As I take over the presidency, I think back and remember being a nervous Grade I OIT operator, not sure if I could do the job at hand, how long I would last in the field or what my purpose as an operator would be. I never dreamed that 22 years later I would be addressing all of you as our Association’s President. I know all too well now how important my job is and I am prepared to let anyone know who cares to listen. I believe we are all the unsung heroes of public health and the keepers of the most precious resource for life, WATER! We work long and hard, diligently, resourcefully, proud of what we do and how we do it, protecting the public and the environment, building a legacy for our family, friends and the community that we serve, as long as the earth can sustain us. I have often told my fellow workers and colleagues that we are facilitators, doing more with less and doing the job so well that most people have no idea where their wastewater goes or how we reduce, recycle and reuse the resources that so many take for granted. We have provided everyone we serve with a healthier and higher quality of life, every second of every hour of every day, year after year. I am proud to be one of the few that can do all these things and hopefully I can leave my small niche on the long time-line ahead.

My first goal for this year is for us to bring attention to what we do: With all the new permits, upgrades and limits, it is a perfect opportunity for us to reach out and speak out, and have some time in the spotlight. We need to make sure we promote what we do at every level we can. I know that many others have done so already. “King Trident” is a perfect example of what we can do. If we are to sustain the industry we pour our hearts into, we must break through and show our true worth by telling our story to people and explaining its importance.

My next goal is for education and outreach: The average age of an operator today is 45 years old. There will be a big drain on the work force and lost knowledge when people leave to retire. In partnership with NHDES, we have a Wastewater Management Program, showing that education and knowledge will be perpetuated for others to engage in the future. Outreach happens in our organization with events like:

- Operations Challenge (congrats to the Sewer Snakes!)
- Operator’s Exchange (the exchange of operators in New England)
- Discover Wild NH Day (held at NH Fish & Game Dept)
- Legislative Breakfast (to promote our industry and create awareness for needs to sustain what we do for future generations)
- Ski Day (new with Maine this year…partnering with regional state associations)

These are all wonderful events to network and create lasting bonds with others. We also make great efforts to include politics in our outreach. These are ways to sustain and recruit people into our industry and we plan to keep the momentum going.

My third goal is to align our organization with our larger sister organizations like NEWEA and WEF. There will be an up and coming member vote aligning our identity by changing our name from NWPCA to NHWEA. I believe there is a great benefit to this alignment.

(continued on page 1)
ANNOUNCEMENT BOARD

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UPCOMING EVENTS

April 10, 2014
NHWPCA Trade Fair at the Manchester Executive Court in Manchester, NH.

April 19, 2014
Discover Wild NH Day at the NH Fish & Game Department in Concord, NH.

June 13, 2014
NHWPCA Summer Meeting on the MS Mt. Washington Cruise Ship.

August 7, 2014
NHWPCA Annual Golf Tournament at the Beaver Meadow Golf Course in Concord, NH.

WORDS FROM THE EDITOR

Quite often I use this corner to put in a plug to join the newsletter committee. Well, I’m not going to do that because I’d rather use this space to thank a whole lot of folks! First and foremost, thanks to the whole newsletter committee. Without this great group of people The Collector would not be as awesome as it is. Special thanks to MJ for hosting our meetings and writing up minutes. Special thanks to Todd, who I now refer to as my “layout and design guru”. Thanks to all of the writers that I have nagged into contributing with a special thanks to the ones who volunteer! Thanks to NHWPCA’s board of directors for supporting this printed newsletter in a digital age. And of course, thanks to all the businesses that support this newsletter as sponsors and advertisers. I am certainly proud to be the editor of The Collector as we begin our 31st year of publication. While I’m full of pride, I’ll let you know that I’ve stopped just saying that I work for the City of Somersworth when I meet somebody and now I give details. I recently had the opportunity to play my favorite ice-breaker game, Two Truths and a Lie. This is what I said, “I can play the bassoon. I work at a wastewater treatment plant. I have never been down-hill skiing.” It made for some excellent conversation and nobody guessed my lie – I’ll buy a drink at the Trade Fair for the first person with the correct guess, it should be easy since you already know where I work!

Stephanie, Somersworth WWTF

For more information about the NHWPCA visit our website at www.nhwPCA.org.
We will be able to benefit in recognition, resources and the power in numbers by association. It will allow a vehicle for us to get the word out about what we do and to show unity. There will be more to follow on this, but remember that it is an opportunity for all in our industry and I will honor and support the decisions of this membership.

