Staff Training Demands, Succession Planning and Certification

In 2005, workers over 55 represented 16 percent of the workforce; by 2020, that will rise to almost 25 percent. Although these numbers are staggering, they come as no surprise based on the mass exodus public entities have been experiencing.

NYWEA

Environmental Finance Center
Syracuse University

Chapter 8:
Staff Training Demands, Succession Planning and Certification

Staff Training Demands

Over the next two decades, 78 million baby boomers will turn 65, the traditional retirement age. In 2005, workers over 55 represented 16 percent of the workforce; by 2020, that will rise to almost 25 percent. Although these numbers are staggering, they come as no surprise based on the mass exodus the public entities have been experiencing. This mass exodus will take with it years of rich technical know-how, leadership skills and detailed onsite experience that will occur without a formalized succession planning program in place—leaving a void in organizations that is all but impossible to fill!

There is also some irony in this for, as Mike Rowe, the host of Discovery Channel's "Dirty Jobs," recently testified before Congress on the US skilled labor shortage: "People can't find jobs and yet good jobs can't find qualified people. We're surprised that high unemployment can exist at the same time as a skilled labor shortage." This seems to characterize the present predicament experienced by wastewater utilities.

"People can't find jobs and yet good jobs can't find qualified people. We're surprised that high unemployment can exist at the same time as a skilled labor shortage."

For a number of reasons, including demographics and early retirement incentives, many Publicly Owned Treatment Works (POTWs) have been experiencing a large departure of veteran employees. The loss of these employees has created voids in leadership, skills and technical experience. This pressing problem has brought to light the following issues that POTWs are facing:

- Institutional knowledge loss
- Weak or non-existent leadership development programs
- Heavy reliance on on-the-job training (OJT) rather than formal training and development
- Employee retention

While a number of issues and barriers to adequate and timely succession planning exist, these concepts should be considered within the context of the unique workplace needs of each utility as this context may affect each workplace differently. For example, some utilities might like to hire or promote from within, while others might not. Some facilities might have separate positions for operators, maintenance and lab staff, while others might cross train as part of "the way we do businesses." Some might have proactively dealt with a specific issue such as diversity, while others are just approaching the same issue as they exist within their own community and political environments. Each utility, like the community it serves, is unique with different needs. However, every utility has some things in common. The first is that employees leave—they're always leaving. Presently, they happen to be leaving at a faster pace than ever before in the industry's history.

Operators are our frontline defenders against water pollution.

As an industry, these utilities must have:

- **A detailed succession plan**—to know not only when key employees are leaving, but also for a solid understanding of what skills and critical knowledge each employee holds in order to properly find and train new replacements with the necessary qualifications and competencies.
- **A suitable replacement candidate pool available**— both entering the organization and moving up into leadership roles.
- **Documentation/transfer of veteran employee knowledge base**—When veteran employees leave, they take with them a unique understanding of effective leadership and incredible amounts of institutional knowledge often regarding undocumented asset information. Employers need to document and transfer this knowledge in a usable form so that it is captured for future users.

Utilities, therefore, need to develop a succession strategy comprised of the following components:

1. Succession Planning
2. Recruitment, Retention, Candidate Pool Development
3. Leadership Development
4. Knowledge Capture and Sharing

Succession Planning

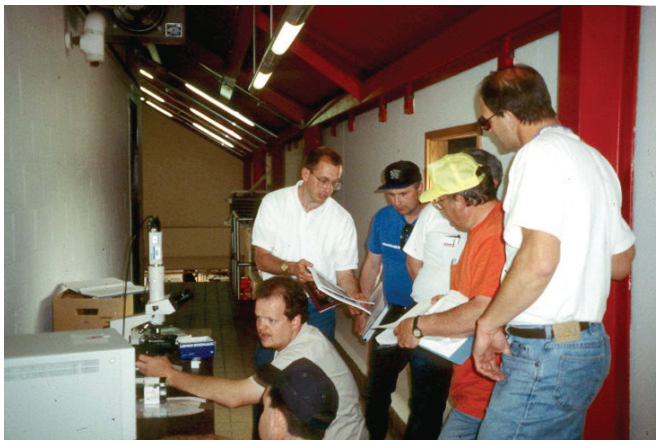
Every utility needs an adequate succession plan so it knows when it may to need to replace particular employees; what type of employee it will need to replace; as well as the core competencies those individuals need to be successful in each role. The first steps to create such a plan are:

- A comprehensive database of employees who are leaving in the next two, five, seven and 10 years, to begin to identify the gaps in the organization and future needed key resources.
- Succession planning training for key leaders and managers to broaden the organization's understanding of this complex process.
- An implementation plan for identifying and capturing critical skills and knowledge of these employees to assure the organization keeps and leverages this information into the recruitment and training processes.

NYWEA has published a white paper on succession planning that can be found on the website: www.nywea.org.

