RECRUITING FROM A LIMITED POOL OF CERTIFIED PLANT OPERATORS
"What ya gonna do when the well runs dry?"

by
Cindy Goodburn, Support Services Administrator
and
Jim Tallent, Operations Division Manager

Littleton/Englewood Wastewater Treatment Plant
2900 South Platte River Drive
Englewood, CO 80110

ABSTRACT

Faced with increasingly stringent regulatory responsibility, advancing treatment technology, significant population growth, and the need to recruit from a defined pool of certified plant operators with advanced technical experience, POTWs are often left high and dry in their attempt to recruit and retain competent operators. In 2000, the Littleton/Englewood Wastewater Plant (L/E WWTP) lost 5 certified operators and a supervisor to small facilities offering attractive pay/benefits packages. The plant was left clinging to a skeleton operations crew. An exhausted operations staff was asked to work inordinate overtime hours, and almost every shift had at least one overtime operator to bring shift staffing to minimum levels.

Recruiting efforts for "A" certified plant operators had failed miserably for two years. The good operators with strong technical experience were working at other facilities in long-term, secure positions with all the associated benefits. For the next several months, plant operator recruitment attempts included all the trick of the recruiting trade: repackaged job advertisements, signing bonuses offered, a new "Lead Operator" position created to offer a more attractive pay line. This renewed effort attracted one "A" Certified operator and one "A" Certified Operations Supervisor. Within a year, the Operator took a job at a smaller plant!

Finally, in one last desperate attempt to recruit competent staff, Plant management looked inward at existing plant staff and asked two questions: "Where did the really outstanding operators come from?" The answer: "off the street." "What made them outstanding?" The answer: "They are intrinsically motivated individuals, willing to seek training and certification both on the job and outside of work, and they learned this facility in-side out, by being trained in-house." The answer to the dilemma of the depleted pool of certified operators: Create your own pool! So began the apprentice operator program.

The L/E WWTP Apprentice Operator Program was developed to support success for apprentice employees, as well as the facility. Incentives and resources were used to provide the tools necessary to foster individual development. The following items, are used to support success:

- "Performance contract", signed by the Apprentice Operator, upon hire into the program with the goal of attaining an "A" wastewater operator certification.
- Special "incentive" pay line.
- Tuition payment and expectation program for college courses.

Copyright ©2004 Water Environment Federation. All Rights Reserved.

- In-house training program.
- Staff scheduling to meet requirements of the facility and school classes.

There are currently seven individuals in the Apprentice Program. These individuals are enthusiastic in their efforts to learn and develop the technical skills required to competently operate a tertiary wastewater treatment facility. The success of the program has been tremendous and will provide the staff and recruitment strategy needed to carry the plant forward into the distant future.

KEYWORDS

Operator, Certification, Apprentice, Wastewater, Recruit

INTRODUCTION

Faced with increasingly stringent regulatory responsibility, advancing treatment technology, significant population growth, and the need to recruit from a pool of certified plant operators with advanced technical experience, POTWs are often left high and dry in their attempt to recruit and retain competent operators. In 2000, the Littleton/Englewood Wastewater Plant (L/E WWTP) lost five certified operators and a supervisor to small facilities offering attractive pay/benefits packages. The plant was left clinging to a skeleton operations crew and a nightmare to adequately staff three shifts to support a 24/7 operation. This critical circumstance forced the management staff to evaluate the recruitment strategy that had been used for years and face the reality that recruiting the skills and certification needed to support the facility was simply not going to happen. The result was a change in recruitment strategy from a skills, certification, experience emphasis, to attitude and aptitude emphasis. This change necessitated the development of a program to train new employees for the skills and certification required to be a plant operator. Subsequently, the Apprentice Operator Program was developed and implemented with considerable success. This paper will discuss both the new recruitment strategy and the Apprentice Operator Program in detail.

The State of Colorado has a total of 2,211 active certifications. Of those, 534 are “A” certified. There is no data that shows how many of the certified operators registered in the state are actually working as operators or are even living in the state. However, this small pool of operators is the resource from which 458 permitted wastewater treatment and groundwater remediation operations must draw. If all certifications are utilized equally in the state, each permitted operation gets approximately 4.8 certified operators. The L/E WWTP requires twenty-six (26)!

