The Sunshine State

Pretreatment Communicator

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THE COMMUNICATOR...

"The Communicator" is a quarterly publication of the Pretreatment Program for the Florida Department of Environmental Protection. The Communicator encourages participation from its readership and any other individuals interested in pretreatment in the State of Florida. Individuals wishing to contribute letters, information, or articles should submit them to:

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The **Pretreatment Communicator** reserves full editorial rights to all submissions. Anyone with questions about this newsletter, wishing to make comments, or wanting to be included on our mailing list, should contact the pretreatment program staff at (904) 488-4524 or write to the above address. The Department of Environmental Protection assumes no responsibility for the statements or opinions expressed in this newsletter. Views and information contained in this newsletter are the those of the authors and do not necessarily reflect those of the Department.

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of Environmental Protection
Domestic Wastewater Section
Pretreatment Program

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ANNUAL REPORTS

Round One!

by Gary Millington

The first round of annual reports (ones due in August) have been reviewed. The review process has revealed the need to modify the Annual Report Instructions and Guidelines (Guidelines) recently developed by the Department,

Please see **Annual Reports, page 2**

Local Limits... Don't Leave Your WWF Without Them.

by John Coates

Local limits. "Why can't I just use the same numbers as the program down the road? They work for them. Do they really have to be technically defensible?" These are the kind of questions and comments we often hear as we go from program to program. Even though in some cases local limits may be very similar for different pretreatment programs, local limits should be based on your domestic wastewater system, not numbers copied from the program down the road. And, yes, they must be technically defensible. (Just ask a few pretreatment coordinators about silver, for example.)

So, local limits are important because they establish discharge limits to protect your wastewater plant and collection system, your worker's health and safety, and help to maintain or improve the quality of your residuals. "Won't categorical pretreatment standards do that, also?" Maybe by coincidence, however, categorical

Please see **Local, page 2**

Reminders:

- We've received some interesting and thoughtful responses to our Pretreatment Program Questionnaire (about industrial wastewater treatment sludge) that was included in the July issue of the Communicator... Have you taken a moment to respond? If, not, **Please do**. We need and value your input! If you have misplaced your copy of the questionnaire, please contact John Coates for a replacement.

Local Limits

(continued from page 1)

pretreatment standards that are included in the industrial point source categories (40 CFR, Parts 405-471) are **technology-based** effluent limitations, not **technically-defensible** discharge limits for protecting your WWF. Categorical pretreatment standards are based on requirements for a particular group of industrial dischargers. As such, those limits are not applicable to all industrial users and may not be protective of your WWF. Essentially, categorical pretreatment standards only assure that industries who discharge to publicly owned treatment works are subject to the same categorical discharge standards as those who discharge directly to surface water.

Because local limits are so important, they are a required component for each approved pretreatment program, unless the program can demonstrate that they are not necessary. For similar reasons, there is also the requirement that an approved pretreatment program's local limits be periodically evaluated for the need to revise those limits as part of a WWF permit renewal. This requirement is a condition of the domestic wastewater facility's permit renewal application; therefore, local limits should be technically evaluated at least once every five years.

Local limits that are technically-defensible and developed following the procedures required in Rule 62-625.400(3), F.A.C., are enforceable under the provisions of the Clean Water Act (33 United States Code, Section 1251, *et seq.*). It is anticipated that most of Florida's existing local limits will undergo some degree of review in the near future by their respective pretreatment programs. We expect those programs to recognize that local limits are important and to take the steps necessary to ensure that they are technically based and defensible. If you have any specific questions regarding your local limits or wish to discuss whether your local limits need revision, please contact the pretreatment program staff in Tallahassee. ♦

Annual Reports

(continued from page 1)

dated May 5. The revised Guidelines will be sent out to the pretreatment program coordinators in early November for their use during the next round of report submissions. The revisions are generally minor in nature but will help to clarify what the Department expects in the reports. The following summarizes the recent changes.

Section 1 is being modified to clarify the purpose of the section. Section 1.A will be wastewater facility (WWF) data summaries for each WWF covered by the pretreatment program. Section 1.B is a new table that will list each WWF, and the effluent and residuals limitations used during the review of the data summary submitted in Section 1.A. The concern is that some programs neglect to review the WWF effluent and residuals data to see if there are any exceedances that could be caused by industrial sources. Section 1.C is for listing incidents, noted during the review of the data, of pass through or interference, or a reduction of residuals quality.

