

# Operator Facts

New York State Department of Environmental Conservation

TECHNICAL FACTS FOR WASTEWATER TREATMENT PLANT OPERATIONS

## FOAS's Coley Moves On

### New FOAS Certification Responsibilities

Regions 1 and 7  
Rich Malaczynski  
(518) 402-8087  
rmmalaczy@gw.dec.state.ny.us

Region 2  
Tim Miller  
(518) 402-8106  
tjmiller@gw.dec.state.ny.us

Region 3 and 8  
Gregg Gendron  
(518) 402-8096  
gwgendro@gw.dec.state.ny.us

Region 4 and 6  
Alan Cherubin  
(518) 402-8155  
axcherub@gw.dec.state.ny.us

Region 5  
Phil Smith  
(518) 402-8092  
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Region 9  
Bob Wither  
(518) 402-8097  
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Contact us with any questions  
on wastewater operator  
certification, or visit  
NYSDEC's new website at:  
[www.dec.ny.gov/chemical/  
8464.html](http://www.dec.ny.gov/chemical/8464.html)



*Mike Coley receiving a longevity award from former NYSDEC Commissioner Denise Sheehen*

FOAS reports that long time trainer Mike Coley has departed for new challenges with Westchester County Department of Environmental Facilities (DEF). Following 28 years with FOAS, he accepted a position as Director of Wastewater Treatment with DEF.

Mike was instrumental in FOAS's efforts to coordinate and deliver hundreds of wastewater training programs to wastewater professionals. His totally professional approach assured the smooth delivery of training programs like Advanced Activated Sludge, Solids Handling, and Troubleshooting Activated Sludge Operation and Maintenance Problems.

Mike also provided technical assistance to many wastewater treat-

ment facilities, identifying performance limiting factors and making recommendations to improve plant performance. He also worked with treatment plant operators to develop long term process control strategies that brought plants into compliance with their SPDES permits.

Finally, Mike oversaw operator certification for NYSDEC Region 3. He was responsible for reviewing and approving operator certification applications and wastewater operator certificate renewal applications and training programs for 525 active wastewater treatment plant operators.

FOAS wishes Mike success in his new position with DEF. His experience will surely be missed.

### Final Written Exam

NYSDEC's final written wastewater operator certification exam is **August 29, 2007.**

All applications to take this exam must be post-marked by **July 18, 2007.**

Beginning January 1, 2008, NYSDEC will offer computerized exams. See Page 3 for some frequently asked questions regarding the testing changes.

## Operator Facts

The purpose of this technical bulletin is to inform wastewater operators about various operational practices, problem-solving approaches, technical developments and certification and training issues.

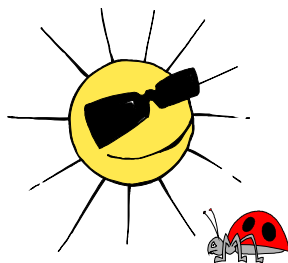
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You are invited to submit technical articles or other information of interest to operators for publication in *Operator Facts*.

Be sure to notify us of a change of address if you wish to continue to receive *Operator Facts* and training notices. Please include your certificate number.

The mention of any product or listing of any company's seminar is not an endorsement by this department.

Send all correspondence to:  
*Operator Facts*, NYSDEC, 625  
Broadway, Albany, New York,  
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Visit our website at:  
[www.dec.ny.gov/chemical/8464.html](http://www.dec.ny.gov/chemical/8464.html)



Spring/Summer 2007

# Management Handbook for Local and Elected Officials

Developed by the NYSDEC, NY Water Environment Association (NYWEA) and USEPA Environmental Finance Center at Syracuse University, the *Handbook on Wastewater Management for Local Representatives (February 2007)* is a new resource for non-technical people who are involved with wastewater treatment plants. The *Handbook* is a reference for mayors, town supervisors, clerks treasurers and sewer board members. It includes valuable information on operations, administration, management and financial planning.

It is intended to help elected officials better understand wastewater treatment and collection issues and realize what a huge capital asset the system is. The 148 page document focuses on 'Educating, Protecting, and Investing' and is available from NYWEA's website at [www.nywea.org](http://www.nywea.org). Click on 'Wastewater Handbook' and wait a minute or two for the connection... it is a big file.