Finally, I want to tell all of you how proud I feel to be your President. It has been and will continue to be an honor and a privilege to serve the Association, first on the Board of Directors and now as President. I wish us all an awesome year making our Association better for us and for future members.

significant Proposed Rule Changes for Env-Wq 700 – Standards of Design and Construction for Sewerage and Wastewater Treatment Facilities

By Sharon L. Rivard, P.E., NH Department of Environmental Services

You may have seen some of my e-mails by now. Or better yet, you may have responded to one of my pleas and have gotten involved with the Standards of Design and Construction for Sewerage and Wastewater Treatment Facilities Rules Workgroup (better known as the Design Review Rules Workgroup). I wish to thank the following people who have actively participated in the ongoing revision of the Env-Wq 700 rules:

Ed Rushbrook (retired), Tim Vadney (Wright-Pierce), Ken Kessler (NHDES), Gene Forbes (retired), Tim Carney (NHDES), Ben Mosher (CDM), Laura Aibel (Concord), Henry Albro (FR Mahoney), Gloria Andrews (NHDES), Sean Greig (Newmarket), Kevin Oberry (Wright-Pierce), Steve Roberts (NHDES), Kevin MacLean (Hanover), David Bernier (NCWP), Donna Hanscom (Keene), Brian Hilliard (NHDES), Vicki Quiram (NHDES), Harry Stewart (NHDES), Alexis Rastorguyeff (NHDES), Darlene Johnson (Best Septic), Ray Gordon (NHDES)

The final version of these design standards will be a better product due to the valuable input from consultants and communities. The following list is a summary of the most significant revisions during this rule making session for Env-Wq 700. There are many other less significant changes as well. Work on the rules will continue into the summer as we finalize some of the sections and work with the legislature. Throughout this process, there will be opportunity for input, in addition to the formal public comment period. If you would like a copy of the current draft of the rules, please contact me at (603) 271-2508 or Sharon.rivard@des.nh.gov and I will be happy to forward you a current draft set of the revised rules. If you want to see the original 2006 version of the rules, you can download those at http://des.nh.gov/organization/commissioner/legal/rules/index.htm.

Now, here are the areas of significant change:

1. Incorporating a new USEPA/USDA joint preliminary engineering report (PER) outline into the Basis of Design (BOD) section which includes expanded considerations into sustainability and energy efficiency during initial project planning phase.
2. Including a supporting documentation submittal along with the normal design plans and technical specifications. This section will include documentation used in design but not necessarily information that should be included in the contract documents.
3. Revising and formalizing sewer connection permit terms resulting in changing from a 2-year permit to a 3-year permit with potential of up to one 2-year extension upon request. Granting of extension will be based on available capacity within the sewer and the WWTF.
4. Adding requirements for pressure sewers so developers no longer have to seek waivers from force main sizes and non-applicable rules.
5. Adding wet well exfiltration testing and bypass connection requirements for pump stations.

(Continued on next page)
6. Allowing for “right-sizing” of process equipment in exchange for an Asset Management program, energy audit and reserve account or other adequate financial assurance. Waiver process for “right-sizing” will be developed.

7. The 25-year and 100-year flood requirements will be revised but likely not until after the current Climate Change legislative study committee has released their findings.

8. Expanding and clarifying the processes that are considered “essential” for backup power.

9. Adding basic septage receiving design configuration requirements to address septage haulers most frequent complaints relative to septage receiving stations.

10. Adding performance standards for proven treatment technologies and nutrient removal technologies not yet covered in Env-Wq 700.

11. Adding pilot study requirements.

In closing, I would like to remind you that the changes in these rules do not impact existing facilities until there is an upgrade (or a new facility). And one more time, I invite you to contact me as indicated above, to provide your input into these design standards. While we will be filing a final proposal by the end of March 2014, work will continue on rule revisions during the following 4-6 months after that filing.

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**What’s Flushable?**

By: Ana Ford, NHDES Wastewater Engineering Bureau

Everything is flushable. Just ask any 3-year old. Matchbox cars, dog toys, toothbrushes and many other fun-to-flush items. But just because you can, doesn’t mean you should.