A new code has been included for the facility status column in Section 5.A. The new status code, **N**, is used to indicate facilities that have been issued "No Discharge" permits. There also seems to be some confusion here. A "No Discharge" permit is issued to a facility that has eliminated their industrial wastewater discharge but is still connected to the sewer. If you still need to have a mechanism for controlling and monitoring the facility, you can issue a permit with conditions that allow for inspections and other requirements, without requiring monitoring data submissions. These facilities, which can include CIUs, are generally considered SIUs when you feel there is a need to continue regulating them.

A new facility type code has also been added to Section 5.A. A code "**MIU"** is used to designate minor industrial users that do not meet the definition for significant industrial user (SIU) but are of enough concern that they should be controlled. This new code will help us to screen these facilities so

that they do not get included in the data we enter into EPA's database.

A column has been added to Section 5.B. to indicate which limits are being applied to the discharge from each industrial user. Enter **F** for federal, **L** for local, and **F/L** for both.

Section 7 has been modified to require the entry of all activities associated with industrial user violations, not just the "highest" activity as currently requested.

It is our desire to use the annual report to evaluate the consistent use of escalating enforcement procedures. This additional information will allow us to do this without making numerous phone calls.

As always, please review these latest changes. Submit any comments or suggestions that you feel are needed. Future revisions to the annual report format will be implemented as the need arises.♦

QA/QC

What's all the hubbub about anyway?

by John Coates

There was a fair amount of discussion at the September 8th Pretreatment Coordinator's Meeting in Orlando regarding the QA/QC requirements in Florida's pretreatment rule. Many of the pretreatment coordinators expressed concern about receiving data of acceptable quality, but others weren't sure exactly what is required according to Chapter 62-625, F.A.C. The QA/QC requirements are mainly contained in the reporting section in Rule 62-625.600, F.A.C., and its references to portions of Chapter 62-160, F.A.C. However, before discussing these specific rules, it is important to note one additional requirement that, although very simple in its wording, best relays the final test of any QA/QC requirement. Rule 62-625.500(2)(b)7, F.A.C., states that, "Sample taking, analyses and the collection of other information shall be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions." Essentially, the remaining QA/QC requirements are only a further clarification of minimum procedures that are generally regarded as providing "sufficient care."

All industrial users are subject to the sampling and analysis requirements in Rule 62-625.600(1)(e)6, F.A.C. This rule references Rule 62-160.300(5), F.A.C., which details the record keeping requirements for sampling and analysis according to Category 2A. Those record keeping requirements are specified in Rules 62-160.600 through 62-160.630, F.A.C. While detailed, the record keeping requirements essentially specify that all supporting documentation relating to sample collection (e.g., field notebooks, equipment calibration records, sample transmittal forms, etc.) and analysis (e.g., sample receipt and preparation records, instrument maintenance and calibration records, quality control documentation, and final analytical reports) be maintained for a minimum of three years.

Rule 62-625.600(1)(e)6, F.A.C., also requires that sampling and analysis be performed in accordance with the Department's *Standard Operating Procedures For Laboratory Operations And Sample Collection Activities*, DEP QA-001/92 (SOP). This SOP covers an extensive range of topics

Analytical Report Contents

In accordance with Rule 62-625.600(6)(e) and 62-625.600(7), F.A.C., respectively, categorical and noncategorical industrial user analytical data reports must provide the following information as specified by Rule 62-160.670, F.A.C.:

- laboratory name, address, and phone number;
- client name and/or site name;
- laboratory certification numbers from the Department of Health and Rehabilitative Services certification programs (if applicable);
- client or field identification number;
- laboratory identification number for each sample;
- the method number used for each sample analysis ;
- the analytical result for each analysis with applicable data qualifiers contained in Table 7, Chapter 62-160, F.A.C.;
- date and time of sample preparation (as required);
- date and time of sample analysis (as required);
- date and time of sample collection as reported on a Chain-of-Custody or Sample Transmittal Form; and,
- identification of all laboratories providing analytical results in the report.

from selection and preparation of sample containers through data reduction and reporting procedures. While this document contains many details, the contents are simply a collection of generally accepted practices that are necessary for the collection of samples that will be representative of the target matrix. The remaining portions of the SOP address procedures that are probably already incorporated into the standard operations of reputable laboratories performing environmental analyses.