Recruitment, Retention and Candidate Pool Development

Ideally, utilities would have a continuous sufficient supply of properly educated and well trained



Ongoing training is required for certification renewal.

candidates from which to select. Healthy and dynamic organizations seek to have a balance of candidates with aligned educational backgrounds, institutional knowledge, skill sets and leadership abilities in their resource network so, the bigger and broader the pool is, the more likely it is to find better candidates. However, many utilities are finding it difficult, if not impossible, to find suitable replacement candidates. They find themselves in the position of needing to meet their own needs by actually developing their own replacement pool.

There are initiatives in progress to assist with such issues, including:

- Generating more occupational interest by altering the image of utility operations and "rebranding" it as a "green" occupation.
- Expanding the potential candidate pool by reaching out to a broader demographic base that might not have been aware of these employment opportunities.
- "Growing Our Own" candidate pool by developing interest and recruiting potential future employees by partnering with educational institutions including high schools, BOCES, trade schools, the military and colleges.

After recruiting the right person and training him or her, keeping that person can be a challenge. Having invested a great deal of resources in this employee, it is important to continue the focus on employee

development. While salary is the low hanging fruit of retention efforts, utilities need to identify other ways of maintaining and supporting their workforce, including:

- Establishing clear and well displayed career paths
- Creating policies that reward employees who are certified or actively pursuing their certifications —policies giving preference for transfer or training opportunities show employees that their efforts are appreciated
- Paying for memberships to professional organizations
- Providing funding for licensing and recertification
- Creating recognition programs so employees know they are valued—this can positively impact an organization's retention rate

Leadership Development

Many retiring employees are, by choice or expertise, often in some type of leadership role. Replacement leaders need to be developed, both from a technical and managerial aspect of the business. It is, therefore, important that utilities provide leadership development training.

Formalized Leadership Development Programs (LDPs) should be developed and tailored to the various levels of leadership. This tiered approach to the LDP will ensure each level of management and leadership has the appropriate understanding of the competencies related to the specific position's roles and responsibilities, yet focusing on future role development and evolution caused by technology. Formal programs, such as the LDP, broaden the learning scope for the employee, give a well-rounded perspective on being a successful leader and, in fact, validate leadership as a skill. This can also help operations staff feel empowered by their work to protect the environment and public health.

Confined space training is necessary for linear asset maintenance.

Coaching and mentoring also play a large role in the LDP process by pairing the program participants with the valuable knowledge of the incumbent and initiating a formalized knowledge sharing process. By anticipating the need for replacements and implementing a formal succession planning process, there will be a seamless transition of key positions when they are vacated.

Institutional Knowledge

Most retiring staff, whether they are in formal leadership roles or not, possess considerable amounts of general knowledge of utility history, where things are and how things work both internally and with external vendors and partners. This information also needs to be transferred to new or remaining staff through formal institutional knowledge transfer programs. Utilities that follow these recommendations will be well positioned to benefit before critical talent and knowledge is forever lost.

Thus, through these simple steps, utilities can begin the process of being properly staffed and trained to meet the changing demands of the future in a consistent and thoughtful manner and to ensure they remain ready and able to protect the public health and enhance the water environment with the best talent and leadership available.

Operator Certifications

The Department of Environmental Conservation (NYSDEC) transitioned the administration of the Wastewater Operator Certification program to the New York Water Environment Association (NYWEA) on September 1, 2011. Any individual, municipality, organization or operator having questions or needing information related to the wastewater certification program can contact the Wastewater Certification Administrator at the NYWEA Executive Office in Syracuse, NY. All forms, requirements and the Wastewater Operator Certification Manual are available on the NYWEA website at: www.nywea.org/opcert.

Certification Types and Grades

Wastewater certification is comprised of three types: New Certification, Upgrade Certification and Renewal Certification. All applications are required to go through the NYWEA office in Syracuse, for new, upgrade and

renewal certifications.

Both new certificates and certificate upgrades require three key requirements for each certification level:

1. Appropriate coursework
2. Enough hands-on operations experience
3. Correct facility point score

The following forms/materials are required for new and upgrade certificates:

- Application Form
- Statement of Experience Form
- Copies of Coursework (completed)
- Processing Fee

The certification grades are divided into four levels: 1, 2, 3 and 4, with 1 being the lowest and 4 the highest. All activated sludge wastewater treatment plant certificates are further designated with the letter "A" (1A, 2A, 3A, 4A). The following is a generalized listing of requirements for each certification level. More detail is available in the Wastewater Operator Certification Manual.

Grade 1/1A: Basic Operations, and Activated Sludge, if required, 6 months of hands-on experience and Point Score of 30 or less.

Grade 2/2A: Basic Operations, Basic Laboratory, and Activated Sludge, if required, one (1) year of hands-on experience and Point Score of 31-55.

Grade 3/3A: Basic Operations, Basic Laboratory, Supervision and Technical Operations, and Activated Sludge, if required, 4.5 years of hands-on experience (unless applicant has an AAS or approved BS or BA) and Point Score of 56-75.