Since “flushable” wipes were designed in the 1980s, their popularity has skyrocketed. The convenience of disposable wipes makes them very attractive and their popularity will continue to increase as busy consumers look for ways to make their lives a little less complicated. Sales of wipes in the U.S. – currently at approximately $1.9 billion - are expected to increase to $2.5 billion by 2019. Great for the wipes industry, but a growing headache for wastewater treatment operators.

Consumers, however, are paying a high price for this convenience – much higher than they realize.

Most consumers probably don’t understand the impact of the “faux-flushables” on the public wastewater treatment system or on their private septic systems. These so-called flushables cause clogged pipes, overflows, plugged plumbing and septic systems, increased loads on headworks and failed equipment. That translates into big dollars in maintenance, upgrades and replacements – thousands to millions of dollars out of the consumers’ pockets.

The faux-flushables industry has only helped to confuse the consumer by being unclear about the words used in the packaging of these products. “Flushable” could only mean that the product will travel from the toilet to the collection system or septic system, but has nothing to do with how it will be processed. “Disposable” does not mean flushable, but these products are often found side-by-side with toilet paper on the grocery store shelf. Seeing wipes next to toilet paper, the consumer gets the impression that they are on par – flushability-wise – with toilet paper.

Toilet paper and faux-flushables, also referred to as nonwovens, are made very differently – and often from different materials. Toilet paper is made to dissolve in water. Paper towels are made from a different type of paper that will hold together when wet – “wet-strength” – or they are made with binders that hold them together and do not allow them to break down. Baby wipes are made of plastic fibers – making it unlikely that they will ever break down. Using plastic in the manufacturing process makes them cheaper to make, hence a bigger profit. Tampons are especially problematic because the string that is built into them does a great job of drawing other materials to it to form a giant clump.

(Continued on next page)
To be fair, many of these products probably break down eventually, but they are usually in the system for a very short time before they reach the pump station where they end up clogging the system. If they reach the headworks the problem could be even worse. Most of these products are mostly intact as they travel through the system.

In spite of efforts by the International Nonwovens and Disposables Association (INDA), whose mission it is to “advance nonwovens worldwide”, the industry has by and large been unwilling to change how they do business – certainly not at a time when their market and their profits continue to grow. Voluntary use of the Do Not Flush logo has not been embraced by the industry or by retailers. With legislation aimed at better labeling of these products having failed in other states, we have no illusions about the viability of this type of legislation in our state.

With few options available for solving this problem, education is critical. Users of the public sewer system and private septic owners will pay attention to what they’re flushing if they know it affects their wallet. The connection must be made between what should not be flushed and how it will increase user fees or the price of a replacement septic system. Nothing resonates with consumers like saving $$$.

With this in mind, the NHDES Wastewater Engineering Bureau is developing a portable display to help educate the public about the problems and costs associated with flushing anything other than toilet paper. The display will make its debut at the May 6, 2014 NEIWPCC Regional Workshop in Chelmsford, MA – Don’t Let Wipes and FOG Clog Your Collection System! It will be available to municipal groups and others who want to get the word out to system users. Contact Ray Gordon at ray.gordon@des.nh.gov or (603) 271-3571 if you are interested in borrowing the display.

(Continued from page 2 - what’s flushable?)

The Town of Middlebury is the shire town for Addison County located in west central Vermont. The Middlebury Main Wastewater Pump Station, located near the town center, conveys wastewater through 12,000 LF of 16” and 18” ductile iron and PVC force main to the Wastewater Treatment Facility located on the north side of Town within an industrial park. In the past, during wet weather conditions, the pump station could not keep up with incoming flows and excess raw sewage overflowed to the Otter Creek (Combined Sewer Overflows or CSO events) because of reduced pumping capacities and insufficient wet well storage. The pumps were able to discharge 6.2 mgd during the first few years of operation (as designed), but pump rates decreased by more than 10% (.64 mgd) over time as the force main collected grease, grit and sediment.

In 2011, Middlebury completed the construction of a new grit removal system and an expanded wet well at the pump station. The expanded wet well allowed the Town more operating and storage capacity giving them the operational flexibility to now clean the force main and regain pumping capability. It was determined that “industry standard” solid poly pig techniques would not work due to changes in pipe size, no available insertion and retrieval stations, bends and wyes in the force main that would have restricted travel, combined with the difficulty of handling the volume of water that would back up into the pump station wet well if the poly pig got stuck. Ice pigging, a new innovative method of cleaning water lines and sewer lines, was evaluated and determined to be the best solution given these conditions, though it had never been attempted at such a scale in North America.