If you don't have internet access, fax your request to Phil Smith at (518) 402-8082.

## New Energy Conservation Fact Sheet

A Fact Sheet developed by the USEPA is designed to help wastewater plants evaluate ways to reduce energy consumption. The guide discusses technical and cost information on a variety of energy management approaches. Also included are ways to use solar cells,

microturbines, fuel cells and biogas. The seven (7) page document is EPA #832-F-06-024 from the Office of Water (July 2006) and can be found at the following website: [http://epa.gov/own/mtb/energycon\\_fasht\\_final.pdf](http://epa.gov/own/mtb/energycon_fasht_final.pdf)

## For Sale ??

It is harder and harder to get appropriations for equipment needed for wastewater treatment. You may have idle or surplus equipment you no longer need due to plant upgrades, a change in treatment technology or a change in your permit limits. If you have an interest in disposing of this equipment, advertise here. Many plants have uses for your surplus equipment to help them stretch their wastewater treat-

ment budget. Contact FOAS at (518) 402-8092 and let us know what you have, condition, pictures and contact information. If you write a description that accurately portrays your equipment, brand, model, etc., we will be glad to advertise it as a service to you and the industry. Help get usable equipment to those in need, and remember, "One man's junk is another man's treasure!"

# 2008 Wastewater Operator Certification Testing Change - More FAQ's

The last issue of *Operator Facts* listed some frequently asked questions on the upcoming certification testing change. Beginning January 1, 2008, all certification exams will be computer-based exams. Our last issue of *Operator Facts* listed some frequently asked questions, which we continue in this issue.

**Q. Where are the new test sites?** A. The eight test locations in New York are located in: Long Island (Hicksville), New York City (Manhattan and Queens), White Plains, Albany (Clifton Park), Utica (Whitesboro), Rochester and Buffalo (Williamsville). Some candidates may find out-of-state sites more convenient than the in-state sites (for instance, the Burlington, Vermont site may be more convenient than the Albany site). See [www.abccert.org/pdf/abcampinfop.pdf](http://www.abccert.org/pdf/abcampinfop.pdf) for all locations.

**Q. Are directions provided?** A. Beginning January 1, 2007, directions to each site are provided on AMP's website at [www.goamp.com](http://www.goamp.com) and included in your confirmation e-mail (only if an e-mail is provided to AMP).

**Q. Is there parking at the test site?** A. In most cases. This information will be included in the directions provided at the time your examination appointment is scheduled.

**Q. Can each test site accommodate applicants with disabilities?** A. The sites comply with all federal, state and local laws

regarding use of public buildings and each site ensures accessibility required under the ADA and accommodates applicants with disabilities. AMP does require individuals with a disability to provide advance written documentation to AMP of their condition.

**Q. Are restrooms available at the test site?** A. Yes, restrooms are available at each location.

**Q. What do I bring to the test site?** A. One current government-issued photo ID with signature and a non-programmable calculator. Pencils and scratch paper will be provided. No other writing instruments or personal belongs are allowed. If you wear special glasses when working at a computer, you should bring those glasses.

**Q. Can I pay at the test site?** A. No; you must pay in advance when you schedule your exam.

**Q. What if I am late for my 9:00 or 1:30 test time?** A. Just like the written test, plan on arriving about 15 minutes early to allow for traffic or unforeseen problems. AMP policy allows candidates to still take the exam even if they are 15 minutes late. If you are later than 15 minutes, you will not be allowed to take the test.

**Q. What if I can't make my scheduled test time?** A. You may reschedule an appointment one time without penalty if you contact

AMP a minimum of four business days prior to your scheduled examination date.

**Q. Has the certification test changed?** A. No, the test remains the same as the current written test. There are 100 multiple-choice questions. The minimum passing grade is still 70 percent.

**Q. How long do I have to complete the test?** A. The same as the written test, you have three (3) hours (running time) to complete the exam.

