

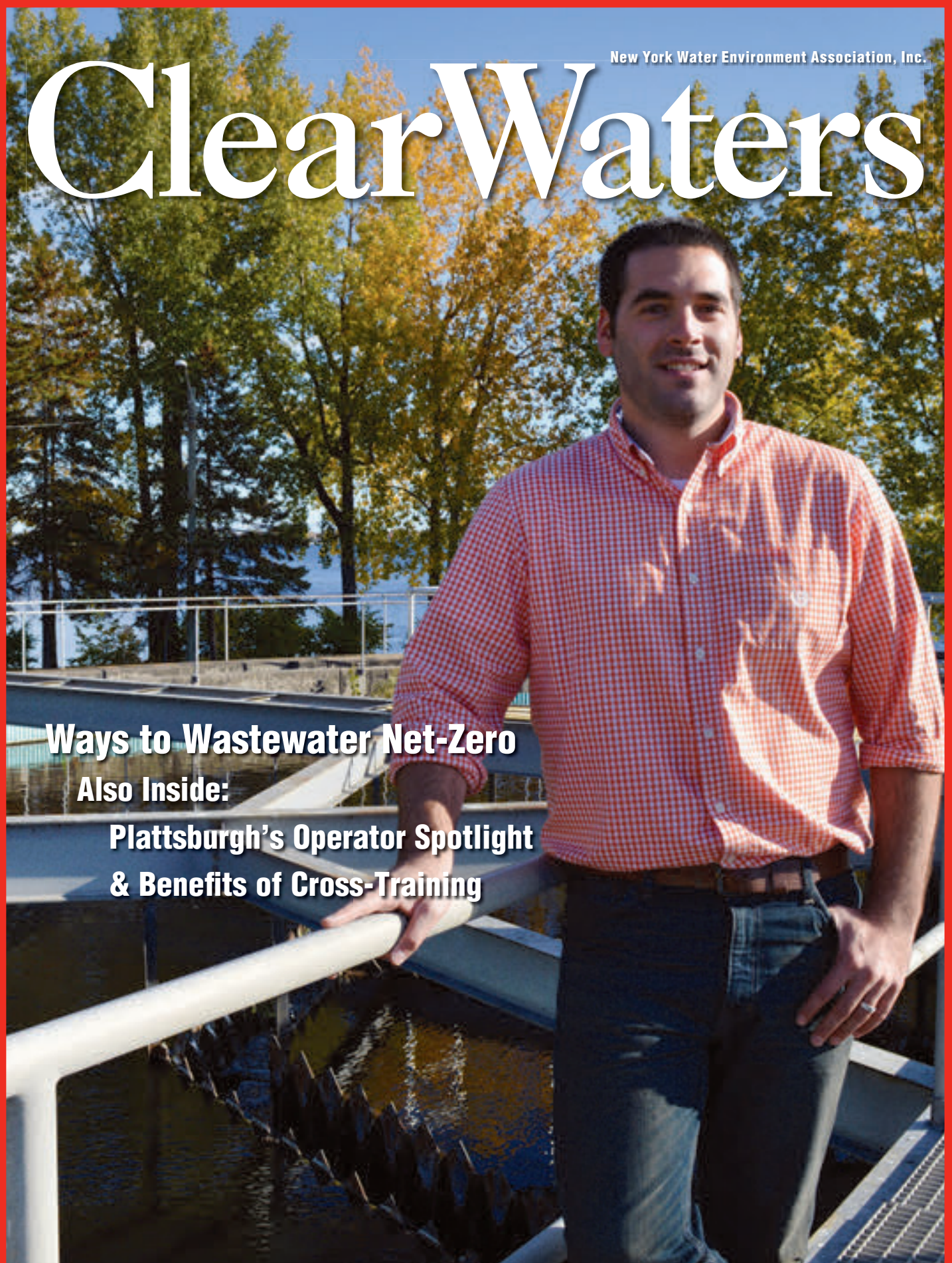
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Also Inside:

**Plattsburgh's Operator Spotlight
& Benefits of Cross-Training**



Plattsburgh Plant's Major Staff Transition is Team Success

by Jonathan Ruff

In the not too distant past, the City of Plattsburgh Wastewater Treatment Plant had a staff of 24 – nine certified operators, five maintenance workers, five laboratory technicians, plus some management and support staff running a 24/7 operation. Only three of those staff members now remain: the chief plant operator, water resource chemist, and a lab technician who transferred into operations. Needless to say, an 80 percent staff turnover in a relatively short amount of time had the potential to be catastrophic.

