

The Filter Press

Volume 1, Issue 1

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- III. **JEA wastewater treatment plant improvements.** All five regional treatment facilities are slated for improvements costing \$180 million through 2007. In addition, \$400 million in water distribution and sewer collections system improvements are underway through the "GroundWorks" program.
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I. THE NEW REGS ARE COMING, THE NEW REGS ARE COMING...

Well actually they're already here. Final DEP approval has been received by JEA's Industrial Pretreatment Department for implementation of the new *Industrial Pretreatment Regulation*. A few of the highlights are:

- As permits are renewed, the life of the permit may be extended to up to five years. Factors including discharge variability and compliance history will be used to determine the duration of each permit. (§ 6.5)
- Upper pH limit has changed from 9.5 SU to 10.5 SU. The lower limit remains at 5.5 SU. (§ 2.1. B. (2))
- Facilities that continuously monitor discharge pH may, under certain circumstances, temporarily discharge water with pH below 5.5 SU or above 10.5 SU. Generally, these facilities are not in violation for unintentional and temporary excursions of wastewater pH down to 5.0 SU and above 10.5 so long as:
 - a. The total time spent in excursions is less than eight hours per month; and,
 - b. No individual excursion exceeds one hour in length; and
 - c. No excursion results in or contributes to violations of the general or specific prohibitions listed in the IP Regulation, (§ 2.1 (A) and (B)).
- New local limits are now in effect. The new discharge limits depend on the wastewater treatment facility to which the User discharges and are shown in the table on page 2. (Appendix A)

continued on page 2

So when do the new regulations become effective? Now. How do you get a copy of the regulations? You got 'em. Permitted Industrial Users (IUs) received a preliminary copy last year. For your convenience, an electronic version of the finalized regulation was e-mailed with this newsletter. If you would also like to receive a hard copy please let us know.

The following pollutant limits are established to protect against pass-through and interference at JEA Wastewater Treatment Facilities (WWFs). These limits apply at the point where the wastewater is discharged to the JEA collection system. All concentrations for metallic substances are for "total" metal unless indicated otherwise. JEA may impose mass limitations in addition to, or in place of, the concentration-based limitations below. No person shall discharge wastewater containing in excess of the following:

Maximum Allowable Discharge Limits

POLLUTANTS	BUCKMAN WWF	DISTRICT II WWF	SOUTHWEST WWF	ARLINGTON EAST WWF	MANDARIN WWF
Cadmium (mg/l)	1.20	1.20	1.20	1.20	1.20
Chromium (mg/l)	10.00	10.00	10.00	10.00	10.00
Copper (mg/l)	3.38	3.38	0.73	3.38	3.38
Cyanide (mg/l)	3.38	3.38	3.38	3.38	3.38
Lead (mg/l)	1.40	0.70	1.90	1.17	1.90
Mercury (mg/l)	0.006 ⁽¹⁾	0.006 ⁽¹⁾	0.006 ⁽¹⁾	0.006 ⁽¹⁾	0.006
Nickel (mg/l)	3.98 ⁽¹⁾	3.98	3.98	3.98	3.98
Silver (mg/l)	0.43	0.43	0.43	0.43	0.43
Zinc (mg/l)	2.61	2.61	2.61	2.61	2.61
SGT-HEM (mg/l) ⁽²⁾	100	100	100	100	100
pH (S.U.) minimum	5.5	5.5	5.5	5.5	5.5
pH (S.U.) maximum	10.5	10.5	10.5	10.5	10.5

(1) Limits for contributory flow users only. Industrial user will be notified by JEA regarding its status as a contributory user.

(2) Petroleum oil as measured by EPA method 1664 A.

NOTE: Shaded cells contain limits that have been changed

Local discharge limits have been established for each JEA WWF. Facilities discharging to JEA are subject to the local limits established for the JEA WWF receiving their wastewater (and any additional permit conditions, state and federal regulations). Please contact JEA Industrial Pretreatment if you are unsure of which WWF receives your wastewater.