Pretreatment coordinators (who are primarily responsible for assuring that the data they generate and the data they receive from industrial users is of acceptable quality) will hopefully find the SOP to be a valuable resource. Perhaps the most important role a pretreatment coordinator plays is to assure that any necessary supporting information is included and reviewed as an integral part of the analytical data reports. In many cases, this may require instruction to the industrial users, contract laboratories, or possibly the wastewater utilities in-house laboratory on what documentation should be included in their analytical reports. Alternatively, portions of the supporting documentation can be requested on a periodic basis as part of a pretreatment program's inspection of an industrial user's files. In either case, there is a minimum amount of information that should accompany any tabulated analytical reports.

Following the requirements of Rule 62-160.670, F.A.C., all industrial users are required to provide a minimum amount of information on their analytical data reports. We've provided a summary of the information that should be included in a laboratory's analytical data report (see the inset for "Analytical Report Contents").

Hopefully, everyone will become comfortable with the quality assurance requirements that are now required for approved pretreatment programs in Florida. Unfortunately, we have seen some analytical data being generated by "questionable" analytical methods. By far, however, the majority of the data we've reviewed appears to be of an acceptable quality. Certainly, this good news is a tribute to the high caliber of the pretreatment programs throughout the state. We expect this will continue to get better as the state's pretreatment coordinators continue to meet and share experience on a regular basis. ♦

Industrial User Effluent Limit Development

- Part I -

by John Coates

This article is "part one" of a series of articles that are intended to offer assistance to pretreatment coordinators as they prepare industrial user discharge permits. Preparing industrial user discharge permits is usually a straight forward task. However, not all industrial users have simple process layouts or have easily accessible points for sample collection. Another complication can occur when you revise wastewater monitoring locations to allow a single location to collect samples for compliance with pretreatment standards.

In general, any permit issued to a significant industrial user must include effluent limits based on applicable categorical pretreatment standards , local limits, or both. In other words, each permit should require the industrial user to meet the more stringent of the applicable pretreatment standards. The real question for the permit writer is, "what numbers apply and where?" To illustrate how a permit writer might develop effluent limits for some typical situations, two examples are provided below.

Please see **Permit, page 6**

Regulatory Updates:

- Did you know that you can receive documents that appear in the Federal Register and other EPA information automatically? Copies of Federal Register and other notices can be received free of charge via email and the Internet using EPA's ListServe Network. There are 12 ListServe groups to which you can subscribe. For example, the following one line message emailed to the ListServer for the Office of Water can provide all of their Federal Register documents:

  SUBSCRIBE EPA-WATER YOUR NAME

  "Your" and "Name" should be your first and last name, respectively. You should receive a confirmation (via return email) that describes each of the ListServe groups and instructions on how to unsubscribe, if you wish. The one line email message can be sent via the Internet to:

  listserver@unixmail.rtpnc.epa.gov

  Good luck and happy email!

The Coordinator's Desk:

A Personal Note... and Other Stuff

by Robert Heilman, P.E.

It was truly an honor to receive the first Industrial Pretreatment Award given by the Florida Water and Pollution Control Operators Association at the August Shortschool in Titusville. It was even more of an honor to have this award named after me! I would like to express my heartfelt thanks to all those involved in the development of this award. Mostly, however, I would like to say how much I look forward to seeing this award passed on to a deserving individual in subsequent years. I have been very impressed with the dedication and knowledge of the pretreatment program coordinators and staff I have been in contact with as I have conducted pretreatment inspections and audits throughout the state. Since this award is to be given "In recognition of outstanding achievement, dedication, & contributions in the area of Industrial Pretreatment," I'm sure the selection committee will have a difficult time choosing next years' recipient. I hope this award, even just in a small way, motivates those involved with pretreatment to continually improve their programs.

For those of you who missed the Semi-annual Pretreatment Coordinator's Meeting in Orlando in September, you missed an excellent exchange of information and ideas (not to mention the great "eats" that the City of Orlando folks put out - thanks guys!). I encourage those pretreatment coordinators and staff, who have not attended these meetings in the past, to try to attend in the future. Because some of the topics discussed at the meeting were so important, we thought we would dedicate parts of this issue of the **Pretreatment Communicator** to reiterate some of those topics.