During the turnover transition, new technology was implemented and work plans and scheduling were made more efficient, which allowed the number of employees to be reduced by attrition from 24 to 12 (50 percent) without compromising safety or performance. Operations and maintenance of the facility are now accomplished by a team of water quality professionals comprised of just six certified operators, one maintenance worker, a CPO (certified plant operator), ACPO (assistant certified plant operator), water resources chemist, storekeeper, and typist – all working one staggered 0800–1600 shift, seven days per week, 356 days per year.

Certified operators are now performing a much larger diversity of tasks than in the past. Impressively, despite the staff reductions, productivity and performance have increased significantly. These changes that occurred could not have happened without the collaboration of all plant employees in a remarkable team effort.



Plattsburgh's Environmental Manager Jon Ruff demonstrates on the whiteboard how operators calculate different wastewater equations, such as for SVI (sludge volume index).

Plant History and Staff Strategy

The City of Plattsburgh has a combined collection system. The wastewater treatment plant is permitted at 16 mgd dry weather flow and 50 mgd wet weather flow. To accommodate loads from the Plattsburgh Air Force Base and several papermills, the plant was rated for 48,000 lb/day BOD (biochemical oxygen demand) and 36,000 lb/day. The air force base and a papermill have since closed and the remaining mills have scaled back production, resulting in a present average daily flow of only about 6 mgd and just fractions of the historic BOD and TS (total solids) loads. The rain has not

decreased, so the wet weather instantaneous peaks still reach the 50 mgd capacity. The size of the facility has not changed, so there is the same, if not more, maintenance work.

The transition was a good model of succession planning, change management, staff development, cross training, and continuous improvement. But most of all, it was a comprehensive employee collaboration, without which, success would not have been achieved.

The reduction in staff and coverage was only possible by consolidating work, cross training staff and implementing technology. The result is an operations group composed of individuals with diverse backgrounds and skills sets, each of whom traveled different paths to become certified operators. They also perform different roles depending on plant needs and their individual knowledge, skills and abilities (KSAs), as well as preferences.

The operations team members are listed below, in order of their years of service:

David Powell is 4A certified and the chief plant operator at the Plattsburgh WWTP with over 35 years of experience. He holds a BS degree in geology from Syracuse University. He also is a NYWEA Capital Chapter member who serves on the Pretreatment/Industrial Wastewater Committee.

“With a large turnover of staff due to retirements, this presented an opportunity to train and develop the staff and instill in them the importance of doing a good job, keeping safe, and promoting our work. When I retire, my goal is to be sure that the operation and direction of the plant will not falter and my successors will be knowledgeable and dedicated. I advise operators or those thinking about entering the field to keep an open mind about it. There are many challenges and new technologies that make it more demanding, while some basics will never change. So be a student of your plant to understand how it operates, but also be open to change.”

–Chief Plant Operator Dave Powell



Vash Eagelson (left) shows Eric Bertrand how to operate the PLC, aka SCADA system, to include clearing alarms and viewing incoming data.

Photo by Kristofer Gushlan

Steve LaFaive has 28 years of experience as a lab technician, first starting in operations, for a total of 33 years at the plant. He holds a BA degree, and was trained and promoted into a 3A certified operator seven years ago. A true hybrid, he works about 50/50 in operations and the lab.

Rich Montroy is predominantly a lead operator who had worked in private sector management and manufacturing for 20 years before entering the plant in maintenance 12 years ago. Promoted to a 3A certified operator three years ago, he also initiates a variety of maintenance and special projects. Rich helps lead the development of new trainees.

Vash Eagelson, who primarily serves as a lead operator, had 15 years in operations and maintenance for a contract operator at a sludge composting plant before he came to work at this plant 10 years ago as an operator trainee. He brought with him a variety of skills and work experiences that quickly translated into becoming a 3A certified operator. Vash also leads the development of trainees and some special projects.

Adam Lucas came to the plant five years ago after 10 years in the private sector doing heavy rigging and millwrighting. He holds an AAS degree, and became a 2A certified operator who now leads all maintenance activities for the plant while continuing in operations as needed.

Scott Pierce's varied career includes 30 years in private sector grounds and maintenance, some adjunct college instruction, and then research science and quality control in a pharmaceutical company. Starting as an operator trainee four years ago, he is a 3A certified operator now working primarily in the lab, and helping in operations as needed. He holds a master's degree in biology-ecology from SUNY Plattsburgh, and also is a NYWEA member.

Kris Gushlaw joined the plant about four years ago with a BS in biology. He now holds 4A certification and is the assistant chief plant operator (*read more about Kris as our Spotlight Operator on page 57*).

Eric Bertrand worked in the private sector, including construction, for over five years and joined as a trainee two years ago. Eric has a BA in geography and was named the "Most Outstanding Graduating Senior." He is a 2A certified operator, working mostly in operations.