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II. Certified contract laboratories and laboratory service providers

JEA requires compliance testing to be performed by a Florida Department of Health (DOH) certified laboratory. An informal survey was circulated to area Environmental Laboratories and Laboratory Services Brokers recently. Survey responses and contact information for each responding facility are enclosed. Please note that these results may not be reflective of all commercial labs that may be available and certified, but represent those labs that responded to our survey.

Please note that there is more than one EPA approved method for most wastewater parameters. If a lab reported being Department of Health (DOH) certified in one or more EPA wastewater method(s) for a parameter, an "X" appears in the corresponding box. Laboratory DOH certification status can be verified by calling the DOH at 791-1578, or by checking the DOH website at: <http://www8.myflorida.com/environment/learn/science/laboratories/doh.html> . To use the website, first determine the lab number in certified laboratories, then check current certifications for the lab under analyte sheets.

Labs that are not certified to perform some procedures may have a relationship with a certified lab, whereby samples are analyzed by the certified lab and reported by the non-certified lab. In such a case, chain-of-custody forms should indicate where the individual analysis is performed.

Also note that at least one laboratory services broker provides services to industries in the Jacksonville area. In most cases, the broker service performs sampling, sends samples to contract labs, and reports the results to the client.

Lab	Cadmium	COD	Chromium	Copper	Cyanide	Lead	Mercury	Nickel	pH	Silver	SGT-HEM	TSS	Zinc
AEL	X	X	X	X	X	X	X	X	X	X	X	X	X
CAS	X	X	X	X	X	X	X	X	X	X	1	X	X
ENCO	X	X	X	X	X 2	X	X	X	X	X	X	X	X
SEL	X	X	X	X	X	X	X	X	X	X	X	X	X
TSI	X	X	X	X	X	X	X	X	X	X	1	X	X
Intralab	X	X	X	X	X	X	X	X	X	X	X	X	X
J	X	X	X	X	3	X	X	X	X	X	X	X	X

1 DOH certification is pending.

2 Performed at ENCO, Orlando.

3 A certified lab, E-Lab, is subcontracted for this service.

Advanced Environmental Laboratories, Inc.

363-9350

cged@firelinedsl.com

Columbia Analytical Services, Inc.

739-2277

pgunsaul@jax.caslab.com

Environmental Conservation Labs, Inc.

296-3007

rcamp@encolabs.com

Southeast Environmental Laboratories, Inc.

269-6176

selinc@prodigy.net

Technical Services, Inc.

353-5761

tsi@jaxnet.com

Intralab (laboratory service provider)