**Q. I'm not familiar with computers or computer testing. Will that hurt my ability to pass the test?** A. Before starting the test, you may complete a short demonstration to become familiar with the computer, question layout and features of computerized testing. You choose the correct answer using a mouse or typing the appropriate letter. DEC field-tested the format. Operators with limited computer skills had no problem completing the test. To try the new exam format, go to [www.lxr.com/products~webtests.htm](http://www.lxr.com/products~webtests.htm) and select the ABCwebtestdemo option.

**Q. What materials do I get at the test site?** A. The ABC formula sheet, pencil and scratch paper are provided.

**Q. How does DEC get my test**

(Continued on Page 4)

# Renewal, Certification Training & Upcoming Meetings

## Test Yourself

Which activity uses less water?... a five-minute shower or a full bath? How can you test whether your toilet has a leak? How much of the earth's water is available for human use?

The answers may surprise you so take EPA's new interactive quiz, "Test Your WaterSense"

The quiz was created by EPA's WaterSense program and provides an entertaining way for both adults and children to learn more about why it is important to save water and how to be more water efficient in your home.

The quiz is available at: [www.epa.gov/watersense/water/test.htm](http://www.epa.gov/watersense/water/test.htm) and visit EPA's WaterSense Program at

## FAQ's

(continued from Page 3)

### results?

A. The results are sent electronically to the DEC office in Albany.

**Q. If I don't pass, how do I retake the certification test?** A. To retake a certification test, follow the instructions on the score report.

**Q. Does this change affect my ability to get reciprocity with other states?** A. No, the computerized test is still an ABC certification test, just like the written exam. With any reciprocity, you must still meet all the requirements of the state you are applying to for certification.



NYWEA, Inc.  
525 Plum Street, Suite 102  
Syracuse, NY 13204  
(315) 422-7811  
e-mail: [mail@nywea.org](mailto:mail@nywea.org)  
[www.nywea.org](http://www.nywea.org)

### National Events

WEFTEC  
October 13 - 17, 2007  
San Diego, California

### State Events

2007 Watershed Science and Technical Conference  
September 10-11, 2007  
Hotel Thayer, West Point

Voluntary Collection System Operator Certification Exam  
Next exam is September 26, 2008  
Several locations throughout New York State  
For more information call:  
Maggie Hoose (315) 422-7811

NYWEA/AWWA Joint Water Resources Symposium  
November 13-15, 2007  
Doubletree Hotel, Syracuse

80th Annual Meeting  
February 2-6, 2008  
Marriott Marquis, New York City

### Chapter Events

#### Capital

Picnic and Operator Training Session  
Training Topic: Variable Frequency Drives  
September 21, 2007  
Saratoga State Park

Fall Meeting - Ultraviolet Disinfection  
November 2, 2007  
Manna's Restaurant, Ballston Spa

## Certification Courses

### Basic Operations

September 10-21, 2007  
Great Lakes Laboratory - Buffalo  
(716) 878-5422

September 10-21, 2007  
SUNY at Morrisville  
(315) 684-6670

### Basic Laboratory

October 1-5, 2007  
SUNY at Morrisville  
(315) 684-6670

November 5-9, 2007  
Great Lakes Laboratory - Buffalo  
(716) 878-5422

### Activated Sludge

June 11-14, 2007  
July 9-12, 2007  
SUNY at Morrisville  
(315) 684-6670

### Supervision & Technical Operations

June 18-22, 2007  
SUNY at Morrisville  
(315) 684-6670

October 15-19, 2007  
Great Lakes Laboratory - Buffalo  
(716) 878-5422

### Management Course

October 15-18, 2007  
SUNY at Morrisville  
(315) 684-6670

October 24-26, 2007  
Great Lakes Laboratory - Buffalo  
(716) 878-5422

## New Option for Grade 1/1A Home Study Certification Course

DEC has recently reviewed and accepted the *Sacramento Small Wastewater System Operation and Maintenance, Volumes I and II* as home study course options for Grade 1/1A operators. Sacramento's *Operation of Wastewater Treatment Plants Volume I & II* and *Wastewater Treatment Plant Operation* (Class "C" by University of Florida) are still available as acceptable options for home study.

Why are we adding this option? These manuals offer more information geared to the Grade 1/1A operators.