Photo by Kristofer Gushlaw

Scott Pierce, 3A operator/lab technician, runs a suspended solids test on the mixed liquor.

Cross Training

Operator cross training has been the foundation of the transition's success. These are the general cross training program components:

- Consolidation
- Balanced Recruitment
- Required Active KSA Development
- Voluntary KSA Development

Consolidation: Consolidation is a staffing philosophy of developing as many certified operators as possible and assigning them lab duties, maintenance, and other work as needed. As certified operators departed, existing lab technicians and maintenance workers were provided the opportunity and encouraged to move into operations. New workers are hired as operator trainees unless there is a specific set of KSAs that need to be fast tracked. They are then encouraged to develop operator proficiency and obtain certification when time permits.

Balanced Recruitment: Balanced recruitment is a hiring practice to obtain varied backgrounds. During a recent round of operator trainee additions, hires included a 55-year-old research scientist from a pharmaceutical company that was laying off people, a 32-year-old millwright with an environmental AAS degree, and an underemployed 27-year-old with a BS in science who also worked for Best Buy's Geek Squad (scored some IT help by accident!).

Required Active KSA Development: This is a practice that develops reliability, redundancy, resiliency, and robustness as an organizational priority. A gap analysis of knowledge, skills and abilities (KSAs) in employees is routinely performed and weaknesses identified, especially for mission critical tasks (see process listed below). Mandatory assignments are then made to strengthen these areas.

- Management rates each employee's KSAs in different areas.
- Each employee is asked to rate themselves.
- Gaps and weaknesses are identified.
- KSA assignments are made.

Specific examples of required active KSA development:

- The *water resource chemist* is the only person who historically performed a number of mission critical and inter-related tasks. One operator was assigned also to learn all of these tasks to provide redundancy.
- The *chief plant operator* is the only person who administers a number of discrete programs and tasks. There is an initiative underway to spread backup responsibility for these individual responsibilities to a variety of operators.
- Through attrition and transfer, the Plattsburgh plant no longer regularly hires *laboratory technicians*. All operators are required to be proficient in most process control and compliance sampling and testing. Operators who prefer the lab are assigned there as often as possible. Others are assigned into the lab periodically as a "tour of duty" to maintain their proficiency so they are ready and able to help, if needed.
- All operators are encouraged to cycle into a *lead operator* role which is like a shift supervisor. This develops their supervision, awareness, decision making, and emotional skills.

Voluntary KSA Development: All operators are provided the opportunity to volunteer for focused KSA development in areas of their choice. These voluntary "sectors" are:

- Super Operations
- Programs and Administration
- Maintenance and Major Projects

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- Lab and Data Management

Specific voluntary KSA development cases:

- A certified operator who has an extensive background as a millwright worked with a retiring maintenance supervisor to learn his duties. He now leads the maintenance efforts.
- Several operators volunteered to engage with engineering during planning and design of capital improvement projects and also learned to help manage construction projects by performing onsite inspections and assisting with startup.
- One operator worked extensively in the lab managing data and developing compliance reports.
- Two operators requested formal training in SCADA management and PLC programming, which is now in progress.

Organizational Culture Development

There has also been a cultural shift by the group. Employees have participated in “whole person” training that includes personal and professional development such as:

- The Art of Working with Difficult People
- Becoming a Better Supervisor
- Best Year Yet
- The Compound Effect

Staff is focused on getting better at what they do and being proud of it. Mistakes are now shared as learning opportunities. Conflict is seen as an opportunity to communicate better. Employees are recognizing each other for demonstrating initiative and going above and beyond. Employees are showing they care about their work.

Last year, a consulting engineer who was onsite inspecting a recent installation commented, “I don’t know what you guys are

doing, but keep it up. I’ve never seen a group of municipal employees who are so actively engaged and caring about what they do.”

Best of all, one of the veteran operators here who happens to be the resident cynic and critic, recently took me aside and observed: “We have a problem. I’ve noticed too many happy people walking around here smiling and whistling. We need to do something about that.”

He then smiled and walked away, whistling a happy tune.

Now those are the kinds of problems to have!

The City of Plattsburgh operations group is the essence of the word “team.” The term family also applies because there are sometimes arguments and gnashing of teeth. There were certainly growing pains during the transition. But in the end, this group is made up of consummate professionals who consistently pull together for the common good and their relationships rise above the conflict. Plattsburgh is blessed and honored to have them.

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This edition’s Operator Spotlight (page 54) was written by Lois Hickey, editor of Clear Waters magazine, with assistance from Kristofer Gushlaw. Kris also provided the photography for Jon Ruff’s plant staff article. Photos of Kris in his spotlight and on the cover were by Sandra Geddes, the City of Plattsburgh Promotions and Special Events Coordinator.

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