Well, it won't be long until the AMSA-EPA Annual Pretreatment Coordinators' Workshop in San Francisco (November 6-10). There has been a lot of speculation about EPA being able to attend, due to the federal budget cuts. It appears however, EPA will be able to send representatives from all the regions as well as headquarters. The preliminary agenda contains several interesting and timely topics. A breakout session on effluent guidelines development issues will be held that will include discussions on reduced sampling for SIUs, use of surrogate parameters in pretreatment standards, establishment of additional certification provisions to reduce monitoring, and effluent limitations versus implementation of Best Management Practices.

Another breakout session will be dedicated to discussing the issues of pretreatment regulation streamlining. This topic has been discussed for the last several years with no final conclusion. A few of the issues to be discussed include redefining significant industrial user, determining significant noncompliance, converting concentration-based categorical standards to mass-based standards and vice versa, permit durations, changes to enforcement response plans and slug control plan requirements, and whether SIU inventories need to be submitted as a minor program modification. I hope these issues can be finalized and EPA goes to rulemaking soon.

In addition to the general breakout sessions, there is a session held for regional attendees from EPA, states, and POTWs. This session always generates lively discussion. Here is an opportunity to hear how other Region IV states are implementing the national pretreatment program. It always amazes me how states deviate from one another. Some states rigorously require quarterly reports instead of annual reports, while others only inspect some of their approved programs every other year. All in all I guess Florida is probably in the middle somewhere, which makes me feel pretty good about how we conduct business.

If at all possible, every approved program should send a representative to this or other future AMSA-EPA meetings. It's a great opportunity to hear timely information on pretreatment. We plan to have someone from the Department attend the workshop. In the next newsletter we will bring you some of the highlights from the meeting. ♦

Your right Joey, This does seem to explain their Oil & Grease Problem !

TECHNICAL TIPS:

Below are the equations used to apply the combined wastestream or the flow weighted average formula when developing effluent limitations for industrial users. Development of effluent limitations using these formulas is discussed in this issue of the **Communicator**.

Combined Wastestream Formula:

$$C_{AL} = \frac{\sum_{i=1}^{N} C_i F_i}{\sum_{i=1}^{N} F_i} \left(\frac{F_{AL} - F_D}{F_{AL}} \right)$$

Flow Weighted Average Formula:

$$C_{AD} = \frac{C_{AL} F_{AL} + \sum_{i=1}^{NC} Cu_i Fu_i}{F_{AD}}$$

where:

C_{AL} = alternative discharge limit
C_{AD} = adjusted discharge limit
C_i = categorical pretreatment standard for pollutant in wastewater stream i
Cu_i = representative concentration for pollutant in unregulated stream I
F_i = The longterm average daily flow in wastewater stream i
F_{AL} =The total flow where the alternative limit applies
F_{AD} =The total flow where the adjusted limit applies
Fu_i = the flow from unregulated wastestream i
F_D = the total flow from dilution wastestreams such as:
1. sanitary wastestreams;
2. process wastestreams exempted from categorical pretreatment standards; or
3. boiler blowdown, noncontact cooling water, stormwater, and demineralizer backwash, if these do not contain significant amounts of the pollutant of concern (otherwise, these wastestreams would be considered unregulated since they contain the pollutant of concern from an unregulated source)

Permit Limitations

(continued from page 4)

In **Example One**, the industrial user, a metal finisher (Shiny Happy Metal, Inc.), has a regulated process discharge of 5,000 gpd, and a boiler blowdown wastestream mixed with noncontact cooling water of 15,000 gpd. In a separate building, Shiny Happy Metal has a materials testing facility with a discharge of 250 gpd. There is also a sanitary wastewater discharge of 4,000 gpd. The figure for Example One (see inset) shows a schematic of this discharge scenario.

For simplicity, let's assume that copper and silver pretreatment standards are all that apply to this facility. Also, lets assume that this facility's boiler blowdown and noncontact cooling water wastestream has been tested and does not contain any detectable amounts of silver or copper using approved analytical methods (40 CFR 136). Construction of this facility began in early 1984. Because this facility was constructed after August 31, 1982, this metal finisher is subject to the Pretreatment Standards for New Sources at 40 CFR 433.17. Thus the applicable daily maximum copper and silver categorical pretreatment standards are 3.38 and 0.43 mg/L, respectively. The city's pretreatment program (Concreteopolis) has local limits for copper and silver of 2.0 and 0.5 mg/L, respectively.