396-6868

intralab@aol.com

JEA Laboratory Services

665-8312

KUHNJW@JEA.COM

III. JEA Wastewater Treatment Plant Improvements

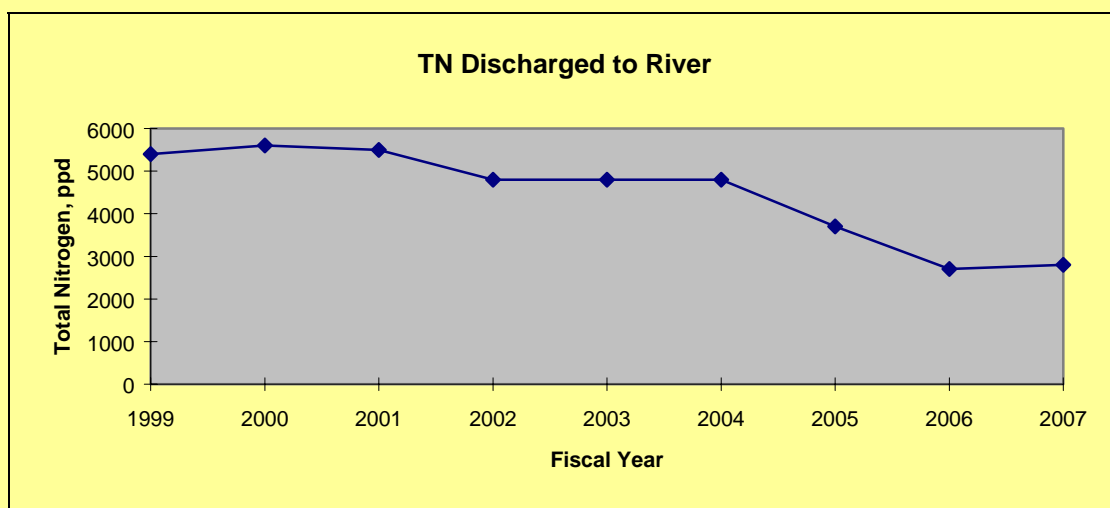
Several major improvements have been made at the Buckman WWF in the last year. These improvements include new influent pumps, new grit removal system, new hauled waste receiving facility, fine bubble aeration system upgrade, and new ultraviolet disinfection system. Reuse pumps at the Buckman facility are currently being replaced and ground has been broken on a new biosolids recycling facility that will replace the sludge incinerator in 2002.

After the incinerator is removed from service, and replaced by the new biosolids recycling facility, sludge from all the JEA treatment plants will continue to be hauled to the Buckman biosolids facility for disposal. Once at the facility, the sludge will undergo thickening, anaerobic digestion, dewatering and heat drying to produce a pelletized soil amendment product. The new process will wholly replace the current incineration process, eliminating pollutants now being emitted into the air.

These major capital projects at the Buckman facility are part of JEA's overall plan to upgrade the five regional treatment plants. In conjunction with the \$180 million investment at the plants, the

water (distribution) and sewer (collection) lines are being rehabilitated in a comprehensive \$400 million program known as JEA GroundWorks. JEA GroundWorks projects include replacing antiquated collection and distribution lines, rehabilitating sewer lift stations, pump stations and manholes. By replacing aging infrastructure, and removing inflow/infiltration from the collection system, JEA will effectively regain lost capacity in the collection and treatment facilities. Increasing efficiency of the sewer system is one of the tools JEA is using to provide for the future growth needs in Jacksonville. Chances are, if you are driving through any older sections of the city, you will see JEA GroundWorks signs and crews busy on this aggressive infrastructure improvement program.

In addition to GroundWorks, JEA is working on an ambitious plan, known as a Big Hairy Audacious Goal or BHAG, to reduce nitrogen loading to the St. Johns River by 50 % by the year 2007. The plan currently calls for all five regional treatment facilities to incorporate conventional biological nutrient removal (BNR) systems and denitrification filter technology to achieve significant reductions concurrent with estimated loading increases from new growth. Planned capital outlays associated with the WWF improvements will total nearly \$180 million through 2007.



Part of JEA's nutrient reduction plan also involves increasing wastewater reuse. Effluent from the District II, Mandarin and Arlington East treatment facilities, and a portion of the Buckman WWF effluent will be treated to reuse water quality. A total of ten million gallons per day of reuse water will be made available by 2007. Please let us know if your facility is interested in our reuse program - we're looking for partners.

IV. Questions and Answers from the November, 2000 Industrial Users Luncheon *"Partnering for a Cleaner Jacksonville"*

"Can JEA provide a list of environmental labs that are certified to do the analysis required by my Industrial User Discharge Permit (IUDP)?"

There are several environmental labs in the area that are certified to perform the wastewater testing methods required by your IUDP. Please see "Certified contract laboratories..." in this newsletter for more information on contract labs and lab service providers.

"How is the Buckman Wastewater Facility doing?"

