

## Local Limit Changes

### Special points of interest:

- See how your facility will be affected by future industrial discharge limit changes.
- New FDEP focus on backflow prevention.
- Think Zinc!
- Looking for an IP award?
- Convenient, affordable training for pretreatment operators is not a myth.

JEA Industrial Pretreatment completed its required local limits re-evaluation in September and submitted the corresponding report to the Florida Department of Environmental Protection (FDEP). Data on pollutant levels from influent and effluent monitoring of water reclamation facilities (WRF) along with collection system monitoring were analyzed to determine if the current limits are still protective of the WRF. Utilizing methodologies recommended by the Environmental Protection Agency (EPA), JEA determined that only two pollutants required modifications.

At the District 2 WRF, copper is limited thus reducing the standard from 1.00 mg/L to 0.82 mg/L.

In a slick move, the oil and grease (also known as SGT-HEM) limit will increase from 100mg/L to 150 mg/L at all WRFs.

A third pollutant, zinc, has seen increased loadings at most JEA water reclamation facilities (refer to graph 1).

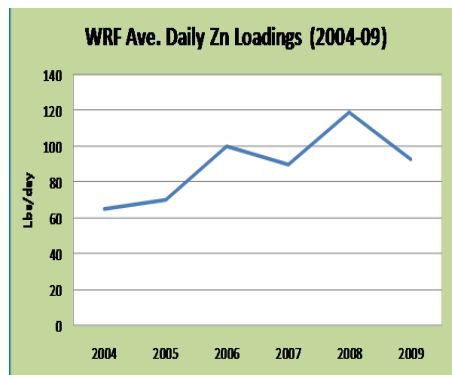
However, this increase does not appear to be related to industrial sources, so no zinc local limits will be affected at this time.

More on zinc can be found in the article titled *Think Zinc!*

Preliminary approval of these changes has been given by FDEP, but don't start making adjustments

just yet. Formal approval and implementation is several months away. The approval process consist of the following steps;

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**Graph 1** JEA Water Reclamation Facilities have experienced increased zinc loadings

## No Backsliding on Backflow Prevention

The Florida Department of Environmental Protection will focus more on cross connection control programs at water utilities in 2010. New rules have been drafted by the state requiring utilities to assess each commercial customer for cross connection hazards by the year 2015.

Cross connection control programs emphasize the presence of backflow preventers as a

means to protect the public water supply. Backflow preventers (BP) are one way valves installed on the customer's side of the connection to JEA's water distribution system. Once water enters the customers premise it has the potential to become contaminated, the BP does not allow potentially contaminated water to return to the public water system.

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## Local Limits, continued from p. 1

1. JEA incorporates new limits into the Industrial Pretreatment regulation.
2. JEA submits modified regulation to FDEP.
3. FDEP and JEA go through a series of public notices on the proposed changes.
4. FDEP can then formally approve the modifications. Upon formal approval the new limits become effective.

JEA will then re-issue all permits affected by the new limits. All permittees will receive the new SGT-HEM limit, while only contributory users of copper in District 2 will receive the reduced copper limit.

Contributory users are those that contribute copper to the WRF. These industrial users have copper effluent levels greater than background

concentrations found in the collection system. By allocating copper to only those industries actually contributing the pollutant, allows JEA to maximize the allotment and corresponding copper limit. District 2 industrial users can determine their contributory status in regards to copper by reviewing table 2.1 of their current industrial user discharge permit.

During the modifications, JEA will also incorporate changes mandated through federal and state pretreatment program regulations. These revisions are administrative in nature and industries will be kept informed of the changes and how they will be affected. Should you have any questions concerning industrial pretreatment program changes please contact your compliance inspector.

## Think Zinc!

Zinc is a regulated pollutant due its toxicity to wastewater treatment bacteria and aquatic organisms in the treatment facility's receiving stream. Analysis of influent data from JEA water reclamation facilities (WRF) show that influent loadings for this metal have been on the rise since 2005 (refer to the graph 1 on the previous page).

Examination of routine industrial user discharge monitoring data does not indicate increased zinc from industrial sources.

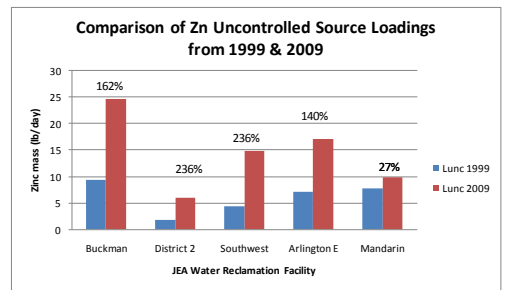
During the recent local limits re-evaluation, JEA sampled two sites in the collection system for each of the five WRF districts. In each district one site carried only domestic waste, while another serviced both domestic and light commercial wastewaters. Per EPA local limits development guidance, no industrial wastewaters contributed to these monitoring points. Performing this sampling and analysis allowed JEA to determine the background or un-controlled pollutant allocation to the WRF.

For zinc, this analysis was done previously in 1999. Graph 2 illustrates the increases in average zinc loadings from uncontrolled or background sources. Overall, there has been a 136% increase in zinc loadings from non-industrial sources since 1999.

JEA also analyzed the average zinc concentrations in locations carrying only domestic wastewater and those containing wastewater from domestic and light commercial origins. Across the collection system, wastewaters from commercial/domestic sources showed 118% higher zinc concentration than those from only domestic sources (see graph 3). These data suggest commercial sources may be responsible for increased zinc loadings.