Ice pigging is a process in which an ice slurry is pumped into a pipe and forced down along the pipe segment in order to dislodge sediment and other unwanted deposits (leaving a clean pipe behind). Ice pigging combines the
One of the most important things wastewater professionals can do is to get the word out about the importance of what we do. Not just communication to the membership, but external communication. The Communications Committee first and foremost is responsible for promoting effective communication between the NHWPCA membership and the Board of Directors regarding Association business and pertinent wastewater issues. We accomplish this in two ways. The first is through our website at www.NHWPCA.org. The website continues to be updated and monitored to keep the most up to date information available. In order to keep up with current trends in website design, plans are underway in 2014 for the creation a new design. Our second method of internal communication is via our monthly electronic newsletter, The e-News. The e-News is sent via email and is provided as a benefit to dues paying members. Upcoming events are highlighted, as well as recent meeting minutes to keep membership informed of current events within the NHWPCA. Watch for your email from David Mercier.

The external communication side of this committee’s efforts is through the NHWPCA Clean Water Week Poster Contest. The contest is open to all NH students in grades 1-6. We invite art and/or science teachers to work with their students to create a themed poster about clean water. This year’s theme is Water’s Worth It. We receive over 100 posters and judging is very competitive. Winners are awarded at the NHWPCA Annual Trade Fair/Awards Ceremony. This year it will be held on April 10, 2014 at its new venue, the Manchester Executive Court in Manchester. Come see the vendor exhibits, mingle with old friends and new friends and meet the winners of the Poster Contest, our future industry leaders!

By preparing new releases regarding NHWPCA member achievements, awards and meetings, we are able to keep the public and special interest groups aware of the Association, our goals and our programs. And we may even gain a member by doing so! This year, on Saturday, April 19, 2014, the NHWPCA will have a table set up at the NH Department of Fish & Game, for their annual Wild NH Day. Bring your children and come see some of the Poster Contest Winners’ drawings!

The Communications Committee encourages involvement in and activity by all of the NHWPCA Committees. Please help us stay connected. We are always looking for new members. Any input, no matter how small, is valuable and appreciated. Contact Geri at ciardellig@nashuanh.gov or at 603-589-3560 to join.

With your assistance, the NHWPCA can continue to promote enthusiasm and cohesiveness.
By Patricia C. Passariello, PE – NHWPCA Safety Committee

It is with a heavy heart that we publish this latest issue of Safety Corner. Instead of our typical lighthearted NEAR MISS article, we bring you the sad news that we have lost one of our own to a fatal accident.

On Tuesday, February 4, 2014, Michael F. McDaniel Jr., a long-time Natick DPW employee was killed while working on the emergency repair of a water main. The incident took place around 7:15 p.m. when six members of the town DPW went to repair a water main break. The crew was working in the street, accompanied by a paid police detail. Although the accident is still under investigation, Middlesex District Attorney Marian Ryan’s office said that “a backhoe was accidentally pulled forward, and the stabilizer of the backhoe struck two employees who were working in a trench.” Despite the efforts of those present, Mike was pronounced at the site. The second worker, Scott M. Spurling, another DPW foreman, was rushed to the hospital where he was still recovering at the time of this article.

Mike had spent the last 26 years working for the Natick DPW, where he started as a laborer and rose through the ranks to earn the top union job of a general foreman in the DPW’s water and sewer division. He followed in the footsteps of his father, Michael McDaniel, who also worked for the Natick DPW. Only 48 years old, Mike leaves behind a wife, Kathleen, and nine-year-old daughter, Caroline, as well as many family and friends.

Hundreds attended Mike’s funeral, many wearing high-profile emergency outerwear and arriving in Public Works vehicles. The huge outpouring of support is a reminder that DPW workers, like police and firefighters, can also die in the line of duty. Mike died doing a task that so many of us do every day. His tragic death is a reminder to us all of how precious life is and that it’s not an absolute that we’ll make it home tonight.

Please join the NHWPCA Safety Committee in celebrating Mike’s life, supporting his family and giving thanks for his many years of loyal service to our profession.

"A hero is someone who gave his or her life to something bigger than oneself."

