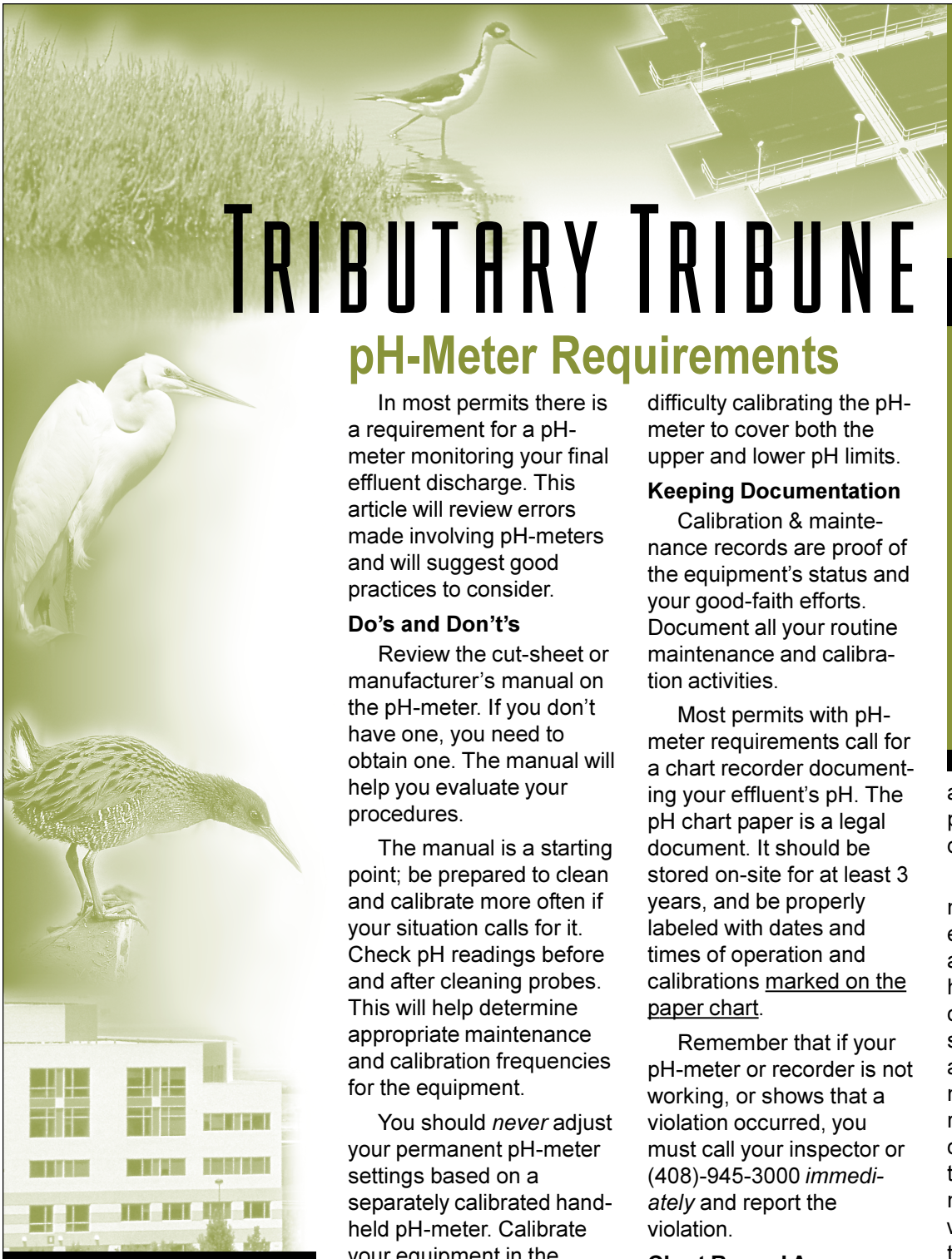

Tributary Tribune

San Jose/Santa Clara Water Pollution Control Plant

SUMMER 2002

pH-Meter Requirements

In most permits there is a requirement for a pH-meter monitoring your final effluent discharge. This article will review errors made involving pH-meters and will suggest good practices to consider.

Do's and Don't's

Review the cut-sheet or manufacturer's manual on the pH-meter. If you don't have one, you need to obtain one. The manual will help you evaluate your procedures.

The manual is a starting point; be prepared to clean and calibrate more often if your situation calls for it. Check pH readings before and after cleaning probes. This will help determine appropriate maintenance and calibration frequencies for the equipment.

