

The Clarifier

JUNE 2006

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Remaining Exams for 2006

September 14 (*postmark deadline August 15*)

December 14 (*postmark deadline November 14*)

New WPCSOCC Chairman, **Paul E. Rawls** is congratulated by NC Secretary of State **Elaine Marshall** prior to the April meeting of the Commission. Paul is the Division of Water Quality Surface Water Protection Section Chief and brings over 20 years of DWQ experience to the seat. His background includes work in the Fayetteville and Wilmington Regional offices in all aspects of the division's programs, as well as his more recent oversight of all Surface Water Protection activities in the central office. Paul is looking forward to the responsibilities of the chair and we are all looking forward to working with him on the issues of certification and training of operators.

TACU Website changes include new items!

The Technical Assistance & Certification Unit (TACU) website contains the following new items:

Manuals– includes "Needs to Know" for many of the certification programs

Publications– current and back issues of the *Applicator* (animal) and the *Clarifier* (wastewater) newsletters

Continuing Education information– check to see if your CE hours have been credited and, towards the end of the year, check your payment status as well

Exam application– there's a NEW form being used and it is available for download.

Find these new items and more at <http://h2o.enr.state.nc.us/tacu/index.html>.





Longtime Rocky Mount Wastewater Operator Retires

George Stanley Curtis, retired from the City of Rocky Mount on February 1, 2006. He had worked in the City wastewater treatment plants for thirty years.

Mr. Curtis began employment with the City of Rocky Mount in February 1977 as the Plant Chemist. In June 1979 he was appointed Acting Superintendent of the Wastewater and Water Treatment Plants. During this time he developed design data from pilot plant operations to treat industrial/domestic waste at the Leggett Road wastewater treatment plant. In March 1982, he was appointed Superintendent of Wastewater and Water Treatment Plants. The position included operation of both water treatment plants, and supervision of the laboratory and maintenance staffs as well (approximately 40 employees). He trained plant operators and began operation of the pure oxygen, activated sludge process, dewatering systems and incineration in 1982 at the new wastewater treatment facility located on Hwy 97 East. He was responsible for coordination with construction companies during two multimillion dollar expansions in the 1990s, during which the plant operated at full capacity. During the construction phases and since, compliance with requirements in the city's National Pollution Discharge Elimination System (NPDES) permit issued by NC DENR has been achieved.

In the early 1990s, Rocky Mount changed its wastewater treatment process to remove nitrogen and phosphorus, as well as organics. Through Mr. Curtis's operational decisions and supervision, improvement in treatment reduced the nutrients discharged from the city's treatment facility by 60%.

Mr. Curtis was responsible for the city's biosolids recycling program since its start-up in 1992. Under his guidance, a land application contract was developed with a private transporter. This contract is still in place today with no violations of the city's non-discharge permit for land application of biosolids. Since 1992, approximately 140 million gallons of biosolids have been recycled on 3-4,000 acres of permitted Nash and Edgecombe farmland as fertilizer and soil amendment. Mr. Curtis effectively utilized the resources at his disposal to clear and prepare city-owned property adjacent to the WWTP for biosolids recycling while growing hay for cattle feed.

Mr. Curtis has been heavily involved in training of wastewater plant operators as an instructor of wastewater operator certification courses. He also sponsors internal training courses for city operators and encourages them to gain advanced certification levels. Many wastewater facilities in eastern NC have operators who received all or part of their certification training in classes taught by Mr. Curtis.

In 2002, Mr. Curtis was named North Carolina's AWWA/WEA recipient of the William D. Hatfield award for outstanding performance and professionalism in the field of wastewater treatment operations.

The City of Rocky Mount and the wastewater treatment plant staff appreciate Mr. Curtis' dedicated service and hard work and we extend our best wishes to him on his retirement.

- Information submitted by Jackie Richardson, City of Rocky Mount -

Want to share some inside info on one of your operators who happens to be particularly clever or get a story out about a unique way of handling a tough situation at your plant? Drop an email to steve.reid@ncmail.net and we'll try to get it printed in the next edition.

Technical Assistance Results In Energy Conservation

In June 2005, a DWQ regional office consultant was contacted by one of his larger POTW's with a request for technical assistance. The facility had a good compliance record, but the ORC informed the consultant that he had a new city manager who had challenged each division to drastically reduce their operating costs. Since the wastewater facility had a design flow of 20 MGD and current flows were at 30% of this capacity, it made the facility a prime candidate for cost reduction.

This wastewater facility was designed and constructed in the mid 1990's when the town had numerous textile plants and other high strength industries, plus, it had a combined collection system. Due to the combined sewer system, the town was plagued with SSO's (sanitary sewer overflows). With considerable effort and millions of dollars spent, the combined system was separated back into separate sewer and storm water systems. At about this time the textiles in town moved South, resulting in the facility operating at only 30% capacity. There were no mechanisms in place to take individual aeration basins off line. The return sludge system had no capacity to be separated so that individual aeration basins could be utilized, and all of the basins (3.5 MG each) were being utilized all of the time.