To get the root of the increases, JEA has been investigating sources of zinc. An obvious potential source is galvanized plumbing, however the predominance of PVC pipes in new construction

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**Graph 2 Uncontrolled source zinc loadings by WRF with percent increases**

Overall, there has been a 136% increase in zinc loadings from non-industrial sources since 1999.

## Backflow, continued from p. 1

So, what happens in an industrial premise, stays in the industrial premise. Backflow of water into the JEA system can occur in two ways:

1. **Backpressure**—The facility exerts a greater water pressure than the JEA distribution system. This is of particular concern in an industrial setting due to the use of pumps and thermal expansion caused by boilers or water heaters.
2. **Backsiphonage**—This occurs with a sudden loss of pressure in the distribution system siphoning water from the customer's pipes into the public system. Pressure loss results during a break in the distribution pipes causing massive water loss. Contractors accidentally breaching distribution pipes or fire hydrants struck by vehicles are common causes of water pressure loss.



Reduced pressure principle backflow preventer

policy requires facilities to maintain backflow preventers on water connections to the JEA system that present a hazard. Hazards are determined by water use. Typical hazards include; industrial or manufacturing processes, fire sprinkler systems, and irrigation systems. Any connections to the public water system used for these processes are required to maintain JEA approved backflow preventers. The BP must be tested annually and certified as functioning

by a qualified BP tester.

Within JEA, responsibility for backflow prevention has been transferred to the Industrial Pretreatment department, so backflow preventer assessments will be included in annual IP inspections.

For more information concerning these requirements visit JEA's Cross Connection Control webpage at:

<http://www.jea.com/business/services/cccp/index.asp>

JEA is required by the Florida Department of Environmental Protection to maintain a cross connection control plan. JEA's plan is called the *JEA Cross Connection Control Policy* and it regulates all users of the JEA potable water system. The

... backflow preventer assessments will be included in annual industrial pretreatment inspections.

## Toot Your Own Horn!

As the 2009 calendar year winds down, JEA will begin evaluating industrial users for its annual JEA Industrial Pretreatment awards. If you feel your company has achieved environmental performance worthy of an award, contact your compliance officer and brag about it. The following awards will be given in 2010 for this year's achievements:

**Environmental Stewardship Award**—given to all industrial users that discharges process wastewater and had 100% compliance in 2009.

**Pollution Prevention Award**—given to an industry demonstrating environmental improve-

ments through the use of pollution prevention methods.

**Gold Award**—presented to the non-significant industrial user demonstrating sustained environmental excellence in industrial pretreatment.

**Platinum Award**—presented to the significant industrial user demonstrating sustained environmental excellence in industrial pretreatment.

Don't forget, if you feel your company is qualified for any of these awards, let your IP contact hear about it.





JEA Industrial Pretreatment  
21 West Church St. T-8  
Jacksonville, FL 32202

Phone: 904-665-4796

Fax: 904-665-7376

E-mail: [parndp@jea.com](mailto:parndp@jea.com)

[go green at jea.com](http://www.jea.com)

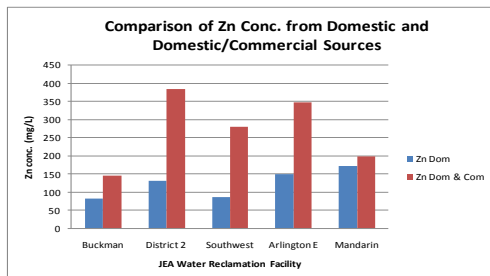
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For more information about our program, forms, and past issues, please visit the JEA Industrial Pretreatment website at:

<http://www.jea.com/business/services/industrialpre/index.asp>

## Zinc, continued from page 2



**Graph 3 WRF comparison of domestic to commercial/domestic wastewater zinc concentrations.**

seems to rule out increases due to plumbing materials. Further research finds this pollutant becoming ubiquitous in both commercial and household products. Zinc is common in floor waxes, lubricants, cleansing products, and personal care products.

JEA's next step in the root cause analysis is to sample effluent for certain commercial sectors to determine zinc levels. Identifying a source and applying proper controls to limit zinc, will help prevent the need for future reductions in zinc local limits that would impact industries.

If your company has had zinc issues, you may wish to check into the floor waxes, cleansing products and lubricants used by your facility. These could contain zinc and there may be alternatives available without this pollutant. Since material data safety sheets (MSDS) typically include just hazardous constituents, you may need to contact your company's chemical supplier directly. When appropriate, switching to zinc free alternatives may prevent future effluent violations.

## Treatment Training

With bare boned travel and training budgets, it is becoming increasingly difficult to hone employee skills and knowledge regarding wastewater treatment.

The Office of Water Programs at Sacramento State University offers a variety correspondence courses addressing industrial wastewater treatment. These courses cover treatment from both a technological and skill based viewpoint. Advantages of correspondence courses include; convenience, self pacing, affordability and no travel costs.

Completing the courses may entitle students to continuing education units (CEU). Courses offered pertaining to industrial treatment of wastewaters include:

*Industrial Waste Treatment 1&2, Treatment of Metal Waste Streams, and Pretreatment Inspections.* Detailed course curricula as well as registration information can be found at the following

website:

<http://www.owp.csus.edu/training/courses/orderform.php>

