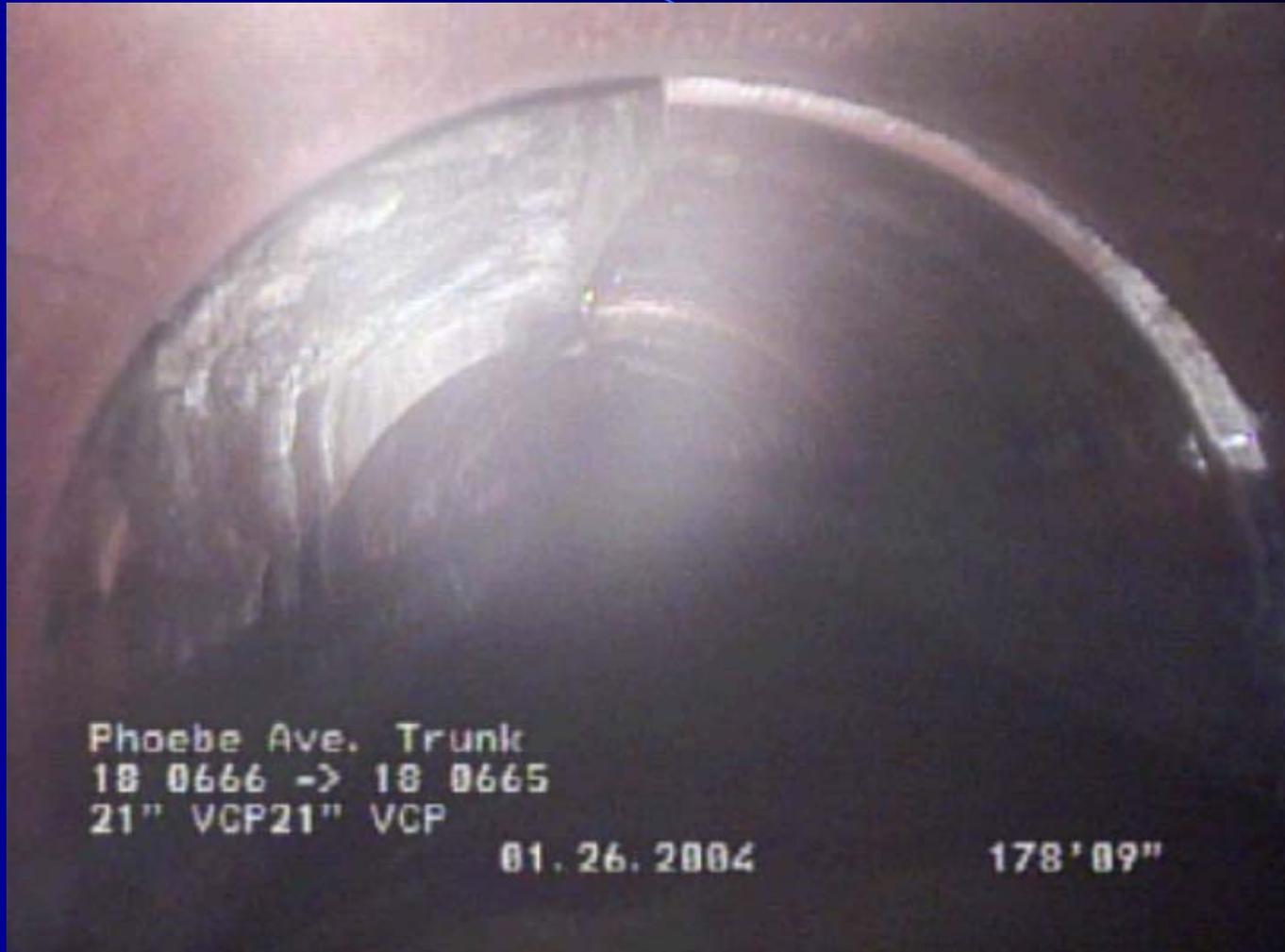
Green color/NDMA in influent to Whittier Narrows WRP



White Foam at the LACSD Lancaster WRP



Partially collapsed 21" Trunk Sewer in La Mirada



Sewer Collapse in South Gate



2005 City of Industry Train Wreck



11/21/2008

Plating shop fire aftermath



Closed Plating Shop Graffiti



Notice of Violation

ENFORCEMENT ACTION NO.:
FAST 56342119



SANITATION DISTRICTS OF LOS ANGELES COUNTY
ATTENTION: INDUSTRIAL WASTE SECTION
1955 WORKMAN MILL RD., P.O. BOX 4998, WHITTIER, CALIFORNIA 90607