- Joseph Campbell

Memorial Day
May 26, 2014
The way it works with this newsletter is that we’re working and writing while it’s cold and snowy and you’ll be relaxing and reading this during nice springtime weather. Well, I’m going to optimistically hope that winter is over soon, but I have lived in New England my whole life so I’m resigned to the weather. I did a google image search of “lab + cold” and was surprised to see pictures of my dog! So, here’s a picture of Jazz on top of a snow bank. She’s actually only half-lab, the other half is beagle. And she technically belongs to my daughter, but I was pretty sure when I got a puppy for a fifteen year-old that I’d be taking care of a dog for many years. You think? I texted this picture to my daughter and she replied by telling me that it was such a nice day in Little Creek that she was headed to the beach.

With the current cold weather, the effluent temperature here in Somersworth has gotten down to eleven degrees. My pH meter, which is living in a nice twenty-two degree environment, doesn’t like the cold temperature of the effluent. It shows me that it doesn’t like the cold temperature of the effluent by trying and trying to analyze an effluent sample until it finally gives up and gives me a message that it took too long to stabilize. 150 seconds is my pH meter’s definition of too long.

I decided to go straight to the source, Standard Methods, to learn more about pH and temperature. I already knew that the two measurements were related and sure enough, I read that “At a given temperature the intensity of the acidic or basic character of a solution is indicated by pH or hydrogen ion activity.” I also knew that I had to pay attention to the temperature when calibrating my pH meter because there’s a handy chart that shows how the pH of each buffer varies with temperature. But, I hadn’t taken the next step to think about how the neutral pH of 7.0 is only that measurement at 25 degrees. The neutral point at 0 degrees is 7.5 and the neutral point at 60 degrees is 6.5.

This was fascinating information, but I wasn’t sure if it was the complete reason why my pH meter was acting up in my cold effluent. Sure enough, I read further and discovered that pH measurements are affected by temperature in TWO ways. The equilibrium changes caused by temperature are a CHEMICAL effect. There is also a MECHANICAL effect in the electrode itself at different temperatures. This mechanical effect causes the Nernstian slope to change with temperature and what we see is an electrode that takes a long time to reach thermal equilibrium.

Okay, that’s definitely my problem, but I needed a solution. And I needed a solution that would allow me to get a result within ten minutes because of my holding time. Yeah, I know, the holding time is fifteen minutes. But it’s winter and we take a few minutes of that holding time to carefully and slowly walk from the outfall to the lab to avoid slipping and falling.

I headed to the section of the Standard Method for sample analysis. I read that I need to establish equilibrium between my electrode and my sample by stirring gently. Of course I’m already doing that. But then I read that for a buffered sample or one of high ionic strength, I should dip into the sample for one minute, then rinse, blot and analyze with a fresh portion of sample. A dilute, poorly buffered sample may need to go through this routine three or four times. Hmmm.

I had noticed that after the 150 second “too long to stabilize” time I could get a stable reading in less than a minute after pressing “next sample”. I had also noticed that when I had already analyzed other cold samples I got a quick result on my effluent. I had even noticed that when I lost the heat in the lab and the buffers were down to single-digit temperatures that the effluent sample stabilized pretty quickly. But, that’s a whole other cold story. My solution was that I could follow Standard Methods and after a brief time to allow equilibrium, I could just throw on a fresh sample portion and quickly have a stable reading. No problem getting this all accomplished within holding time!
The Winter 2012 Collector featured an article on the NH DES fact sheet pertaining to A-C pipe. For a detailed look, we ask you to review the fact sheet content found at the DES web site. Please go to http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-6-24.pdf. In short, the fact sheet briefly reviews the required license, certifications and/or training and levels of worker qualifications needed to work on A-C pipe. It does not address the work skills or techniques necessary to perform that work. There is a recent development to share on the training available for employees becoming classified as Maintenance Workers.

Originally, the Maintenance Worker classification required attending a 16-hour course specific to the job task to perform asbestos operations, maintenance and repair of small-scale, short duration activities.

Now, Cardno ATC has developed an 8-hour training class that includes; asbestos recognition and types, uses and applications, proper techniques for cutting and removing asbestos cement pipe, demonstration of cutting equipment and waste handling procedures, proper use of respirators/PPE, proper work practice procedures, applicable state and federal regulations and the health effects of asbestos exposure.

