



# PRETREATMENT COMMUNICATOR

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## COORDINATORS DESK

Dawn Templin  
FDEP Pretreatment Coordinator

The Department has completed drafting revisions to Chapter 62-625, F.A.C., to incorporate the EPA streamlining changes and to clarify some sections of the rule. The Department plans to initiate rulemaking this summer. Please stay tuned for the public workshop which will be held to receive comments prior to rule adoption.



The Department has a new pretreatment program engineer, **Celina Dozier**. Celina has a BS degree in Chemical Engineering from FAMU, and a MS degree in Environmental Engineering from UC-Berkley. Please welcome her when you meet her.

Pretreatment programs should not alter pretreatment discharge monitoring reports (DMRs). The DMRs are part of the Department-issued permit and changes to the DMRs must be made by the Department. If you notice problems with your DMRs, contact either me in Tallahassee or your District Office.

As always, the Department is here to assist you concerning your pretreatment program. Please contact Hsiang Chou-Hoofman at (850) 245-7566, Sam Jenkins at (850) 245-8609, Celina Dozier at (850) 245-8607, or me at (850) 245-8601, if you need assistance or have questions.

## FLORIDA WATER ENVIRONMENT ASSOCIATION IP AWARD WINNERS ANNOUNCED!

Congratulations to FWEA's 2008 Albert Herndon and L.L. Hedgepeth award winners.

**Mark Mathis**, Ft. Pierce Utilities Authority earned the **Albert B. Herndon Award** for his leadership in promoting industrial pretreatment excellence.

**Norman Buckley**, Sea World of Florida was the recipient of the **L.L. Hedgepeth Award** for outstanding industrial wastewater operations.

The awards were presented at the Florida Water Resources Conference in West Palm Beach in April.

**Congratulations!**

## EDITORS NOTE

FIPA would like to recognize our sponsor's invaluable participation in our organization. New to this issue is the inclusion of FIPA sponsor's logos.



## TRAINING OPPORTUNITIES

May 11-12	WEF FOG Management <a href="http://www.wef.org/ConferencesTraining/Seminars/FOG/">http://www.wef.org/ConferencesTraining/Seminars/FOG/</a>	Atlantic City, NJ
July 14-16	CWAC Local Limits Training <a href="http://www.cwaconsultingservices.com/Training.htm">http://www.cwaconsultingservices.com/Training.htm</a>	Orlando



## A MESSAGE FROM THE PRESIDENT

Mark Mathis  
FIPA President



If you did not make it to the March 2009 social event and workshop you really missed out! The moon light dinner cruise on the Starlite Princess was dynamite! Pretreatment professionals from as far away as North Carolina and Colorado attended and presented at the workshop.

### Exploring the connection between Local Limits Allocation Methods and Program Significant Noncompliance

Pretreatment Coordinators should be aware that having 15 percent or more of their Industrial Users in Significant Noncompliance (SNC) in a six month period raises a flag to Approval Authorities. In such cases the Approval Authority will evaluate whether the treatment plant is effectively enforcing the pretreatment program. Failure to effectively enforce a pretreatment program can result in the program itself being placed in SNC. Programs that are in SNC are listed in a quarterly report to the Congress of the United States. This is probably not the type of recognition you want for all of the hard work you put into your program.

John Parnell Ph.D., Pretreatment Solutions, Inc., made a compelling presentation at the March Workshop in Clearwater comparing and contrasting local limits allocation methods. When it comes to local limits allocation, the majority of pretreatment programs in Florida use the uniform concentration approach. There is nothing wrong with this method but in some cases it can be overly conservative in protecting your treatment plant. Actually the uniform concentration method is the easiest allocation method to administer, because all of your non-categorical industries get the same local limit.  
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## EPA's Clean Water Act Awards Suspended

From EPA's Website:

"EPA is considering a significant redesign of the Clean Water Act Awards program. Our primary goal is to improve its value to EPA by aligning the program more closely with our Sustainable Infrastructure goals and to the water industry through broader applicability. The current program has served us well since it began in 1985, and we believe an effective revision can both reinvigorate interest and also move the water industry toward sustainability.

As we work to develop this new program, EPA is suspending the CWA Awards for one year (calendar year 2009). This will allow us to focus on completing the new design and launch the revised program in fall 2009 for awards in 2010. Please do not submit CWA Award application materials in 2009 to either your State or EPA Regional office."