To test how the treatment plant could be downsized, the fixed aerators and mixers of the aeration system were slowly taken off line one at a time and the process closely monitored to make sure the results did not jeopardize the permit limits (BOD 11/18, TSS 30/30 NH₃N 4/8). Both the DWQ regional office and the municipality gained some confidence in the facility's compliance while the wastewater staff stayed in daily contact with the regional consultant. The facility has been compliant with its NPDES permit since this trial began, last June. In addition, there has been a reduction in aeration horsepower by 540, resulting in a projected power cost savings in excess of \$352,000 per year.

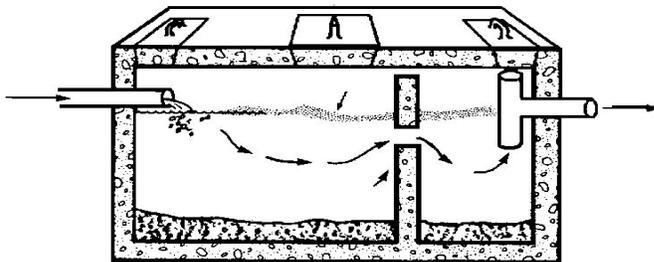
<p>The story above is just one of many examples of technical assistance provided by the Wastewater Treatment Plant Consultants with the Division of Water Quality. There are presently 6 staff positions designated as "Consultants. The Regional Offices in Asheville, Fayetteville, Washington and Wilmington each have consultants on staff, Mooresville and Winston Salem share a consultant. These individuals are available for consultation, free of charge to any NPDES facility in the State. They are all highly qualified, Grade 4 WW certified, with countless years of experience in both domestic and industrial facilities. If you need technical assistance, contact the appropriate consultant from the table on the right. If your region does not have a consultant, please call the Technical Assistance & Certification Unit at 919.733.0026 and speak with Jerry Rimmer to arrange a visit from one of the other consultants. Remember, the service is FREE for the asking!</p>	<p>Region</p>	<p>Consultant</p>	<p>Phone #</p>
	<p>Asheville</p>	<p>Don Price</p>	<p>828.296.4500</p>
	<p>Fayetteville</p>	<p>Don Register</p>	<p>910.486.1541</p>
	<p>Mooresville & Winston Salem</p>	<p>Marc Stokes</p>	<p>336.771.5000</p>
	<p>Washington</p>	<p>Kristin Jarman</p>	<p>252.946.6481</p>
	<p>Wilmington</p>	<p>Tom Tharrington</p>	<p>910.796.7215</p>

Subsurface School Expands to New Dates & Locations

Previously held once per year, primarily in Raleigh, the Subsurface Operators Training School has been expanded for 2006 to include four dates and four different locations across the state. Demand for training of subsurface system operators has been increasing and the expansion is seen as a way to provide the necessary training and to reduce operators' travel time. The newly approved Subsurface curriculum will be presented at the following locations and times in 2006.

- Fletcher August 8-10
- Raleigh September 11-13
- Bolivia October 10-12
- Plymouth November 7-9

Please contact Kathryn Murray at NCSU (919.515.7154) for further information about the course and registration details.



Brown Receives Wilbur E. Long Award for 2005

Curtis Brown (Town of Siler City) received the 2005 Wilbur E. Long Operator of the Year Award. Curtis was nominated not once for the award, but twice, by two different individuals. Brown has been in the wastewater industry for more than 25 years and continues to exhibit creative problem-solving skills and initiative in day-to-day activities as well as special projects. He holds not only a Grade 4 Biological certificate, but also, Subsurface, Spray Irrigation and Collections Grade 1, and is preparing to take the Collections Grade 2 exam soon. Curtis is active in the local Professional Wastewater Operators Association and the NC AWWA/WEA and Rural Water Associations. The Commission and staff wish to congratulate Curtis on the outstanding work he has done over the years and wish him continued success.



If you would like to nominate an operator for the 2006 Wilbur Long Award, please go to <http://h2o.enr.state.nc.us/tacu/>, download the application and return to **Steve Reid** either through the mail or email to him at steve.reid@ncmail.net.

“Needs to Know” Now Available Online!

Check out the downloadable pdf documents (require Adobe Reader to view) on our website for the following Needs To Know....

Biological WW, Collections, Physical/Chemical and Subsurface

The address is:

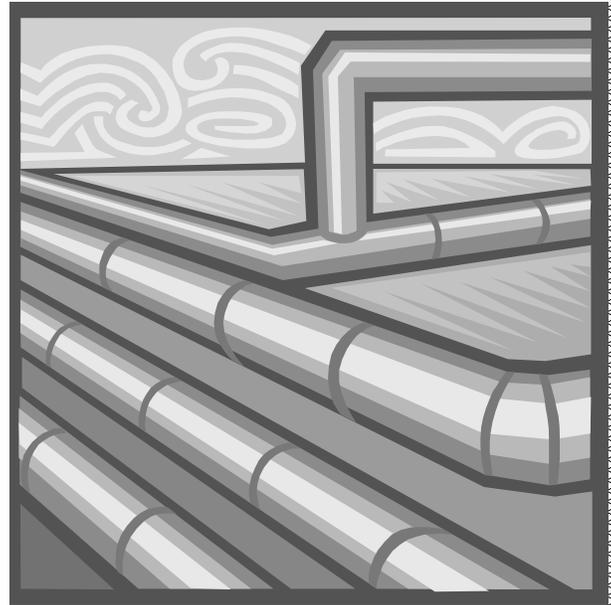
<http://h2o.enr.state.nc.us/tacu/manuals.html>



