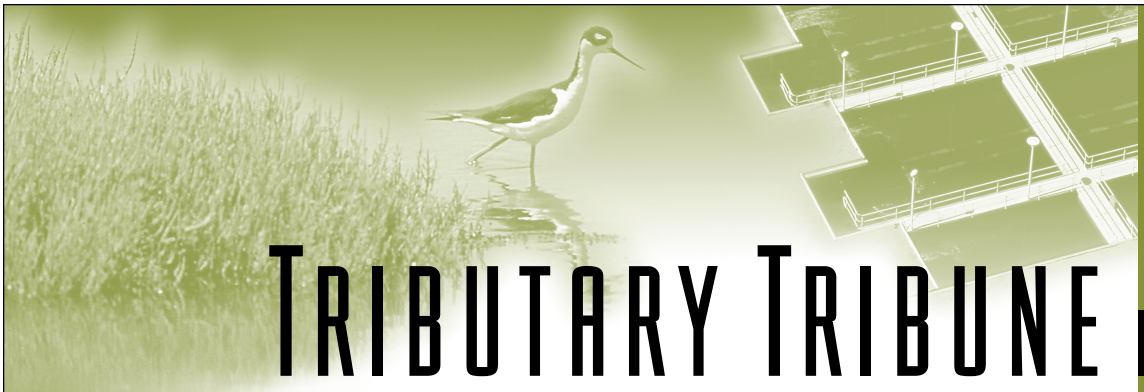

Tributary Tribune

San Jose/Santa Clara Water Pollution Control Plant

SUMMER 2001

Surveillance Monitoring: Lessons Learned

Background

The Source Control Program is required by federal regulations [40 CFR 403.8 (f)(2) (v) and (vi)] to periodically verify the accuracy of an Industrial User's discharge data by a method other than sampling at the routine sample point. This is typically accomplished by surveillance monitoring, sometimes referred to as discrete monitoring or sewer sampling. A surveillance point is selected "downstream" from the routine sample point, samples are collected, flow is estimated and the data from the two sample points are compared.

Source Control can and does cite dischargers for violating pollutant limits detected by surveillance monitoring. Surveillance monitoring is also used to verify the accuracy of mass loadings based on data collected from the routine sample point.

Prevent violations

Complacency and violations are often related. To reduce complacency, this article will share explanations generated by follow-up investigations, as well as suggest precautionary measures to prevent unexpected violations. You can then consider the applicability of the measures to your individual situation.

Reasons vary for concentrations or loadings being higher at surveillance points than at the routine sample point. Generally, reasons fall under two related categories.

Human errors

- Often there is poor communication and scheduling between the waste generators (production, maintenance and custodial staff) and the treatment staff.
- We often find that patterns of high pollutant levels at shift changes and breaks correlate to a distracted staff or a system without enough oversight.
- Staff not knowing or remembering procedures and rules lead to errors such as washing parts in the wrong sink.
- Failing to examine sample data for trends leads to poor scheduling of staffing and equipment maintenance.

Technical problems

- Relying on in-house testing does not account for particulate matter. Test kits, spectrophotometers and strips may not be as accurate as samples which are "digested" (solid matter dissolved by acid and heat) when particulates are present.

continued on next page

RE-CHECK YOUR ASSUMPTIONS

- ***Check in-house test results against certified lab results***
- ***Check non-treatment plumbing lines for plumbing errors***
- ***Periodically train and quiz staff on proper procedures***
- ***Sample during times of peak flow***
- ***Sample during times of peak pollutant loadings***
- ***Examine your data for trends***

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The ***Tributary Tribune*** serves the cities of San José, Santa Clara, Milpitas, Cupertino Sanitary District, West Valley Sanitation District (including Campbell, Los Gatos, Monte Sereno, Saratoga), County Sanitation Districts 2-3, Sunol & Burbank Sanitary Districts

- Sample boxes often allow settled particulate matter to escape. High flows that "stir" the contents of the box can produce particulates detectable by surveillance monitoring.
- Discharge of particulates and polymers can also lead to a build-up of pollutant-solids in the sewer lateral, where high flows can dislodge the material.
- Undetected plumbing mistakes (lab sink bypassing treatment) or leaks (leaking ball-joints or gaskets short-circuiting a recirculation loop) can lead to violations.