In the years between 1998 and 1999, the L/E WWTP began to experience difficulties in recruiting certified operators for the occasional vacancy that would arise. The crisis hit for the plant in 2000 when five certified operators and one supervisor were recruited to other facilities offering very attractive pay and benefits packages and limited shift work. The operators that were recruited away from the L/E WWTP had less than five years’ tenure and had not yet reached the salary level, vacation accrual, retirement vesting, and other benefits that accrue over

Copyright ©2004 Water Environment Federation. All Rights Reserved.

time. They had not yet earned the "golden chain" that ties the more seasoned employees to their organization. They were, however, rising stars, all having quickly advanced in their certifications, sought education in their field and could easily have been the successors to the more seasoned operators at the L/E WWTP looking forward to retirement over the next five to ten years.

By January 2001 the operations staff was at 75%. There were fifteen operators to staff three shifts, of those, only four were "A" certified. An exhausted operations staff was asked to work inordinate overtime hours, and almost every shift had at least one overtime operator to bring shift staffing to minimum levels.

Knowing that recruiting efforts for certified plant operators had failed miserably for two years, plant managers worked with the Human Resources Department in a desperate attempt to recruit certified operators at any level. For the next several months, plant operator recruitment attempts included all the tricks of the recruiting trade:

- Repackaged job advertisements,
- Signing bonuses,
- Creation of a "Lead Operator" position

The Lead Operator position was created to provide a more attractive pay line to recruit "A" Certified operators. The creation of this position also provided an additional career path for internal "A" certified operators to help bolster the retention program.

This renewed effort attracted one "A" Certified operator and one "A" Certified Operations Supervisor. Within a year, the Operator took a job at a smaller plant!

RECRUITMENT STRATEGY OVERHAUL

With the abysmal failure in both recruitment and retention, and the operations scheduling problems becoming significantly more challenging, plant management began to scrutinize the recruitment process. After receiving feedback from unsuccessfully recruited applicants, the challenges became clear. Recruiting for skills, certification, and number of year's experience, necessitates the competition with the "golden chains" that tie employees to their organizations. Typically, an "A" Operator working in the field has acquired approximately five years' experience and gained the skills required to be successful in the wastewater field. In most organizations, a five-year tenure includes:

- Advanced salary
- Three or four weeks paid vacation per year
- Accrued medical and dental benefits
- Vested retirement plan

In addition, the battle was on with the local economy. Jobs were plentiful and operators were using job interviews to leverage better benefits with their current employers. Finally, the recruitment cost to continue an on-going unsuccessful program was beginning to accumulate.

Copyright ©2004 Water Environment Federation. All Rights Reserved.

The City of Englewood cost to go through the recruitment process up to the point of making a job offer is approximately $1,356.00. The figure from Mountain States Employers Council is $1,726. The cost to continue to fail became unjustifiable.

A recruitment strategy overhaul was required. The new strategy would focus on attitude and aptitude and move away from the standard skills, certification and "years of experience" requirement. The ideal candidate should possess a positive attitude, an aptitude for learning, and could demonstrate intrinsic motivation to learning and growth. The organization would be responsible to teach the skills. This change necessitated a program to train new employees for the skills and certification required to be a plant operator, and thus create an internal pool of certified operators. So began the Apprentice Operator Program.