(continued on page 15)
2013 NHWPCA Winter Meeting
Held at the Nashua, NH WWTF
Photos by Charles Tyler
Lebanon, NH Wastewater Treatment Facility Reduces Energy Consumption While Improving Discharge Water Quality
By: Valerie N. Giguere, P.E. Underwood Engineers, Inc.

The City of Lebanon, NH owns and operates a 3.18 million gallon per day (mgd) wastewater treatment facility. The existing facility was constructed in the mid 1970’s and began operation in 1976. The majority of the existing equipment is original and is nearing the end of its useful life. The City selected Underwood Engineers to provide engineering services for the Wastewater Treatment Facility Improvements Project. The $14M wastewater treatment facility upgrade replaces the original equipment that is 37 years old, improves energy efficiency and provides a higher quality of treated wastewater prior to discharge into the Connecticut River.

In 2012, the City adopted an energy plan to maximize energy savings for residents and businesses and to reduce/minimize the impacts of greenhouse gas emissions. An energy audit of the existing wastewater treatment facility was completed. As part of the energy audit, an evaluation of the energy efficiency of the preliminary design for the improvements was performed and alternative energy sources were evaluated.

Based on the energy saving designs at the wastewater treatment facility, the City was awarded $2M in available “Green” State Revolving Loan Fund (SRF) monies including 20% loan forgiveness (equivalent to a 20% grant) towards the upgrade of the WWTF.

The entire upgrade focused on energy efficient equipment and motors and the use of variable frequency drives. The laboratory/administration building was designed to achieve greater than 20% reduction in energy consumption over the American Society for Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) baseline building standards by utilizing an energy efficient mechanical heating system, a solar hot water system, a high performance building envelope and improved lighting power densities. The existing high horsepower aerators in the biological tanks were replaced with high efficiency turbo blowers and a fine bubble aeration system. The City’s high horsepower centrifuges for dewatering were replaced with very low horsepower inclined screw presses.

Effluent quality was also improved by providing a nitrogen removal biological process. Nitrate produced in the nitrification stage are recycled and consumed in the denitrification stage, reducing oxygen requirements and lowering the total nitrogen discharged to the Connecticut River. The increase in treatment will be accomplished while reducing energy consumption.

The wastewater treatment facility upgrade is ongoing and includes a new septage receiving facility, headworks improvements, grit removal improvements, primary clarifier improvements, biological nutrient removal, secondary clarifier improvements, disinfection improvements, odor control, sludge dewatering, new laboratory/administration building, and electrical and SCADA upgrades and is scheduled to be completed in the spring of 2015.

Valerie N. Giguere, P.E. Underwood Engineers, Inc. 25 Vaughan Mall, Portsmouth, NH 03801 603-436-6192
vgiguere@underwoodengineers.com
As the President of the NHWPCA, it is my responsibility to ensure the idealism, spirit and body of this organization continues. It is my duty to see that the hard work and dedication by our member volunteers not be in vain. I truly believe the time has come to change our association name to better align us with NEWEA and WEF. Changing our name to the New Hampshire Water Environment Association (NHWEA) will lead us into the future and sustain us for generations to come. I realize that some members may have reservations about the name change. Some members feel that we may lose our identity and the reason why we have chosen NHWPCA. I am here to tell you that no one can take away who we are, what we have done or even change what we are to become. As long as we are in this together, remembering why we do what we do, we can only move forward. This name change will align us with industry professionals and allow a greater means for us to get the word out about who we are and what we do. It is my goal to hold a vote at this year’s winter meeting. In the months to come, information about how we can make this leap from the NHWPCA to the NHWEA will be sent to the membership. I would appreciate your opinions or ideas on this subject. I want to thank everyone for taking the time to make our organization better for us and our future members.

New Hampshire does not currently require general certification of industrial wastewater treatment operators as they do for municipal operators. A need for such a program was shown to exist and has generated interest from the private and public sectors. At the request of POTW industrial pretreatment personnel and industrial operators a committee was formed a couple of years ago to look into developing a certification program and provide training for industrial wastewater treatment operators. Certification would apply to certain indirect dischargers (pretreatment) and direct dischargers to surface or groundwater. The certification committee is made up of POTW, industrial and NHDES personnel with representation from NHWPCA and NHBIA. The next step is to draft rules with input from and review by interested individuals and groups. NHWPCA is considering forming an Industrial Committee to deal with industrial wastes and perhaps attract some industry members. We would welcome your input and participation.