Re-check assumptions

- Check in-house test results, using water collected at the same time, against results from a certified lab that digests its sample. Do this multiple times. If there isn't a clear relationship between the data sets, be cautious in relying on in-house testing.
- Sample other plumbing lines from the facility at cleanouts, by composite sampling if possible, to confirm that no plumbing errors exist.

- Consider dye testing or having a plumber check with a remote camera if you can't verify that plumbing under a slab goes to the correct location.
- Do not rely exclusively on new employee orientations and one-time training. Provide ongoing training and periodically quiz employees, contractors, and their managers on proper procedures. For example, sometimes custodial staff can cause a violation by using the wrong sink.
- Sample when system effectiveness may be compromised, such as during start-up, shutdown, meal breaks, shift changes, before/after filters are changed or clarifier sludge is pumped down, at times of peak production loadings, etc. Fancy equipment is not needed, your own sampler or a metering pump will suffice.
- Examine your data for trends. Consider entering your monitoring data on computer spreadsheets to easily graph trends.

Stay vigilant

This partial list of causes and preventive measures does not apply to all sites. However, in our experience, complacency, excessive pollutant loadings, and discharge violations are related. Dischargers who actively monitor their practices and communicate with staff are less likely to have unexpected violations.

Pretreatment Program Changes

The Office of the City Auditor in San José recently completed an audit of the San Jose/Santa Clara Water Pollution Control Plant's Pretreatment Program administered by the Watershed Protection Division's Source Control Section. The final report, *An Audit of the Pretreatment Source Control Program* was published on May 8, 2001, and the executive summary is available at the following website:
www.ci.san-jose.ca.us/auditor/audrepor.htm

Based on the Audit recommendations, some changes have been made to the structure of the Source Control Program.

The core duties of implementing the federal pretreatment program and some local requirements have been concentrated in a smaller group of inspectors and technicians. The Source Control Inspector assigned to your facility has probably changed. Letters were sent to each facility contact identifying the new inspector assigned.

The Source Control Inspector assigned to your facility has probably changed.

Other Watershed Protection Program elements such as Pollution Prevention, Flow and Mass Audit Studies, Reasonable Control Measure Plans, Industrial User Academy, South Bay Water Recycling, and regulatory assessment will be handled separately.

Procedures are being re-evaluated and updated as necessary. The Enforcement Response Plan and City inspection and monitoring frequencies are also being revised.

The new organizational structure will continue to provide the same level of service to the regulated community. If you have any questions about these changes and how they may affect your facility, please contact John Mukhar, Environmental Enforcement Program Manager at: (408) 945-3036.

2001 Industrial Users Survey Results

The City of San José is implementing an organizational development process called Investing in Results. As a part of that effort, staff identified Manage Wastewater as a "core service."

In the Winter 2001 issue of the Tributary Tribune, we solicited your feedback on all wastewater services that we provide. A follow-up telephone survey was conducted in March 2001.

From your survey comments we identified areas of concern and ways to improve the services we deliver. Survey results are summarized in Table 1, percentages shown represent the percentage of respondents who expressed an opinion.

In response to the survey results we are:

- Streamlining the permit process. A single inspector will write all permits. This will include application review, permit issuance, and permit renewal processing. This will allow efficiency and consistency.
- Improving our website and access to documents and information.
- Actively marketing our Water Efficient Technologies flow reduction rebate program (*www.slowtheflow.com*), which provides cash for water saving projects.
- Committing to providing a timely response when you call for information or have a question. We will use e-mail when appropriate to send out forms and general program information.
- Continuing to offer classes and workshops, such as the Industrial User Academy.
- Continuing to present useful articles in the *Tributary Tribune* on current and upcoming regulatory issues and topics of interest.