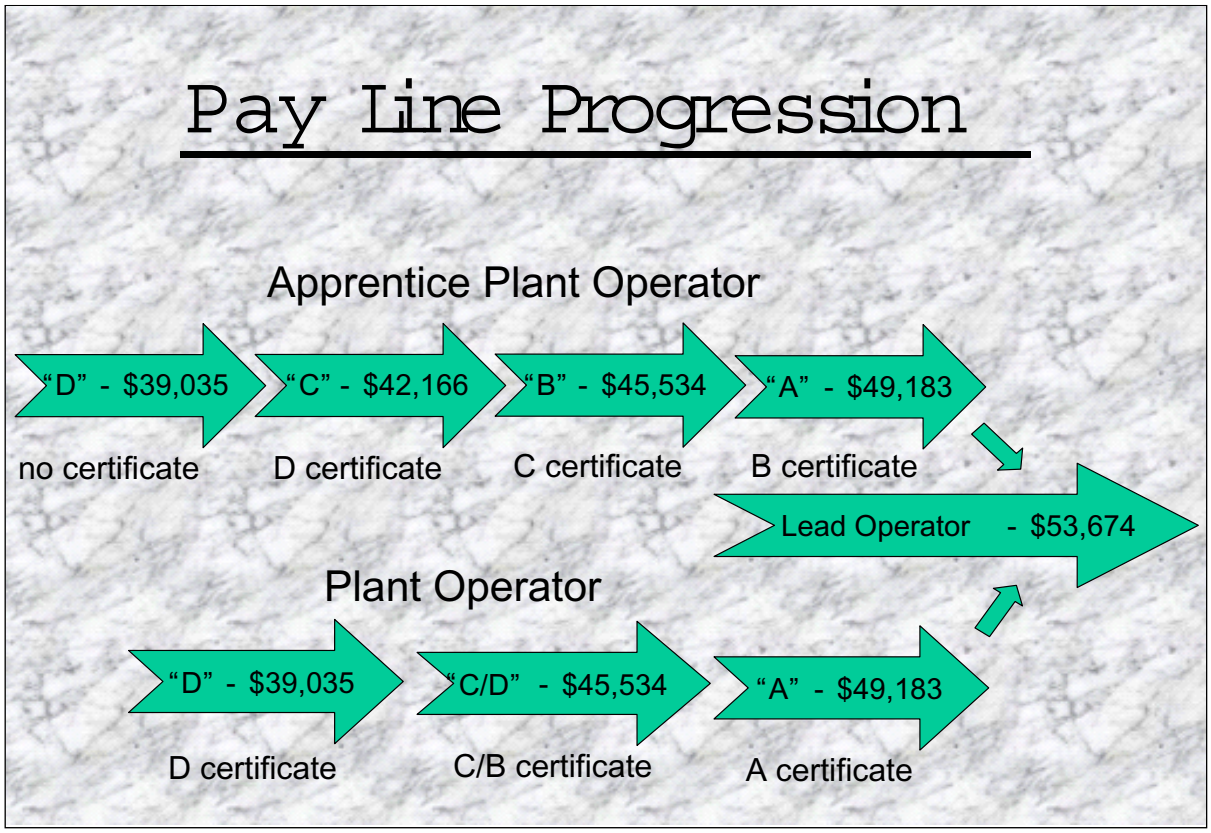
THE APPRENTICE OPERATOR CONTRACT AND PAY LINE PROGRESSION

The contract that each apprentice signs upon hire frames the conditions of employment. Each step of the program is designed to progress the Apprentice successfully to the program objective of "A" wastewater treatment plant operator certification.

The Apprentice Operator is required to obtain the next certification level within two testing cycles after qualifying to take the exam. This is a condition of continued employment. Once the certification is attained and the apprentice is meeting expected performance standards, the individual advances to the next Apprentice Operator pay line. The expected performance standards are determined by the job description, skills requirements, and standards/measures for each pay line.

In Colorado there are four levels of operator certification that guide the pay lines and job descriptions within the Apprentice Operator Program. Each certification level is compensated on a pay line one certification higher than the Apprentice actually possesses. Each job description contains skills and abilities commensurate with Colorado Certification requirements and organizational expectations. The pay lines for each certification level are based on Colorado market survey for corresponding Plant Operator Certification. The incentive in the Apprentice Program is the Operator is paid at the pay line one certification higher than the certification possessed. For example, an individual with no certification would be hired on the "D" Certified pay line. The Apprentice is, therefore, paid in advance of achieving certification! This provides incentive for both the recruitment and the retention processes.

Copyright ©2004 Water Environment Federation. All Rights Reserved.



EDUCATION AND TRAINING

Education and training is a required component of the program. Each apprentice must learn and develop the technical skills required to competently operate a tertiary wastewater treatment plant. Development of these skills is achieved through interactive training both in-house and through outside resources. This is a maximum six-year program. During that time, tuition and books for college level courses are paid for by the organization. College level expenses for the first two and a half years of the program, including tuition and books are approximately $7,100.

Under the tutelage of existing staff and Operations Supervisors, each apprentice learns the L/E WWTP treatment processes and daily tasks required to ensure effective and efficient wastewater treatment. Other certified operators also assist in on-the-job-training, including the theory and practice of different process operations.

Training through prepared resources such as WEF operator training modules, internet resources (ABC study guide), and the Sacramento self study course are made available as part of the apprentice program. Outside training such as RMWEA sponsored events, local seminars and workshops, commercial seminars and City of Englewood sponsored training are encouraged. In-house training includes the L/E WWTP website, L/E WWTP online SOP (Standard Operating Procedures), staff developed training modules, and a developing mentoring program. Access to all of these training opportunities is at no cost to the individual and are recommended and encouraged.