NOTICE OF VIOLATION

1. DISCHARGER BOYD PLATING CO		2. ADDRESS OF WASTEWATER DISCHARGE 15388 OAK STREET PASADENA, CA 91104	
3. LOCAL AGENCY CITY OF PASADENA		4. PERMIT NUMBER 025178	5. FACILITY ID 1548312
6. VIOLATION(S)			
<u>DATE</u>	<u>VIOLATION TYPE</u>	<u>WASTEWATER ORDINANCE</u>	<u>SAMPLE LOCATION</u> <u>SUBSTANCE</u> <u>RESULT</u> <u>LIMIT</u> <u>UNIT</u> <u>COMMENTS</u>
4/5/07	Daily Maximum Limit	210 Discharge of wastewater pollutants in excess of California Code of Regulations, Title 22 or Federal EPA Categorical Regulations, Title 40	000430A Nickel, Total 5.27 4.10 mg/L Composite sample SJ85259 taken on 4-5-07 had nickel=4.10 mg/l, limit=5.27 mg/l.
7. IMPORTANT: VIOLATION MUST BE CORRECTED IMMEDIATELY		STEPHEN R. MAGUIN CHIEF ENGINEER AND GENERAL MANAGER	
8. RECEIPT OF NOTICE ACKNOWLEDGED BY DISCHARGER		ISSUED BY: <u>Flo Meter</u> NAME <u>IW Inspector</u> TITLE <u>05/25/2007</u> ENFORCEMENT ACTION DATE	
John Boyd PRINTED NAME _____ Signature SIGNATURE		Owner TITLE ? _____ _____ _____	

Types of Violations

Numerical Violations:

Discharge of excessive concentrations or amounts of heavy metals or other other regulated substances in the industrial wastewater flow to the sewer.

Administrative Violations:

Failure to submit documents or reports or pay monies owed to the Sanitation Districts, failure to allow access to Districts' monitoring/inspection personnel.

Equipment Violations:

Failure to install or properly maintain industrial wastewater pretreatment or monitoring equipment.

Common Numerical Violations and Their Causes

- Out of range final pH (i.e. <6.0 or >12.5).
 - Usually caused either by running out of neutralizing solution, overwhelming the system's ability to neutralize effectively, or blocked caustic addition lines (50% caustic solution has a high freezing point).
- Excessive heavy metal concentrations
 - Caused by running out of pretreatment chemical (hypochlorite, polymer, metabisulfite, 50% caustic), broken or out-of-calibration pretreatment equipment (probes, meters, dosing pumps, mixers), attempts to inappropriately treat concentrated waste.

More Common Numerical Violations

- Excessive VOC solvent concentrations
 - Usually caused by production area employees failing to follow pollution prevention guidelines and practices. For example: using unauthorized solvents to clean an unusually dirty batch of parts prior to normal cleaning/plating operations.

Common Administrative Violations

- Failure to submit self-monitoring reports, especially deficiency SMR's.
- Failure to annotate effluent flow and pH charts.
- Failure to make required maintenance/spill log entries.
- Failure to submit a written response to a Notice of Violation.
- Failure to submit a permit application (usually a 5-year renewal).
- Failure to report a change of ownership.

Common Equipment Violations

- Failure to maintain required monitoring equipment such as effluent pH meters and chart recorders, flow meters and recorders. Note that pretreatment system dosing pumps, pH/ORP probes, mixers, settling tanks are usually very well maintained.
- Failure to keep spill containment areas dry and containment walls intact.
- Failure to maintain the interceptor/clarifier.
- Failure to properly maintain rainwater diversion systems.

Historical Perspective

The number of violations at metal finishing operations, especially numerical violations, has significantly declined over the last 20 years. Numerical violations were once commonplace. This reduction is attributable to multiple factors, including:

- Better and more effectively run pretreatment systems.
- More familiarity with applicable regulations and policies.
- Implementation of effective pollution prevention measures.
- Reduction in the number of metal finishing dischargers. Those that remain handle a smaller workload leaving their pretreatment systems better able to treat the IW.
- More sampling of effluent by dischargers to help avoid significant noncompliance (SNC).

Prevent Violations!

The two most important steps that can be taken to prevent numerical and equipment violations are:

1. Train production area employees in pollution prevention techniques and insure they are implemented.
2. Train pretreatment system operators in the proper maintenance and operation of the pretreatment system.

Pretreatment Systems

In General, pretreatment systems that are in-place have been well designed and are very capable of removing contaminants of concern such that compliance with all discharge limits can be relatively easily achieved. These systems were often designed by highly paid Engineers and Consultants and installed at significant cost. The “weak link”, however, is the operation and maintenance of the systems. All too frequently operators of the system aren't technically knowledgeable or management fails to provide proper resources and supervision to keep the system running effectively and efficiently.

Pretreatment System Operation Suggestions

- Provide instruction manuals both in English and the native language of the operator(s) if comprehension of technical English is an issue.
- Require operators to establish and maintain a comprehensive operation and maintenance log for the system.
- Encourage operators to keep the system area clean and free of miscellaneous equipment and tanks.
- Disallow or limit the use of buckets, hoses, and portable pumps in the system area, these can be used to inappropriately operate the system or bypass proper treatment.

Administrative Suggestions

- Assign and train a mid to upper level Supervisor or Manager to be responsible for all issues related to discharge of the industrial wastewater. These responsibilities would include filing permit renewal applications, completing and filing surcharge statements and payments, coordinating self-monitoring reporting requirements, training production line operators in pollution prevention techniques, and supervising pretreatment system operations.
- Dischargers who have one manager or supervisor who has taken ownership of wastewater issues have much better understanding of wastewater issues and more importantly, a much higher compliance rate.

Conclusions

- Compliance rates are much better now than in the past.
- Compliance can be achieved on a consistent basis but it takes a dedicated, concerted and coordinated effort by ownership, management, production area employees, and pretreatment system operators all working together.