Thank you to all who participated in our survey.

TABLE 1: SURVEY RESULTS

	Question	% Rating Good or Excellent
1.	How would you rate the health of the San Francisco Bay south of the Dumbarton Bridge?	52%
2.	How would you rate the San Jose/Santa Clara Water Pollution Control Plant Pretreatment Program, specifically for...	
	Inspection	88%
	Monitoring	89%
	Permitting	74%
	Technical Assistance	82%
	Education/Outreach	81%
3.	How would you rate Environmental Services Department staff in providing services to your company regarding environmental and compliance issues?	80%
4.	How would you rate the Environmental Services Department in providing programs/incentives to reduce your wastewater discharge?	65%
5.	How would you rate the clarity of program explanations, procedures, and requirements provided by Environmental Services Department staff?	69%
6.	How would you rate the accessibility of Environmental Services Department staff?	85%
7.	How would you rate the courtesy of Environmental Services Department staff?	91%
8.	Overall, how would you rate the Environmental Services Department in providing services to manage wastewater?	88%

Updates

The City of San José would like to thank Brett Dawson and the staff of **ENS Technology** in Santa Clara for allowing 20 bay area pretreatment inspectors into its facility to perform a pollution prevention assessment as part of the State Water Resources Control Board's *Pollution Prevention Training for Pretreatment Inspectors* held at the SJ/SC Water Pollution Control Plant in May.

Environmental Services will be hosting another **Industrial User Academy** on 10/04/01 and 10/05/01. This is an excellent opportunity to train new employees or refresh existing ones on permit applications, Notice of Intent requirements and more. The class is free and lunch is provided, but seating is limited. If interested, call Cheryl Dayley at (408) 945-3030.

The Western Regional Pollution Prevention Network (WRPPN) and the California Water Environment Association (CWEA) will be holding a joint **WRPPN/CWEA Fall P2 Conference** in Santa Rosa, CA, October 23 - 26, 2001. This is an opportunity to learn about pollution prevention programs and technologies that can benefit your business. For more information call (408) 566-4560 and press "2" or see *www.westp2net.org/c2p2c/steering/fallagenda.htm*.

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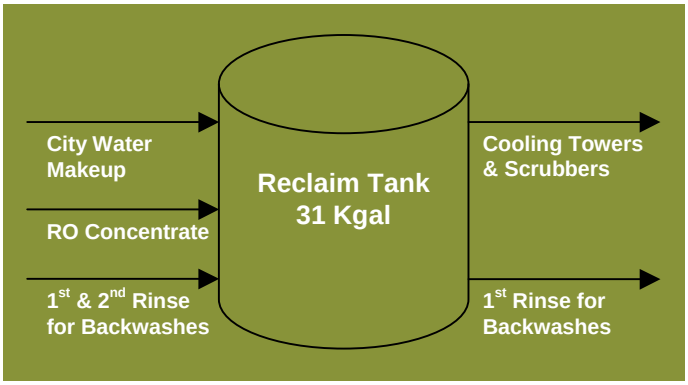
Siliconix Saves Water and Gets WET

Vishay Siliconix, a semiconductor company in Santa Clara, recently completed a Water Efficient Technologies (WET) project and received a $50,000 rebate from the program.

The project consisted of reclaiming reject from the Reverse Osmosis system and using it in cooling towers and scrubbers on-site. Additionally, the company was able to plumb reclaimed water to the first rinse of its media backwashing and return all backwash rinses to the reclaim system.

There were operational changes when changing the feedwater for the cooling towers. Increased TDS in the feedwater led the company to operate the towers at fewer cycles of concentration. Siliconix elected to remove one tower from the reclaim system due to unacceptable operating parameters caused by the new water quality. There was no change in operations for the company's fume scrubbers.



Overall, the project was a success and the savings are impressive. Siliconix invested approximately $180,000 in this system and is saving more than 47,000 gallons per day.

To find out how your company can take advantage of Water Efficient Technologies, contact us at (408) 945-3700, or visit our website at *www.slowtheflow.com*

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