The purpose of the Environmental Education Model Grants Program is to provide money to support environmental education projects that increase the public’s awareness about environmental issues and provide them with the skills to take responsible actions to protect the environment. Since 1992, EPA has received between $2 and $3 million in grant funding per year and has awarded more than 3,500 grants.

Under this program EPA seeks grant proposals from eligible applicants to support environmental education projects that promote environmental stewardship and help develop knowledgeable and responsible students, teachers and citizens. This grant program provides financial support for projects that design, demonstrate and/or disseminate environmental education practices, methods or techniques, and that will serve as models that can be replicated in a variety of settings.
The Spring 2014 wastewater operator training program classes is now posted to the NH DES web site. Go to this link to find the Application for Certification exam, the License Renewal form and the June 11, 2014 exam announcement:
The Spring 2014 Training Announcement and Course Descriptions and Course Enrollment Forms can be found at:
I am looking forward to seeing you all soon! Announcements for additional training opportunities will be sent separately.
We all appreciate your continued cooperation by sharing your e-mail addresses- it truly helps to cut down on the mailing costs!
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For more information contact Kim Wills at 860-858-3153
Kimberly.wills@gza.com or visit our website at www.nebio.com.
Congratulations to the Recently Certified Wastewater Operators!

December 2013 Exam results.

**Grade 4:** Ken Conaty; Matt Cusato; Alan Livingston; Steve Mancini; and Steve Pecoraro

**Grade 3:** David Bailey; Gerry Curran; Steve Dalton; Nils Larson; Nathaniel Maltais; and Willis Wotton

**Grade 2:** Robert Bishop; Ed Bugbee; Sam Currier; Seth Darling; John Demers; Michel Dumont; David Enos; Jason Hayden; Elizabeth Luopa; Stephanie Nistico; Alexander Ramsey; Scott Santacroce; Brandon Turcotte; Steve Wardner

**Grade 1:** Christopher Cooper; Don Gowans; Tim Pine; Rob Rosselli; Hillary Welch; and Kevin Wotton

(continued from page 7 - asbestos pipe)

In February, the 8-hour class was approved by NH DES, Air Resources Division to comply with Env-A 1810.02 [c][1], as a waiver request to the required 16 hours of training. It meets the requirement for OSHA Class II Asbestos Cement Pipe Work Safety Training as well as asbestos cement piping safety training for “competent person”. Attendees must successfully pass a multiple choice exam to receive accreditation. As with any of the asbestos training classes, annual refresher courses are required to maintain accreditation.

Currently this is the only 8-hour course with focus on A-C pipe available and approved in NH. Contact information for Asbestos Training Providers located in NH: Cardno ATC [www.atcassociates.com]; RPF Environmental, Inc. [www.airpf.com]; and Scott Lawson Group, LTD 603-228-3610. For additional Providers in other New England states contact the NH DES Asbestos Licensing and Certification, Asbestos Control Program, Joy EH Perkins, Industrial Hygienist, at 603-271-4609.

Clean. Safe. Sustainable

Utility Service Co., Inc. has proudly served the potable and industrial water industries for over 50 years.

Today’s Utility Service Group provides comprehensive condition assessments, rehabilitation services and sustainable asset management solutions throughout the whole water cycle.

ICE PIGGING combines the operational advantages of flushing with the cleaning impact of soft pigging. The ice pig is a semi-solid that is pumped like a liquid and flows through changes in diameter, bends and fittings without blockage. Ice Pigging has a minimum impact on operations. The ice pig is simply pumped into and recovered from a hydrant, blow off, clean out or other insertion devise at each end of the pipe section without excavation. Ice Pigging is NSF approved and can be done on both water lines and sewer forcemains.

“Our Wastewater Treatment plant was built in 2000. Along with that, an 8,900 foot 18 inch forcemain was installed to deliver the wastewater from the main pumping station to the new treatment plant. Over a period of time the flow from the pumping station decreased and a number of potential causes were evaluated. The end result was then assumed to be materials obstructing the line which caused a decrease in flow. After 9 days of Ice Pigging our flows increased from 5.62 mgd to 6.26 mgd or, an increase of 445 gallons per minute, or an increase of 11.38%. At the end of the day we were very satisfied with the improvement that was made and also found a new tool that we were not aware of (Ice Pigging).”