Topics for the small treatment plant operator include septic tank / sand filter, ponds and alternative wastewater treatment.

In addition, the volumes include basic information on collec-



tions systems and rate setting. Both these volumes are good for 9 CEUs just like the other Sacramento volumes and are accepted for renewal-hour credit.

Information, manuals and course registration are available from Sacramento's Office of Water Programs website at: [www.owp.csus.edu](http://www.owp.csus.edu)

If you have any questions regarding this change, please call our office at (518) 402-8177.

## Wastewater and Water Career Brochure

A large number of the wastewater operations workforce is rapidly approaching retirement, with studies pointing to a shortage of a qualified workforce to replace the retiring operators. To help raise interest in the wastewater and water operations field, NYSDEC and NYSDOH with other members of the New York Water and Wastewater Education and Outreach Committee developed a brochure to promote the wastewater and water operations career field.

The brochure was developed for inclusion in career opportunity displays at local schools. More information on this effort and how to obtain brochures for distribution, is available at [www.health.state.ny.us/environmental/water/drinking/operate/opcareer.htm](http://www.health.state.ny.us/environmental/water/drinking/operate/opcareer.htm).

## Employment Opportunities

Rockland County Sewer District #1 seeks an Assistant Director of Plant Facilities for a full-time, permanent position.

The applicant will be responsible for providing administrative and technical support in planning, administering and directing a facilities and equipment maintenance program with a staff of 40 at our Orangeburg (RBC) plant, plus 22+ pump stations and the collection system.

Starting salary is \$74,800.  
Contact Bob Dworkin at (845) 365-6111, or email Bob at: [dworkin@co.rockland.ny.us](mailto:dworkin@co.rockland.ny.us)

The New York State Thruway Authority has an opening in Buffalo Division facilities at Clarence/Pembroke service areas.

The minimum qualifications are four years of satisfactory experience in a mechanical or electrical trade or a combination of both. A valid license to operate a motor vehicle in NYS is required and you must obtain a CDL-B by the end of the probation period. Incumbent must possess a New York State Grade 2 Wastewater Treatment Plant Operator Certificate.

For more information contact Joseph Bifaro at (716) 631-9017 or Fax resume to (716) 626-1328.

The Town of Niskayuna is seeking an operator for the wastewater plant. Minimum qualifications include possession of a NYSDEC Grade 3A Wastewater Treatment Plant Operator's License and graduation from high school or an equivalency diploma.

Priority will be given to Niskayuna and/or Schenectady County residents.

Hourly rate: \$17.12 - \$19.90 based on experience.

Applications are available at the Niskayuna Town Hall, or call Kathy at (518) 386-4520.

# Test Your cBOD Inhibitor

Has your carbonaceous biological oxygen demand (CBOD<sub>5</sub>) ever been greater than your biological oxygen demand (BOD<sub>5</sub>) on the same sample without any apparent reason? Has your systematic investigation led you to check everything you can think of but still have no clue as to the cause? This very thing happened to me recently and I would like to share my investigative path and discoveries with you. The problem, in this case, was that several lots of inhibitor, 2-Chloro-6-(trichloromethyl) pyridine had been contaminated. At the end of this article, I will outline a quick and easy test that can be implemented to check any new lot of inhibitor. Hopefully, by sharing this information, others will be spared from having to troubleshoot a similar problem.

Our lab runs both BOD<sub>5</sub> and CBOD<sub>5</sub> analyses on the same samples in some cases. The first indication that something was amiss was a trend of CBOD<sub>5</sub> results being equal to or greater than the BOD<sub>5</sub> results on the same sample. It was further noted that as the concentration of the dilutions on the sample decreased, the CBOD<sub>5</sub> increased. Our first thought was that the problem may be attributed to analytical error (Blame the Analyst!). The technician running the analysis was asked to employ increased caution and watchfulness. This did not help the problem. It was also noted that the trend persisted when the analyst was changed due to weekend staffing.

