



Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

February 19, 2007

Dear Pretreatment Professional:

Over the last year the DWQ staff met extensively with members of the Pretreatment Consortium concerning the issue of design headworks analysis for conventional parameters (BOD, TSS and ammonia). The issue arose when the Pretreatment, Emergency Response and Collection Systems Unit (PERCS) began to notice that high removal rates achieved by some well operated wastewater treatment plants (WWTP) led to unreasonably high available headworks loadings calculated using pass-through formula for conventional parameters when compared to plant design values. While most agree that the calculated pass-through loadings were very high, they also asserted that the original design loadings were sometimes unreasonably restrictive and were often calculated decades ago.

The first solution for this problem proposed by the state was to have any WWTP with a calculated pass thru loading above design submit new calculations sealed by an NC Professional Engineer indicating the new appropriate capacity of the WWTP. Many municipalities balked at the cost of having an engineer recalculate design if the WWTP was not experiencing any compliance issues. Further analysis revealed that multiple safety factors were already built design calculations, which when combined with the conservative calculations in the headworks analysis led to a significant magnification. An example of these safety factors include the variability of industrial effluents and the statistically unlikely event that all industries would be discharging at their absolute maximum permit loading simultaneously. Therefore, some allowances within strict limitations above calculated pass-through loading could be allowed without high risk of endangering the receiving waters of the plant.

The options for calculating conventional pollutant loading where calculated pass-through loadings exceeds design are proposed below:

- 1) Use Currently Available Design Criteria.
- 2) Apply Multiplier of 1.5 to Currently Available Design Criteria:
 - a) WWTP must have full compliance for parameters requested to be multiplied for the previous 2 years.
 - b) This option not available for WWTPs with Design calculations less than 8 years old as it is assumed that the currently available Design is still representative of current WWTP operations.
 - c) This option will no longer be available if the WWTP is upgraded, expanded, or otherwise substantially changed enough to require a NPDES permit change such as rerating flow. The municipality must submit new NC PE stamped Design calculations indicating the new proposed capacity of the WWTP and obtain DWQ approval
 - d) This option will no longer be available if a new industry, or change by an existing industry, will increase the SIU permitted load plus the uncontrollable load by more than 15% of the WWTP Design load all at one time. Before the applicable new/changed SIU discharge can begin, the municipality must submit new NC PE stamped Design calculations indicating the new true capacity of the WWTP and obtain DWQ approval.

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- 3) Allowable Load based on Maximum Average Monthly Influent Load:
 - a) The WWTP must have 100 % limit compliance for the applicable parameter during the month from which data will be used. Additionally, the WWTP must have substantial compliance for the applicable parameter for the last two years.
 - b) WWTP data older than 5 years may not be used.
 - c) Consideration should be given for seasonality (lower removal rates in winter) or other factors.
- 4) Re-rating of WWTP by NC Professional Engineer:
 - a) The municipality obtains approval of new NC PE stamped Design calculations indicating the new calculated capacity of the WWTP.
- 5) Site Specific Special Circumstances:
 - a) DWQ will entertain proposals for WWTPs with special circumstances. Possibilities include WWTPs that were designed for parameter levels that are well below typical domestic levels for the applicable parameter.

POTWs wishing to use options 2-5 must submit a detailed proposal along with their HWA for PERCS's consideration. These POTWs must obtain PERCS approval before using any new proposed MAHL.

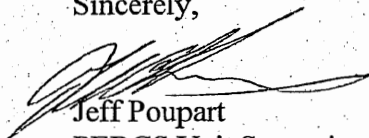
PERCS does not currently plan to require the use of Design allowable loads as maximum for Phosphorus and Total Nitrogen. However, if special circumstances require consideration of Design allowable loads for these parameters, PERCS will generally use the above procedures as the basis for our review.

PERCS believe that the best alternative is to have an engineer recalculate design capacity. The above options should provide useful alternatives

All NC POTWs must evaluate the Design Load for any applicable parameters and compare to the Pass-through Load, in both mg/l and lbs/day. The HWA.AT spreadsheet located on PERCS Headworks Analysis web-page has been modified to provide for this comparison. For POTWs with a Pass-through MAHL less than Design, you should use Pass-through as your MAHL. If your WWTP is underloaded, you may be able to obtain approval to use Design as your MAHL. Contact PERCS to discuss.

