

TO: 2010 GRADE III PRETREATMENT CERTIFICATION STUDENTS

FROM: NC-PC CERTIFICATION BOARD

RE: REQUIRED PREPARATION PRIOR TO APRIL 2010 CLASS

The NC-PC Grade III Pretreatment Certification Class contains over one day of training on conducting a Headworks Analysis (HWA). Even so, this is a great deal of information to cover in a short period of time, so the NC-PC Certification Board has outlined review and "homework" required before coming to the Grade III Certification class in April 2010. In the past, some of the formulae and calculations that were presented in NC-PC Certification Grade I and Grade II classes were reviewed in Grade III. In 2010, such a review will not be conducted.

Each student in the Grade III class is expected to come prepared and with a working knowledge of the following calculations/information from the NC-PC Certification Grade I and Grade II classes:

1. *Conversions:*

- mg/l to ug/l (milligrams per liter to micrograms per liter)
- ug/l to mg/l (micrograms per liter to milligrams per liter)
- ug/l to ng/l (micrograms per liter to nanograms per liter)
- cfs to gpd to MGD (cubic feet per second to gallons per day to million gallons per day)

2. *Detention Time Formula and Calculation*

$$\frac{24 \text{ hr/day} * \text{Tank Volume}}{\text{Flow}}$$

3. *Removal Efficiency Formula and Calculation*

$$\frac{\text{Influent} - \text{Effluent}}{\text{Influent}} * 100$$

4. *Use of the Pounds formula including being able to solve for any unknown*

$$\text{Pounds} = \text{mg/l} * 8.34 * \text{Flow (in MGD)}$$

It would also be of assistance for students to have attended the DWQ Headworks Analysis Class that is offered periodically by the PERCS staff. The recent modifications to this class have resulted in a 6 hour class that is an excellent overview of the HWA process and the forms and spreadsheets available on the DWQ website. There is no class being held between now and the April 2010 Certification classes, but the PowerPoint Presentations used for the class are available on the DWQ website at: <http://portal.ncdenr.org/web/wq/swp/ps/pret/training>

Review of DWQ/PERCS's PowerPoint Presentation is particularly important if you have no experience with Headworks Analysis.