The next thing investigated was the pipets used to deliver the sample to the BOD<sub>5</sub> incubation bottle. Nothing of interest was turned up. Review of our reagent log book indi-

cated that the problem surfaced when a new lot of inhibitor was put into use. A different lot of inhibitor was procured through our store-room and placed into use. Unfortunately, when the samples were checked after five (5) days, the trend persisted. An additional review of data, log books and QA procedures once again pointed to the inhibitor. It appeared that, somehow, the inhibitor was exerting an oxygen demand.

As part of our daily BOD<sub>5</sub> preparation, two bottles of seeded dilution water are set up and measured for dissolved oxygen at the 0-Day and then again at 5-Day. To determine whether the inhibitor was the cause of the problem, we asked the BOD<sub>5</sub> technician to add two additional bottles of seeded dilution water and to add inhibitor to each. The dissolved oxygen (DO) was checked at 0-Day and again at 5-Day. There should be no difference in the readings between the two sets of bottles; however, there was a difference of approximately 1.0 mg/L. This indicated that the inhibitor was actually exerting an oxygen demand.

The manufacturer of the inhibitor was contacted with this information. A technical support representative informed us that a number of inhibitor lots were contaminated and supplied us with the affected lot numbers. Unfortunately, it turns out that both lots tried were listed by the manufacturer as contaminated. Apparently, the raw material used to make the filler material for the inhibitor was contaminated.

The overall effect of the contaminated inhibitor is more pro-

nounced in the influent than the effluent, because the same amount of inhibitor is added to each bottle being set up and any oxygen demand associated with the inhibitor would be multiplied by the dilution factor. For the final effluent samples, the additional CBOD<sub>5</sub> was approximately 1 mg/L. For influent samples the overage was more dramatic.

Our corrective action, in this case, was to implement the following inhibitor test whenever a new lot of inhibitor is received. Set up two additional incubation bottles with seeded dilution water and inhibitor. Record the DO on 0-Day and again on 5-Day. If the resulting DO's vary by more than 0.2 mg/L, notify your supervisor so that another lot of inhibitor can be obtained.

Keep in mind, that when trouble shooting BOD<sub>5</sub> and CBOD<sub>5</sub>, it takes at least five (5) days before you know whether or not you have found the problem. It is my hope that by sharing this information, others will be spared from encountering the same lengthy investigation process.

Article by Sandy Conrad, Laboratory Committee Chair, Illinois Water Environment Association (IWEA).

Contact Information: Sandra Conrad, MWRDGC 400 East 130<sup>th</sup> Street Chicago, IL 60628, (773) 256-3585.



Our website address has changed; visit our new site at: [www.dec.ny.gov/chemical/8464.html](http://www.dec.ny.gov/chemical/8464.html)

# Congratulations

## To Our New Certified Operators!



### Grade 1

Sammy Andalib	New York City
Daniel K. Antwi	Westchester
Victor E. Ashe	Essex
Robert C. Beckett	Westchester
David Benson	New York City
John R. Brooks	New York City
William K. Ciminelli	New York City
Gerhard A. Deist	New York City
Gennadiy Gazman	New York City
James M. Glenn III	New York City
Jay J. Heidelberg	New York City
Mark A. King	New York City
Nicholas Liparulo	New York City
Tay Shine Mao	New York City
Peter C. Martino	New York City
Keith P. May	Westchester
Robert Mellett	New York City
Ferras Musharbash	Westchester
Jason A. Ortiz	New York City
Bernhard A. Rogers	Westchester
Stephen S. Smuda III	Cattaraugus
Edward Stradford	Orange
Patrick S. Tyndall	Putnam
Gavin T. Vitale	Broome
Vito J. Vitelli	New York City
Jason S. Wayman	Greene
Jeffrey S. Woods	St. Lawrence

### Grade 1A

Robert H. Burns	Wayne
Kenneth R. Holbrook	Rensselaer
Steven E. Jappell	Nassau
Jay L. Lawrence	St. Lawrence
Shane P. Nordberg	Chenango

### Grade 2

Jeffrey W. Cragg	Wayne
Thomas M. Cuddihy	Nassau
James A. Ellis	Wayne
Kenneth Farrell	Livingston
Kevin J. Farrelly	Out Of State
Timothy P. Gray	Ontario
Robert C. Howell, Jr.	Chenango
Adam S. Litman	Ulster
David Lopez	Suffolk