You should *never* adjust your permanent pH-meter settings based on a separately calibrated hand-held pH-meter. Calibrate your equipment in the manner described by your manufacturer's manual.

Consider a daily log-book with the installed pH-meter reading next to the hand-held unit or pH-paper reading. If there is a difference, it's probably time to recalibrate.

If your effluent pH varies greatly between 6 and 12.5 you may have difficulty calibrating the pH-meter to cover both the upper and lower pH limits.

Keeping Documentation

Calibration & maintenance records are proof of the equipment's status and your good-faith efforts. Document all your routine maintenance and calibration activities.

Most permits with pH-meter requirements call for a chart recorder documenting your effluent's pH. The pH chart paper is a legal document. It should be stored on-site for at least 3 years, and be properly labeled with dates and times of operation and calibrations marked on the paper chart.

Remember that if your pH-meter or recorder is not working, or shows that a violation occurred, you must call your inspector or (408)-945-3000 *immediately* and report the violation.

Chart Record Accuracy

If your pH-chart recorder reading and your instantaneous read-out of current pH are different, the discrepancy should be addressed promptly.

The dimensions of the chart recorder paper's pH-scale should match the dimensions of the pH-scale on the faceplate; again, address such a discrepancy promptly. The rate of paper movement should be documented as well.

If you turn off the pH-meter when production ends you may unintentionally be in violation. Do you have a continuous discharge through your sample box, such as from an air scrubber? If yes, you must leave the meter and recorder on. And if discharge did cease when you turned the meter off, you must mark the chart paper with the date & time you turned the recorder on & off or you will have an inaccurate record.

General Good Practices

Create a binder of your procedures, equipment specifications and other relevant information, to facilitate training of employees. This will make the transition easier when experienced staff leave.

DID YOU KNOW?

- ***A requirement for a pH-meter means an accurate and working pH-meter.***
- ***The pH chart paper is a legal document.***

continued on next page

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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

Someone on-site should check the physical condition of the pH-meter and recorder, once or twice per shift at a *minimum*. Problems to look for include running out of paper, a paper jam, unexpected fluctuations and violations. The person checking the pH-meter should mark the chart paper with their initials, as well as the date and time.

Have a plan in case your pH meter or recorder breaks, addressing how you will monitor pH while replacement parts are rushed to the facility.

Consider an audible or visible alarm to warn you when set points are exceeded. If this happens so often that your staff ignores the alarm, reconsider your operating procedures.

Do *not* use discharge limits as the set points. You need to allow time to correct the problem before reaching your discharge limits.

Summary

The requirement for a pH-meter should be understood to mean an **accurate and working** pH-meter. If you claim you shouldn't be cited for a violation documented by your pH-meter because it is inaccurate, you can be cited for failure to maintain that meter!

If you have questions on how these guidelines apply to your facility please contact your inspector.

pH TIPS

- ***Keep a binder of pH-meter procedures handy.***
- ***Check meter accuracy at upper and lower pH limits after maintenance and calibration.***
- ***Physically check condition of pH equipment every shift.***
- ***Mark the chart paper each time you check or handle the pH equipment.***

Perseverance Pay$ Off in Water Conservation

In an ideal world, an engineer proposes a flow reduction project, presents it to management and immediately gets funded. The project is completed with no problems and the company receives a **Water Efficient Technologies (WET)** rebate check for their efforts.

The real world rarely works that smoothly. In this example the WET project took a few years from initial conception to final implementation.

A circuit board manufacturer was looking for ways to save water. They purchased an ion exchange based water reuse system from a vendor and made plans to treat and reuse process rinsewater.

Over the next few years the equipment sat unused, partially due to a lack of vendor support for implementing the reuse system. The manufacturer's personnel lacked in-house expertise and time for the project, as they were busy keeping up with the demand for their boards.

Eventually they committed the resources to complete the project. After months of testing and troubleshooting they were ready for implementation. They are very satisfied with the quality and reliability of the system.

The system pumps untreated rinsewater into a recirculation storage tank and then into a carbon filter chamber prior to introduction into the ion exchange columns. To provide continuous treatment the ion-exchange consists of two independent sets of resin columns, either of which can purify the water. Each set of ion-exchange columns contains separate cation and anion resin.

The treated "effluent" is suitable for reuse. A conductivity meter indicates when the columns need to be regenerated. The spent wastewater from the regeneration process is treated prior to discharge to the sanitary sewer.