On the lighter side... we couldn't resist reprinting this tongue in cheek discourse on pipe specs. Since we have all probably wondered about how pipe is specified in our plants or collection systems, here's a new take on it.

Pipe Specifications

1. All pipe is to be made of a long hole surrounded by metal or plastic centered around the hole.
2. All pipe is to be hollow throughout the entire length; do not use holes of different length to the pipe.
3. The ID (Inside Diameter) of all pipe must not exceed the OD (Outside Diameter). Otherwise, the hole will be on the outside.
4. All pipe is to be supplied with nothing in the hole so that water, steam, or other stuff can be put inside at a later date.
5. All pipe is to be of the very best quality, perfectly tubular or pipular.
6. All acid-proof pipe is to be made from acid-proof material.
7. All pipe should be supplied without rust; this can be more readily applied at the job site. Note: Some vendors are now able to supply pre-rusted pipes. If available in your area, this product is recommended, as it will save a great deal of time at the job site.
8. All pipe is to be cleaned free of any covering such as mud, tar, barnacles, or any form of manure before putting up. Otherwise, it will make lumps under the paint.
9. All pipe over 500ft (150m) in length should have the words "Long Pipe" clearly painted on each side and end, so that the contractor fitter knows it's a long pipe.
10. Pipe over 2 miles (3.2km) in length must also have the words "Long Pipe" painted in the middle, so the contractor will not have to walk the entire length of the pipe to determine whether or not it is a long pipe or a short pipe.
11. All pipe over 6ft (1.83m) in diameter must have the words "Large Pipe" painted on it, so the contractor will not mistake it for small pipe.
12. All pipe closers are to be open on one end.
13. All pipe fittings are to be made of the same stuff as the pipe.
14. No fittings are to be put on the pipe unless specified. If you do, straight pipe becomes crooked pipe.
15. Fittings come in all sorts of sizes and shapes. Be sure to specify the direction you are going when ordering.
16. Fittings come bolted, welded or screwed; always use screwed. They are best.
17. Flanges must be used on all pipe. Flanges must have holes for bolts, quite separate from the big hole in the middle.
18. If the flanges are to be blank or blind, the big hole in the middle must be filled with stuff.
19. When ordering 90 or 30 degree elbows, be sure to specify left-hand or right-hand, otherwise you will end up going the wrong way.
20. Be sure to specify to your vendor whether you want level, uphill or downhill pipe. If you use downhill pipes for going uphill, the water will flow the wrong way.
21. All couplings should have either right-hand or left-hand threads, but do not mix the threads; otherwise, as the coupling is being screwed on one pipe, it is being unscrewed from the other.
22. All pipes shorter than 1/8in (3mm) are very uneconomical in use, requiring many joints. They are generally known as washers.
23. Joints in pipes for piping water must be water-tight. Those in pipes for compressed air, however, need only be air-tight.
24. Lengths of pipes may be welded or soldered together. This method is not recommended for concrete or earthenware pipes.
25. Other commodities are often confused with pipes. These include: conduit, tube, tunnel and drain. Use only genuine pipes.
26. Scottish Regiments in the Army use Army pipes in unusual ways. These are not approved of in engineering circles.



What you should know about applying for an examination

For those of you who are new to the process of certification (and for some who have been in the process for a while), here's a short list of things to check *before* you submit that application to take an exam.

Did you complete all the information requested?

Any missing information could result in your application being denied.

Did you include your Certificate of Completion from the required training school?

Do not submit application without Certificates of Completion. *There is generally plenty of time after the completion of a school for the application to be completed, the certificate attached and the package postmarked by the deadline.*

Did you sign the application?

Did your supervisor review the application and sign it?

Your supervisor is required to verify your eligibility and to sign the application.

Did you fill in the details of your operational experience?

Actual operational experience should be detailed, including dates of employment, employer name and the specific duties you performed that would qualify you to take the exam. If your experience is not appropriate for the Grade of Certificate that you applied for, you may be denied or you may be granted to sit for an Operator in Training exam.

Did you include the necessary fees in the form of a check or money order?

The current exam fee is \$85. Please see the exam application for other required fees for Temporary Certificates and Conversions.

Failure to complete the application may result in your form being returned for completion or you may be denied the chance to take the exam. Make sure you take your time and complete the application in its entirety and that all supporting documents are enclosed. If you have questions, consult the TACU website (<http://h2o.enr.state.nc.us/tacu/index.html>) or call 919.733.0026.