Thank you for your continued support of the Pretreatment Program. If you have any questions or comments, please contact me at (919) 733-5083 ext. 527, at ext. 527 [email: jeff.poupart@ncmail.net].

Sincerely,



Jeff Poupart
PERCS Unit Supervisor



Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen S. Sullins, Director
Division of Water Quality

December 27, 2007

Subject: End of 2007 Pretreatment Mailing

Dear Pretreatment Professionals:

As we draw to the close of another great pretreatment year, I wanted to update you on a couple of items in addition to the invitations to the upcoming year's workshops and your Program Summaries.

- 1) **Design HWA Workgroup:** Correspondence sent out to Pretreatment Professionals on 2/19/07 regarding the outcome of the HWA workgroup presented 5 options for calculating conventional pollutant loadings when calculated pass-through loadings exceeded design. PERCS would like to take this opportunity to clarify some of the caveats attached to option #2, **Apply Multiplier of 1.5 to Currently Available Design Criteria.**
 - a) **WWTP must have full compliance for parameters requested to be multiplied for the previous 2 years.** The Division and the PERCS Unit realize that there are circumstances beyond the reasonable control of the POTW. Excessive rainfall events or accidents can lead to permit violations. When applying to use the 1.5 Multiplier option, provide an explanation for any permit limit violations for the parameter you are requesting to apply this option to. The PERCS Unit will review the data for patterns of noncompliance that may be a sign of poor plant operation or performance that would indicate that the treatment plant really cannot accept more than the design load.
 - b) **This option not available for WWTPs with Design calculations less than 8 years old as it is assumed that the currently available Design is still representative of current WWTP operations.** In terms of design, typically, it takes about 3 years from the design stage of a WWTP until actual operation begins. The permit cycle is 5 years, hence 8 years was selected as the age of a WWTP design before the 1.5 Multiplier option can be used. If a POTW feels their design calculations are inaccurate despite being less than 8 years old, provide justification as to why it is inaccurate. For instance, a plant designed for biological nutrient removal may include chemical feed because the historical influent BOD is too low to support the process. Another example might be that increasing the influent BOD may decrease the need for the chemical addition. Other factors such as if a facility can show that the influent of the treatment plant has changed significantly since the time the design loadings were determined and it can demonstrate that the facility is meeting and exceeding permitted limits that the facility was originally designed to meet may also be taken into consideration.

Please keep in mind that DWQ and the PERCS Unit are always willing to entertain proposals for WWTPs with special circumstances. Possibilities include WWTPs that were designed for parameter levels that are well below typical domestic levels for the applicable parameter.

December 27, 2007

The 2/19/07 letter also stated that the options were also to be used for ammonia. PERCS meant this to be of benefit to the POTWs, however many felt that other options should be explored before limiting the ammonia to just the 5 options presented. Therefore, Phase 2 of the Design HWA workgroup to address ammonia and other nutrients will reconvene on January 17, 2008. Until a final set of options are developed, POTWs may use the pass-through calculations for nutrients. You are strongly cautioned not to allocate above the design MAHL for ammonia or other nutrients of concern at your WWTP.

- 2) IUP Workshop: The first meeting of the Industrial User Permitting Writing guidance workgroup will be in January or early February (the date, time, and location will be posted on our web-site in early January). If you would like to join us, or have suggestions on guidance to be developed, contact Dana Folley or just come to the meeting.
- 3) Rulemaking: A draft of the NC General Pretreatment Regulations – 15A NCAC 02H .0900 – is with the Regional Office inspectors for comment. We hope to finalize the DWQ internal draft by the end of February 2008. The next step will be a series of meetings with a small group of POTWs to get detailed input. If you would like to participate, or have suggestions on what to change, contact Dana Folley or the Consortium.
- 4) Streamlining: Most POTWs have received their SUO review letters, and the rest will by the end of January 2008. Don't forget to submit the final adopted SUO to the PERCS Unit, including documentation of adoption and effective date. All POTWs are reminded that you must **incorporate the Required changes in the new Model IUP at your next IUP renewal**. Visit www.ncwaterquality.org, then click on *Wastewater* and then *Pretreatment*. Scroll down to the Streamlining Update area for more directions.
- 5) Also, please see the following **important** attachments:
 - a) Invitation for January 2008 Comp Judge, Significant Non-Compliance (SNC), and Pretreatment Annual Report (PAR) Workshops.
 - b) Program Info Sheets and Historical SNC Sheets for your POTW. Please **review, mark any corrections, and include them with your 2007 PAR due 3/1/08** (if you have a consultant working on your PAR, remember to send them copies.)
 - c) Invitation for six 2008 Headworks Analysis Workshops.