Reference: <http://www.epa.gov/owm/mtb/intnet.htm>



The **Pretreatment Communicator** is a semi-quarterly production of the Florida Industrial Pretreatment Association (FIPA). The **Pretreatment Communicator** encourages participation from its readers and any other individuals interested in pretreatment in the State of Florida. Please submit any comments, ideas, or articles to Pretreatment Communicator c/o Dan Parnell, 21 W. Church St. T-8, Jacksonville FL 32202 or email to [parndp@jea.com](mailto:parndp@jea.com). The Pretreatment Communicator reserves full editorial rights to all submissions. FIPA assumes no responsibility for the statements or opinions expressed in this newsletter. Views and information contained in this newsletter are those of the authors and do not necessarily reflect those of FIPA.  
Editor – Dan Parnell

## OOH, OOH THAT SMELL

After a visitor remarked about the odors at a wastewater treatment facility, the facility manager famously replied, "This isn't a bakery!" While sewer odors are an expected part of any sewer collection and treatment system, the science behind the smell and how industrial wastewater can affect production of sewer gases is a mystery to most.

Typical sewer odors result from the bacteria living in the sewer system. Think of a sewer pipe or even the sewer treatment facility as an aquatic ecosystem teaming with microbes. These microbes form complex relationships just like you would find in any natural system. Certain microbes are like plants and synthesize their own energy. Unlike plants however, there is no sunlight as an energy source in the sewer system to make food. Instead these bacteria use chemical energy from certain pollutants found in the waste stream. Commonly, bacteria will reduce substances like sulfates ( $\text{SO}_4^{2-}$ ) to hydrogen sulfide ( $\text{H}_2\text{S}$ ). As this occurs, the  $\text{H}_2\text{S}$  leaves the wastewater as a gas and is characterized by its rotten egg smell.

Other microbes are more like animals and must feed on a food source to get their energy. Normal domestic sewerage contains the food these microbes require. To release the energy locked in this food these bacteria need oxygen, just like animals. As you can imagine, there isn't much dissolved oxygen in the sewer environment for these hungry little microbes.

If the dissolved oxygen levels are too low, bacteria will strip oxygen from compounds like  $\text{SO}_4^{2-}$  to metabolize their food which then produces those smelly sulfides.

Many industrial pollutants are a source of food for bacteria. Wastewater bacteria can utilize a wide range of readily biodegradable organic compounds. These include sugars, alcohols, glycols, and even many hydrocarbons (essentially substances that exert a high oxygen demand). If an industrial wastewater is introduced into the sewer with a high concentration of these pollutants, then a corresponding high

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## (Message, Continued from page 2)

Uniform concentration limits may not necessarily be the best way to go however, when some of the calculated limits are very low, and overly difficult for industries to meet.

If your treatment plant is experiencing incidents of pass-through or interference you may very likely want to keep your uniform concentration limits. In the absence of pass-through or interference, the chances are good that your limits are adequately protecting or even over-protecting your treatment plant. If you have industries that teeter into and out of SNC for frequent standards violations not impacting your treatment plant, then it might be a good idea to take a look at your local limit allocation method. Consider the labor involved with investigating, noticing and

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### FIPA Contact Information

If you have questions concerning your FIPA registration, workshops, or FIPA voluntary certification courses please contact the FIPA Secretary, Monica Swearingen at:

[fipasecretary@mail.com](mailto:fipasecretary@mail.com)

## SURCHARGE IT!

Most utilities base sewer rates on the cost to treat domestic sewerage. Typically domestic concentrations of conventional pollutants such as biological oxygen demand (BOD) or chemical oxygen demand (COD), total nitrogen (TN) or total kjeldahl nitrogen (TKN), total suspended solids (TSS), and total phosphorus (TP) are considered when determining the cost to treat.

Since rates are set to recover treatment costs at "normal" pollutant levels, wastewaters with significantly higher pollutant concentrations cost more for the utility to treat.

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### Message, Continued from p. 3

tracking industrial user noncompliance. These activities are complicated further when industrial users slip into SNC. Imagine how it would be to protect your treatment plant and bring noncompliant industrial users into compliance by using a different local limits allocation method. You might be thinking that this sounds too good to be true. What other allocation methods are available? I am glad that you asked. Alternative allocation methods include, industrial contributory flow, mass proportion and the selected industrial reduction method.

Each treatment plant has characteristics that are unique to that plant. It would be a coincidence to find two treatment plants with the same removal efficiencies, flow rate, identical pollutant loadings and type and number of industrial users. For this reason EPA provides a variety of options by which treatment plants can allocate local limits to industries. One beauty about this is the flexibility to mix and match allocation methods to find the best fit for the unique characteristics of each treatment plant.

In today's business climate we cannot afford to sink to the "us and them" mentality. Instead, pretreatment coordinators should continually look for ways to partner with industry in order to find mutually acceptable solutions. Remember, although organizations have different needs and goals we are all in this together. Be creative!