- Robert Wells, Town of Middlebury Wastewater Superintendent

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Pittsfield WWTP Honored by USEPA Award

Congratulations to Pittsfield’s Wastewater Treatment Plant that was selected as a 2013 Regional EPA Wastewater Treatment Plant Excellence Award recipient. The plant was nominated by the Operations Section of the Wastewater Engineering Bureau of the NHDES to acknowledge the outstanding operations and maintenance work that has been performed over the years by Ronald Vien, Superintendent of the WWTP, and his hard working staff. The award was presented on January 29th at the annual NEWEA Awards Luncheon.

Plymouth Village WWTP Honored by USEPA Award

Congratulations to Plymouth Village Water and Sewer District’s Wastewater Treatment Plant that was selected as a 2013 Regional EPA Wastewater Treatment Plant Operations and Maintenance Excellence Award recipient. The plant was nominated by the Operations Section of the Wastewater Engineering Bureau of the NHDES to acknowledge the outstanding operations and maintenance work that has been performed over the years by Kirk Young, Superintendent of the WWTP, and his hard working staff. The award was presented on January 29th at the annual NEWEA Awards Luncheon.

(Continued from page 3 - Ice Pigging)

operational advantages of flushing with the cleaning impact of soft pigging. The ice pig easily flows through changes in diameter, bends, fittings, and valves without blockage and has a minimum impact on operations. The ice pig is simply pumped into the system and is wasted at the WWTF where it melts with the other influent flow, without the need for excavation. If the ice pig gets stuck in a pipe segment, it simply melts.

In the fall of 2013, the Town contracted with Utility Service Group to perform ice pigging on the force main in order to regain the lost pumping capacity and eliminate CSOs (except during the most extreme wet weather events), improve pump efficiency, and save energy.

Calculations were made to determine the number of pipe segments to be “pigged” and locations of insertion points based on pipe diameter, pipe length and the temperature of the wastewater, to make sure the ice pig slurry would hold together as it traversed the pipe segment. The 12,000 LF force main was divided into nine segments with nine insertion points. Of the nine insertion points, seven were located in existing air-release or clean-out manholes saving time and money. The force main was exposed and taps were installed for the other two insertion points. The project was completed on schedule over a three-week period. It was also completed on budget (a total cost of $108,000) with no field changes or change orders!

One problem occurred during the first pigging event, but was quickly overcome. The temper-
The nature of the wastewater in the morning was extremely warm (84°F) due to night-time cleaning of equipment by industrial users (cheese and beverage producers) that discharged to the sewer system. It was determined that the wastewater temperatures cooled to 72°F in the afternoon, so pigging operations were changed to the afternoon rather than the morning to overcome the high temperatures.

The ice pigging successfully cleaned the force main and the pump station capacity was returned to 6.26 mgd, proven by follow-up draw-down tests. Through ice pigging, accumulated deposits were removed, decreasing friction loss and increasing volume in the force main resulting in an increase of more than .64 mgd of pumping capacity! Pump efficiency was increased, lowering pump run times and saving energy and wear. The success of ice pigging could be observed each day when sand, grit, organics and grease discharged at the WWTF. The increase in pump capacity should eliminate sewer overflows except in the most extreme weather conditions, protecting public health and the environment.

This project was the first use of ice pigging techniques to clean force mains larger than 8” diameter in North America. It was also the longest continuous run of sewer force main (12,000 LF) successfully cleaned of any diameter! The project demonstrates that large diameter force mains (both ductile iron and PVC) can be cost-effectively and successfully cleaned by ice pigging, avoiding other more expensive and invasive pipe cleaning and repair methods.

After determining flow velocities for different pump speeds, we were also able to recommend a unique programming change in the pump cycles and speeds to increase the velocity to achieve a “scour velocity” most of the time and also allow continuous flow to the Wastewater Treatment Facility which was the Town’s preferred mode of operation. This change will greatly reduce build-up of sediment in the future. Middlebury should be able to operate the pump station at full capacity, saving energy and eliminating sewer overflows for many years to come.

Live onsite training was conducted with operators and engineers from all over New England and upstate New York demonstrating how ice pigging is a cost-effective and efficient alternative for water and sewer pipeline cleaning.

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