You need to issue their permit. As you sit down to prepare Shiny Happy Metal Inc.'s permit, you find out they want you to reduce their monitoring locations from the three you had in their previous permit to one location. What do you do?

STEP 1.
Because there are wastestreams that combine prior to treatment, one must use the combined wastestream formula (CWF, see Technical Tips) to calculate an alternative discharge limit (C_{AL}) for copper and silver:

For copper at point A:

$$C_{AL} = \frac{3.38 \cdot 5{,}000}{5{,}000} \left(\frac{20{,}000 - 15{,}000}{20{,}000} \right)$$

$$C_{AL} = 0.85\ mg/L$$

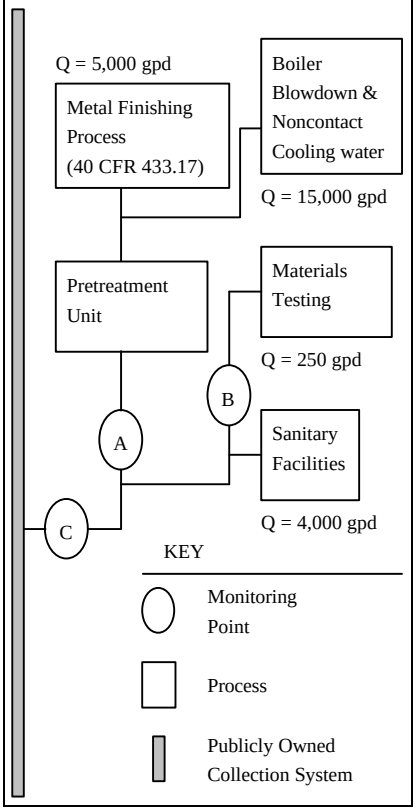
Similarly, for silver at point A:

$$C_{AL} = \frac{0.43 \cdot 5{,}000}{5{,}000} \left(\frac{20{,}000 - 15{,}000}{20{,}000} \right)$$

$$C_{AL} = 0.11\ mg/L$$

Example One:

Shiny Happy Metal, Inc.



These categorical limits, adjusted to account for dilution, apply to the effluent from from the pretreatment unit (point A). However, our goal is have limits that apply at the end-of-pipe where Shiny Happy Metal discharges to Concreteopolis. In part, we have chosen this monitoring location because they have an ancillary material testing process whose discharge is regulated according to 40 CFR 433.10.

STEP 2.
The flow weighted average formula (FWA, see inset) must be used to generate an adjusted discharge limit (C_{AD}) for copper and silver for the end-of-pipe (point C). The FWA is used to adjust limits for the wastestreams combined after treatment.

For copper at point C:

$$C_{AD} = \frac{(0.85 \cdot 20{,}250) + (0 \cdot 4{,}000)}{24{,}250}$$

$$C_{AD} = 0.71\ mg\ /\ L$$

Similarly, for silver at point C:

$$C_{AD} = \frac{(0.11 \cdot 20{,}250) + (0 \cdot 4{,}000)}{24{,}250}$$

$$C_{AD} = 0.092\ mg\ /\ L$$

Thus, the final adjusted copper and silver categorical limits that would apply at the end-of-pipe are 0.71 and 0.092 mg/L, respectively. Both of the adjusted categorical limits are more stringent than the corresponding local limits of 2.0 and 0.5 mg/L, respectively. Originally, it may have appeared that the local limit for copper (2.0 mg/L) was more stringent than the categorical standard of 3.38 mg/L; however, this comparison can not be accurately made until the limits are adjusted so that they apply at the same location. Only then are you comparing apples to apples, so to speak.

Continuing with Example One, what would be the difference if the boiler and noncontact cooling water wastestreams contained "significant" concentrations of copper? In other words, this mixed wastewater (15,000 gpd) must now be considered as an unregulated wastestream with respect to copper instead of a dilution wastestream as above.