Grade 4/4A: Basic Operations, Basic Laboratory, Supervision and Technical Operations, Management course, and Activated Sludge, if required, eight (8) years of hands-on experience (unless applicant has an AAS or approved BS or BA) and Point Score of 76-higher.

Fees: There is a $150 fee due with the operator's initial application to become certified. This fee is in addition to the $85 charge that is paid to Applied Measurement Professionals (AMP) for the Association of Boards of Certification (ABC) examination. If the operator fails the exam, he or she is only responsible for the $85 exam fee to AMP. If an operator decides to apply for a higher certificate grade, the $150 fee will be charged again.

ABC Exam: Once NYWEA approves the application, applicants are sent information to schedule their ABC exams with AMP for their certification levels. All applicants are required to take and pass the ABC exam with a minimum score of 70 to receive their certificates. If an applicant does not pass the specified exam, he or she can retake the exam in 90 days by coordinating the exam date and time with AMP. Approximately six to eight weeks after testing, NYWEA will send all new qualified operators a wall document and blue card for their new certifications. The blue card is the actual certificate which shows the operator's name, grade, certificate number and certificate expiration date. All certificates are valid for a period of five (5) years. During this five year period, operators need to complete a specified number of NYSDEC-approved renewal contact hours to renew their certificates.

Renewals: Renewal applications can be submitted anytime within the five year period after the successful examination. Once an applicant renews a certificate, another five years are added on to the existing expiration date and NYWEA will mail the operator a new blue card. The following forms need to be submitted in order to renew the operator's certificate:

1. Application
2. Copies of Contact Hour Coursework
3. Processing Fee

Renewal applicants have to complete contact hours from NYSDEC-approved training programs over this period to renew their certificates. If renewal applicants fail to complete the appropriate amount of contact

Staff knowledge of collection systems is crucial.

Ongoing training of operators is good business.

hours, their certificates will expire. Each certification level has a specified amount of required contact hours that the operator must complete:

Grade 1/1A: 20 Contact Hours
Grade 2/2A: 40 Contact Hours
Grade 3/3A: 60 Contact Hours
Grade 4/4A: 80 Contact Hours

Fee for Renewal: There will be a $160 fee due with the operator's five year renewal application (this works out to $32 per year).

Certificate Expiration: If an applicant's certificate expires, the following rules would typically apply:

- ***If less than one year expired:*** Applicant can submit the appropriate amount of approved contact hours and renew certificate. Only contact hours earned five (5) years from date of application receipt are accepted.
- ***If more than one year expired:*** Applicant needs to submit appropriate amount of approved contact hours and then will have to re-take the ABC exam for the appropriate certification level. Only contact hours earned five (5) years from date of application receipt are accepted.

Voluntary Wastewater Collections System

The Voluntary Wastewater Collection Systems program is not required for operator certification. Like the Wastewater Certification program, the Voluntary Wastewater Collection Systems program has new, upgrade and renewal requirements for Grade levels 1, 2, 3 and 4. All applicants for Voluntary Collection Systems Certification in New York State must have the appropriate education (minimum of high school or GED), experience and Voluntary Collection Systems Certification training. Applicants must complete the application, pay the appropriate fee, and pass the written exam in order to receive these certificates:

Grade 1: Confined Space, Operations and Maintenance (O&M) of Wastewater Systems Vol. 1, six (6) months of experience

Grade 2: Confined Space, O&M of Wastewater Systems Vol 1, O&M of Wastewater Systems Vol. 2, one (1) year of experience

Grade 3: Confined Space, O&M of Wastewater Systems Vol. 1, O&M of Wastewater Systems Vol. 2, Grade 3 Basic Supervision and Technical Operations, or Equivalent 30-hour Supervision Training Program, 4.5 years of experience with 1.5 of those years at a Grade 3 or 4 Collection System (unless applicant has an AAS or BS Degree)

Grade 4: Confined Space, O&M of Wastewater Systems Vol. 1, O&M of Wastewater Systems Vol. 2, Grade 3 Basic Supervision and Technical Operations, or Equivalent 30-hour Supervision Training Program, eight (8) years of experience with 1.5 of those years at a Grade 3 or 4 Collection System (unless applicant has an AAS or BS Degree)

All applications need to be submitted to the NYWEA office by the required deadlines and then testing is given twice a year on the last Wednesday in April and on the last Wednesday in September.

Similar to the wastewater certification program, the voluntary collection system is valid for a five year period, and individuals are required to complete an appropriate amount of contact hours within those five years to renew their certifications.

Grade 1: 10 contact hours
Grade 2: 20 contact hours
Grade 3: 30 contact hours
Grade 4: 40 contact hours

This chapter prepared by Jon P. Ruff, PE, Environmental Manager at City of Plattsburgh, Claire Baldwin, Senior Management Consultant and Principal at CDM Smith, and Tanya May Jennings, NYWEA Wastewater Operator Certification Administrator. Chapter excerpted from "Guidelines to Building an Effective Succession Plan," and "Overview of Operations Specialists Certifications," Clear Waters, Fall 2012.