### Grade 2A

Frederick A. Brand	Onondaga
Frantz F. Cham	New York City
Michael G. Chumas	Orange
Edgar P. Cinense	New York City
Scott M. Collins	Washington
Sean P. Cornelison	Ulster
Edward M. Czyewski	Columbia
Richard E. Deady	Chenango
Ronald B. Dernbach	Niagara
Kevin M. Dodge	Washington
Edward M. Guterman	Out Of State

### Grade 2A Continued

Donald G. Sherwood	Broome
Mark C. Strub	Erie
Thomas E. Taggart	Suffolk
Donald J. Williams, Sr.	Washington
Andrew Wozniak	Delaware

### Grade 3

Eric S. Feistel	Ontario
Brian T. Lacey	Broome
Christopher D. Ploutz	Delaware
Michael Ryman	Ulster
Thomas N. Tyrol	Ulster

### Grade 3A

Eric M. Albano	Delaware
Richard H. Clayton	Wayne
Wilson V. Eagleson IV	Clinton
Frank Jannette	Suffolk
Richard J. Kennedy	New York City
Carl J. Kilgore III	Tompkins
Steven W. Kozachuk, Jr.	Sullivan
David W. Lockhart	Saratoga
Thomas R. McCall	Cortland
Timothy P. McMullen	Wayne
Caitlin A. Parker	Otsego
Brian A. Persing	Saratoga
John E. Peterson	Delaware
Richard T. VanWicklen	Nassau

### Grade 4A

Dana W. Williams, Jr.	Chautauqua
John Bolembach	New York City
Jeffrey J. Bryant	Westchester
John A. Hefty	Chautauqua
Donald A. Hirschbeck	Erie
Craig A. Matias	Broome
Rohitkumar A. Mistry	Westchester
Douglas E. Sibolski	Niagara
Milagros Soriano	New York City

### Grade 2A Continued

Richard J. Hagen, Sr.	Dutchess
Robert Helupka	Suffolk
Vladimir V. Jones	Schoharie
Matthew S. Kruse	Ulster
Steven J. Marxhausen	New York City
Joseph McLaughlin	Putnam
Alvaro Mora	New York City
Keith M. Moree	Ulster
Matthew E. Rifenburgh	Saratoga
Laura J. Rockhill	St. Lawrence
Shawn B. Rowe	St. Lawrence
Stephen Schmidt	Dutchess
Michael A. Seaman	New York City
John J. Senko	Genesee



## ABC Exam Statistics for February 28, 2007 Exam

Grade	% Pass	# of Exams	Avg. Score
1	73	37	77
1A	71	7	79
2	69	13	76
2A	54	54	70
3	33	15	67
3A	41	34	68
4	0	2	58
4A	43	21	71

# Operator Ingenuity Saves Money

The Livingston County Water and Sewage Authority (LCWSA) needed to replace the (anaerobic digester) solar-powered spark generator for the gas burner at the Conesus Lake County STP.



*Waste Gas Burner*

Plant operator, Steve Carroll, discovered that the unit was no longer available and replacing the generator would cost \$2500-\$5000. Available spark generators were designed for large plants and landfills, much

larger than the 1.27 mgd plant required.

Steve contacted his local heating contractor about using an oil-burner furnace coil to generate the necessary spark. With assistance from the contractor, scrounging for used parts and salvaging parts from the old generator, a “new” spark generator was created for less than \$200.

The generator has been functional for several months with very few problems. On rare occasions, gas pressure has blown the flame out, and manual lighting of the flame was needed under cold and wet conditions.

For more information, contact Steve Carroll at (585) 346-3523 or email Steve at: SCarroll@co.livingston.ny.us

*Spark plug with extra wide gap to ignite waste gas*



*Transformer, furnace coil, etc., to generate spark*

Visit FOAS' Website:  
[http://www.dec.state.ny.us/website/dow/bwcp/foas\\_main.html](http://www.dec.state.ny.us/website/dow/bwcp/foas_main.html)

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 Facility Operations Assistance Section  
 625 Broadway - 4th Floor  
 Albany, New York 12233-3506