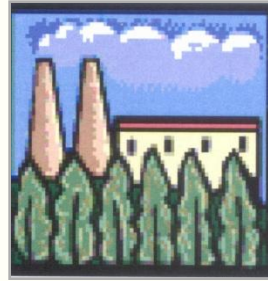
Dr. Parnell's presentation can be viewed at:

[www.fipaonline.com](http://www.fipaonline.com)

#### Additional Local Limits Information

EPA's *2004 Local Limits Development Guidance* is a great resource for developing and allocating local limits. You can find it at:

[http://www.epa.gov/npdes/pubs/final\\_local\\_limits\\_guidance.pdf](http://www.epa.gov/npdes/pubs/final_local_limits_guidance.pdf)



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### (Smell, Continued from p. 3)

concentration of odorous gases could be produced. Besides being objectionable to the olfactory senses, sulfurous compounds at even low concentrations can cause nausea and headaches and, in closed confinements, even death.

Other variables that affect the microbial generation of  $H_2S$ :

Sewer detention times – greater detention time in the sewer increases  $H_2S$  production.

pH – Acidic conditions drive  $H_2S$  out of solution into the atmosphere.

Temperature – Higher wastewater temperatures decrease dissolved oxygen levels and also drive  $H_2S$  out of solution.

Utilities employ a variety of control technologies to minimize sewer odors. However, when high strength industrial wastewater is involved it can be difficult and costly to control odors. In these cases the pretreatment department may be able to help.

Industrial wastewaters which are readily degraded by sewer microbes exhibit high biological and chemical oxygen demands (BOD & COD). If high levels of BOD or COD are causing odor issues, the pretreatment program may have tools available.

- Slug Control Plans are needed if the high strength discharges are episodic in nature. Have the industry develop one and make sure they follow it.
- BOD or COD limits can be imposed in a users permit. However, it may be difficult quantifying the level of oxygen demand that will not generate odors.
- Assess fees to specific industries to recover utility odor control technology costs.

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### (Surcharge, Continued from p. 3)

To recover costs for treating this “high” strength sewerage some utilities impose surcharges on industrial and commercial customers. The Florida Department of Environmental Protection recently conducted a survey of Florida utilities and surcharge rates. Utilities that responded to the survey and actively collect surcharge revenue are presented in the table below.



### (Sewer, Continued from p. 4)

Of course these tools must be in a pretreatment program's ordinance to be able to use them. The EPA has a publication on sewer odor control (aptly called *EPA Design Manual for Odor and Corrosion Control in Sanitary Sewerage Systems and Treatment Plants*) that discusses causes of sewer odors in detail as well as control technologies. To order this publication visit:

<http://yosemite.epa.gov/water/owrcCatalog.nsf/e673c95b11602f2385256ae1007279fe/da16673875d9a0b585256b06007233c3!OpenDocument>

## Florida Department of Environmental Protection Surcharge Survey Results - 2009

Pretreatment Program	BOD		COD		TSS		Other surcharges?			
	\$/lb	range mg/L	\$/lb	range?	\$/lb	range mg/L				
Orange County	\$0.47				\$0.50		TKN-\$0.52		TP-\$1.94	
Lakeland, City of	\$0.34				\$0.21					
Hollywood, City of	\$0.21	250-10, 000			\$0.21	300-10,000				
Tampa, City of	\$0.28				\$0.31		TKN-\$3.52			
Broward County	\$0.12	>400			\$0.15	>400				
Fort Pierce	\$0.25				\$0.16					
Apopka	\$2.00	>300			\$2.00	>300				
Pinellas County	\$0.36				\$0.42					
JEA			\$0.10	>650	\$0.12	>300				
ECUA	\$0.25	>250	\$0.25	>583	\$0.25	>200	TN-\$1.15	>40 mg/L	TP-\$2.54	>8 mg/L
West Palm Beach	\$0.40				\$0.40		O&G-\$7.30			
St. Augustine	\$0.74	>250			\$0.98	>250				
Plant City	\$0.20				\$0.27		TN-\$0.027		TP-\$2.44	
Hillsborough County	\$0.16	>300			\$0.17	>300	TKN-\$0.36	>40 mg/L	TP-\$2.24	>12 mg/L
Davie, Town of	\$0.15	>250	\$0.15	>400	\$0.15	>250				
St. Petersburg, City of	\$0.09	>300	\$0.04	>600						
Clearwater, City of	\$0.30	>250			\$0.30	>250	TN-\$0.45	>35 mg/L	FOG-\$1.46	>100 mg/L