As always, please contact us with any questions or comments.

Sincerely,



Deborah Gore, Acting PERCS Unit Supervisor

Cc with enclosures:

RO Pretreatment Contacts
PERCS Pretreatment Staff



Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen S. Sullins, Director
Division of Water Quality

December 22, 2008

Subject: End of 2008 Pretreatment Mailing

Dear Pretreatment Professionals:

As we draw to the close of another great pretreatment year, I wanted to provide you an update on some issues, inform you on this year's upcoming workshops and distribute the Pretreatment Program Info Database sheets.

- 1) NC Pretreatment Professionals Honor Roll: In case you missed the Annual Pretreatment Conference held in August 2008, this year's addition to the Honor Roll is Trudy McVicker from the City of Raeford.
- 2) Acting Supervisor: Jeff Poupart has accepted the position of Point Source Branch Manager. Until the position is filled on a permanent basis, Deborah Gore is the Acting Supervisor for PERCS.
- 3) Design HWA Workgroup, Phase 2: This phase of the workgroup was to study ammonia and phosphorus. The workgroup reconvened in January 2008. The Consortium solicited data from POTWs. The data was evaluated to determine if there were other viable options for calculating the allowable pollutant loading when the calculated pass-through calculations exceed design. The conclusion of the group was that the five options arrived at for BOD and TSS are also the best options for Ammonia and Phosphorus. Please see Division correspondence of 2/19/07 and 12/27/07 for further information on these options.
- 4) IUP Workshop: The Industrial User Permitting Writing guidance workgroup has met three times and conference called once. The first IUP Writing workshop is tentatively planned for spring 2009.
- 5) Rulemaking: The internal DWQ draft will be completed by March 2009. The next step will be a series of meetings with a small group of POTWs to get detailed input. If you would like to participate, or have suggestions on what to change, contact Dana Folley or the Consortium.
- 6) Streamlining: If you have not submitted your final adopted SUO, please do so as soon as possible.
- 7) Staff Assignments: Staff assignments remain the same:
Dana Folley, 919-807-6311 [Dana.Folley@ncmail.net]:
Catawba, Chowan, Lumber, Roanoke and New
Monti Hassan, 919-807-6314 [Monti.Hassan@ncmail.net]:
Hiwassee, Little Tennessee, Neuse and Yadkin
Sarah Morrison, 919-807-6310 [Sarah.Morrison@ncmail.net]:
Broad, Cape Fear, French Broad and Tar-Pam
We continue to meet our goals for project review of 30 days for IUPs and 90 days for ERP, HWA, IWS, LTMP and SUO.

December 22, 2008

- 8) Workshops: Due to the current budget constraints we are only planning one Pretreatment Annual Report (PAR) workshop this year for February 3, 2009 (see attached invitation). If there appears to be an overwhelming need for additional PAR workshops, we will add to the schedule.

Three Headworks Analysis (HWA) workshops are planned for January 28, February 24 and May 12, 2009 (see attached invitation).

- 9) Pretreatment Program Info Database Sheets: Please review your attached program info sheet and historical SNC sheets and make necessary updates to any of the information presented. Send the sheets back with your PAR, due March 1, 2009. If all the information was correct, please indicate that in your PAR. Especially note the due dates. This may be the only reminder you get.

Note the historical SNC sheets now only have current active SIUs.

- 10) Email Addresses: In the future, PERCS would like to be able to use email to send out mass mailings. To make this an effective and cost saving tool, we ask that you keep PERCS updated on your current email address. See the new field on the program information sheet.

As always, please contact your pretreatment staff member (as listed above) or me at 919-807-6307 [[email:Deborah.Gore@ncmail.net](mailto:Deborah.Gore@ncmail.net)] with any questions or comments.

Sincerely,



Deborah Gore, Acting PERCS Unit Supervisor

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Enclosures:

PAR Workshop Invitation
HWA Workshops Invitation
Program Info sheet(s)
Historical SNC sheet(s), if applicable

Cc with enclosures:

PERCS Pretreatment Staff
All RO Pretreatment Contacts