To calculate the flow saved, the system was monitored for several months. Estimates project **19,390 gallons per day saved**, or 50% of baseline flow. For reducing their flow, the circuit board manufacturer received a **rebate of $27,376**.

To encourage other companies, the criteria for a WET project is straightforward. The project must reduce wastewater flows to the sanitary sewer. A one page application must be filled out and a pre-

installation inspection must be completed.

The minimum water savings required for a WET rebate is 100 hundred-cubic feet (HCF) of water (or 74,800 gallons) per year, or 250-400 gallons per day depending on your schedule.

Pre-installation and post-installation water savings must be documented, typically by water metering. Project costs, such as equipment and labor invoices, must also be documented.

After the post-installation inspection is performed, WET staff determine the water savings and a rebate check is issued. The maximum rebate is $50,000 or 50% of the project cost, whichever is less. The rebate is $4 per HCF (748 gallons) saved per year, compared to the baseline flows.

To find out how your company can participate in **Water Efficient Technologies**, contact us at **(408) 945-3700** or visit our website at:

www.slowtheflow.com

Industrial and Hazardous Waste Plant of the Year Award

The California Water Environment Association (CWEA) exists in part to protect the water environment. One of the ways it accomplishes this is through their annual Industrial and Hazardous Waste (I&HW) Plant of the Year awards.

The purpose of the awards is to recognize outstanding accomplishments among the permitted industrial dischargers. The awards are presented to the winners at the annual CWEA I&HW conference in February, and are also acknowledged at the annual CWEA conference in April as well as in CWEA publications. The winners will receive an engraved plaque and the runner-up will be presented with a framed Certificate of Merit.

Nominees must be permitted dischargers, and can only be nominated by municipalities, organizations or businesses that are members of the CWEA. The I&HW Committee of the CWEA will review nominations in the following areas:

- Implementation of waste minimization, recycling, source reduction or pollution prevention practices.
- Application of an innovative solution or technical advance to a waste management problem.
- Operational and preventive maintenance practices meant to improve environmental performance.
- Having a consistent record of meeting or exceeding industrial wastewater discharge requirements.
- Conducting community service programs to develop public awareness for industrial wastewater control and environmental protection.

A total of four awards are given each year. The award categories are “Large Industry” and “Small Industry” for both Northern and Southern California. Whether an industry is considered large or small is determined based on flow, annual sales and number of employees.

If you believe your business deserves recognition for wastewater treatment, pollution prevention, or environmental protection, please contact your inspector and suggest that the San Jose/Santa Clara Water Pollution Control Plant nominate your business. Your inspector will tell you if your business can be nominated as well as what information they will need for the application.

If you wish to learn more about the CWEA Industrial & Hazardous Waste Plant of the Year award you can go to their website at *www.cwea.org/html/master_awards.html*

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In accordance with the Americans with Disabilities Act, City of San José Environmental Services Department materials can be made available upon request in alternative formats, such as Braille, large print, audio-tape or computer disk. Requests may be made by calling (408) 277-5533 (Voice) or (800) 735-2929 (CRS).

www.ci.san-jose.ca.us/esd

Watershed Protection Division
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4245 Zanker Road
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Phone 408-945-3000
Fax 408-934-0476

The Enforcement Response Plan

The purpose of an Enforcement Response Plan (ERP) is to detail the procedures on how Source Control investigates and responds to "non-compliance" (violations).

The ERP for the pretreatment program was recently revised, with the "final" version sent to the Regional Water Quality Control Board for review. Although an internal document for Source Control section staff, some of the changes in the ERP are being highlighted here since they may be of interest to you.

Changes to an ERP will **not** change regulations or permit requirements, but rather how we will respond to violations.

Administrative Citations (only applies to discharges within the San José city limits)

An Administrative Citation (AC) is a monetary fine associated with violations.

Prior to amending the ERP only a few violations of the local discharge regulations were subject to an AC being issued. Now most of the City of San José sewer use regulations are subject to ACs when significant violations occur.

If you want to know the complete list of regulations now subject to an AC, please contact your inspector.

Other Changes

The ERP was clarified to say that listed enforcement actions for different violations are the minimum response, rather than the only or maximum response.

The criteria for when a compliance meeting *must* be held were amended. In many cases staff has more flexibility on when a compliance meeting must be called.

If you have questions about the Enforcement Response Plan or Administrative Citations, please contact your inspector.

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