For example, copper at point A:

$$C_{AL} = \frac{3.38 \cdot 5{,}000}{5{,}000}\left(\frac{20{,}000 - 0}{20{,}000}\right)$$

$$C_{AL} = 3.38\ mg\ /\ L$$

Thus, the alternative categorical discharge standard (C_{AL}) would not be lowered from the categorical pretreatment standard at 40 CFR 433.17. From the industrials users viewpoint, combining unregulated wastestreams (sources of pollutants) prior to treatment does not have any effect on the categorical pretreatment standard. This result is intentional and was EPA's way of encouraging facilities to provide treatment for multiple wastestreams, even if all of them were not specifically regulated.

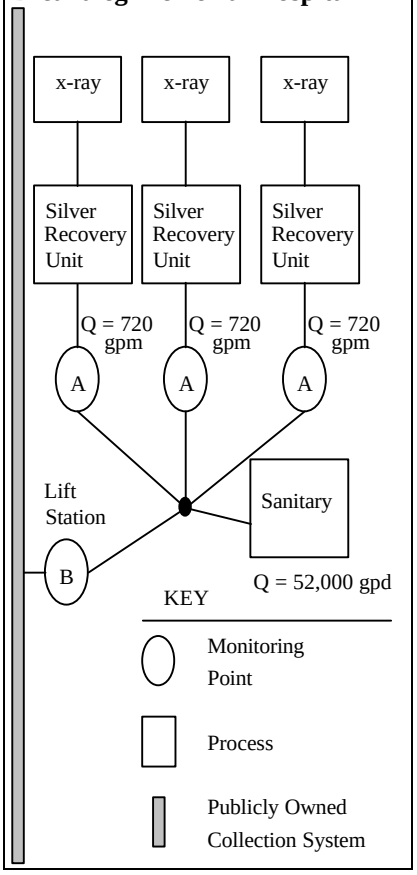
Example Two is a bit simpler; however, this example is none the less important for the correct development of effluent limitations. In this example, Breakaleg Memorial Hospital has three large photoprocessing areas. Each area contains several x-ray developing machines which discharge into one of the three silver recovery units (see inset). This facility is not subject to categorical pretreatment standards; therefore, only local limits apply to this facility. The local limits in Concreteopolis' sewer use ordinance apply at the point where the hospital discharges into the city's sanitary sewer collection system.

STEP 1.
Since their local limits apply at the end-of-pipe (point B), the simplest approach is to include the local limit (0.5 mg/L) in the permit and require monitoring at the lift station immediately prior to the point of connection to Concreteopolis' sewer system (point B).

That was easy. But, what if you have reasons and would prefer to sample at the end-of-process. There are a number of alternatives that you may wish to follow. One is developing local limits for the ordinance that apply to the end-of-process for a group of industrial users; however, that

Example Two:

Breakaleg Memorial Hospital



discussion is outside of the scope of this article. Another possibility is to modify the end-of-pipe local limit so that you develop an equivalent end-of-process effluent limit on a case-by-case basis. Such an adjusted local limit could be included in Breakaleg Hospital's discharge permit. This approach is not explicit in the current pretreatment regulations; however, one must use representative flow data and the FWA formula to develop a defensible equivalent end-of-process effluent limit (C_{AD}) for the permit.

The hospital has a longterm average daily flow of 52,000 gpd and each of the photoprocessor recovery units discharge at approximately 0.5 gpm (720 gpd) on a continual basis. Therefore, the total process effluent from the three recovery units is 2,160 gpd. Since we are adjusting local limits which apply to all industrial user discharges, there are no sources of unregulated pollutants to consider. Therefore, Cu_i and Fu_i are both equal to zero.

The adjusted silver local limit at the end-of-process (point A) would be:

$$C_{AD} = \frac{(0.5 \cdot 54{,}160) + (0 \cdot 0)}{2{,}160}$$

$$C_{AD} = 12.5\ mg/L$$

An important aspect of these calcuations is good documenntation. This applies whether you are adjusting a local limit so that it may be applied at the end-of-process or determining which is the more stringent of the categorical pretreatment standards or local limits. Each pretreatment program must include this documentation as part of the permit development record. The permits should also clearly indicate the basis for any effluent limits and should identify the appropriate sample collection point.

Well... You did it! Two situations, two sets of defensible effluent limits. Nice going! Stay tuned and we will continue next time with another Concreteopolis permitting adventure! In the meantime, we challenge you to provide related examples or questions that you would like to see addressed in the next issue. ♦

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