Generally, better than it was doing last year and much better than two years ago. In FY 97-98 there were 141 effluent violations. In FY 98-99 there were 33 effluent violations. In FY 99-00 there were 23 effluent violations. However, the plant continues to be hit periodically with slugs of high strength wastewater that exceed the plant's treatment capacity, or slugs of wastes that otherwise interfere or pass through the treatment process. Slugs of high strength wastewater are interfering with plant operations several times each month, and may be causing ammonia toxicity in the effluent. Many of the effluent violations in FY 99-00 were exceedances of whole effluent toxicity (WET) limits. At least half of the WET violations involve ammonia toxicity. JEA recently signed a Consent Order with the FDEP that requires extensive investigation into this toxicity problem.

The Buckman WRF also exceeded effluent disinfection criteria (coliform testing) several times in the final two weeks of April, 2001. Disinfection methodology at the Buckman WWF was recently changed from gaseous chlorine feed to an ultraviolet (UV) light contact system. Like chlorine, effectiveness of the UV system is dependent upon dosage and contact time. These violations are the result of UV light-absorbing compounds in the plant effluent that effectively reduce the dosage of UV light applied to the wastewater. If enough UV light is absorbed by specific inorganic and organic compounds in the wastewater, inadequate disinfection results.

The UV interference episodes typically last from 2 to 12 hours, and thus do not appear to be associated with a continuous discharge. The UV wavelength used to "inactivate" bacteria is 254 nm. There are numerous compounds that absorb UV light at this wavelength, including dissolved iron, benzophenones, and benzoic acid based products (such as the PABA found in sunscreens). The Industrial Pretreatment Department is requesting that each IU screen products at their facility to help identify potential sources of UV light absorbing compounds. The Industrial Pretreatment Department will work cooperatively with affected Industrial Users to develop effective management techniques for identified sources.

“Has JEA set aside capital outlays to address the Total Maximum Daily Load (TMDL) limitations expected?”

JEA has an aggressive plan to reduce nitrogen emissions to the St. Johns River 50 percent by 2007. A capital outlay of approximately \$180 million has been set aside for the improvements, which will reduce effluent nitrogen to 1987 levels. Please read “JEA wastewater treatment plant improvements” in this newsletter for more information. While JEA cannot confirm the adequacy of our current plans to meet the TMDL at this time due to the ongoing TMDL allocation process, we are confident we are moving in the right direction.

“Will JEA reestablish the pretreatment workshop?”

Yes, Industrial Pretreatment is getting the workshop group back together with some old and some new faces under the name “General Advisory Committee” (GAC). The GAC is an excellent forum for ideas and concerns to be addressed informally. The first meeting of the GAC occurred on April 9. Representatives of six of Jacksonville's leading industrial facilities participated in a discussion directed towards setting future topics of interest. Participation in the GAC is open to any representatives of Jacksonville industry. Topics of interest mentioned included:

- Conventional pollutant control strategies
- Notices of Violation issued to the Buckman WWF (by FDEP)
- Pretreatment technology seminars
- Implications of the new biosolids recycling facility
- Electronic submittal of self-monitoring reports
- Best management practices
- IP Newsletter

Next meeting is set tentatively for July. Please contact the IP Group if you are interested in participating.

“Is there a list of industry leaders available for mentoring to smaller facilities on pretreatment issues?”

At this time there is no prepared list of mentoring facilities. However, JEA Industrial Pretreatment could certainly provide mentoring facilities on a case-by-case basis. We are familiar with the area pretreatment facilities and case histories, and will make anonymous inquiries to potential “mentor companies” if there is a specific request.

V. We Need Your Feedback

The Industrial Pretreatment Department is circulating a survey with this newsletter. We would appreciate you taking the time to provide us with feedback. As you know, feedback is a critical component of the continuous improvement cycle. The survey responses help us understand the informational needs of the Industrial Users, and help us to gauge how we are interacting with the regulated community. Your feedback will enable us to set our priorities.

We hope this newsletter is of benefit to you. We encourage you to direct questions and inquiries to Paul Steinbrecher, Industrial Pretreatment Manager 665-5653 or steipk@jea.com.

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