Copyright ©2004 Water Environment Federation. All Rights Reserved.

Schedule flexibility to accommodate education and training is provided. This includes rescheduled days off and adjustable work and shift hours. While it is imperative to appropriately staff all shifts, the commitment to the training and education of the apprentice operators is equally important to the long-term success of the facility and is, therefore, accommodated except in the most extreme circumstances.

INDIVIDUAL ASSESSMENT AND GOAL SETTING

Employees in the Apprentice Program receive regular performance evaluations. This process provides the supervisor and the apprentice an opportunity to review progress and assess goals. It also provides the guided development crucial to the success of each individual in the program.

Specific skills and knowledge gained through the apprentice operator program are measured regularly as part of the performance evaluation. In this program there are performance measurement components. The first component is the Process Proficiency Evaluation (PPE). This evaluation measures technical proficiency in each treatment process. This provides objective information that is used as a data source for the Performance Evaluation. The supervisor and the apprentice operator physically visit each process unit in the plant and review a prescribed set of competencies. The PPE, in addition to the Performance Evaluation and the skills accomplishment checklist, provides the opportunity for the supervisor and the apprentice to review strengths, weaknesses, and establish goals for career development. This also impacts pay increases for skills accomplished. A portion of the PPE is shown below:

Process Proficiency Evaluation

General Process Proficiency Evaluation for Apprentice Operators

Name_____

Supervisor_____Date_____

As a Colorado Class "D" licensed Operator at the L/E WWTP, you are expected to have the ability to describe the basic operating functions of various components of the wastewater treatment system. In each of the following, summarize the function of the process and describe the key components necessary for its effective operation:

Headworks

Key items:	Complete	Incomplete
Flow measurement:	❑	❑
Screenings removal:	❑	❑
Raw sewage pumping:	❑	❑
Grit removal:	❑	❑

Comments: _____

Copyright ©2004 Water Environment Federation. All Rights Reserved.

RETENTION

With all the time, effort and money dedicated to training, education, and grooming the apprentice operators, what is the guarantee they will stay? NOTHING! Hopefully, all of these operators will be able to successfully obtain their Class "A" wastewater certifications. That is the program goal. To pass the "A" certification, a certain number of years of experience are required. Although anyone can sit for the "D" level exam, the state currently requires a minimum of 30 days experience to obtain this certification. Continuing, two year's experience is necessary to sit for the "C" exam, one more year for "B", and likely at least one more year for an "A". At this point the "golden chain" has gained its links. The apprentice that has now earned a third week of vacation, has become fully vested in the retirement program, has accrued additional benefits, has worked into a nice salary and will be difficult to recruit away!

Two and a half years have passed since development of this program and there are currently 6 individuals participating and one who has graduated as an "A" certified operator. These individuals are enthusiastic in their efforts to learn and develop the technical skills required to competently operate a tertiary wastewater treatment facility. In the short term, it appears the program is a success and provides a means to recruit, train and retain certified plant operators.

RETROSPECT

The Apprentice Operator Program has been successful in achieving its original goal of recruiting motivated, capable and now successful individuals, and there continues to be a high level of enthusiasm for the program. A retrospective look at the program after two years has revealed one important oversight. The program needs a comprehensive training program that includes not only the technical aspects of 'doing the job,' but the conceptual aspects of how a treatment plant works from beginning to end.

Interviews were held with the Apprentice Operators to gather feedback on how the program is working and identify areas for improvement, specifically, advanced training. The Operators identified the following areas to be addressed:

- Spend more time training in each process area (i.e. 1 month)
- Trainers need to be consistent in how procedures are taught
- Provide specific training on all aspects of sampling programs
- By the end of the first year, the Apprentice Operator should be able to walk through the plant from beginning to end and explain all processes and how they fit together.

Clearly these are issues that need to be addressed with a more structured training program. Since the training issues are primarily plant specific and the trainers are plant staff, a formal mentoring program is being developed. This program will concentrate on matching the expertise of the assigned trainers with the area or equipment that is being studied. Training formats will be established to ensure consistency in topic presentation. Expectations for desired learning achievements will be documented for each topic.

Copyright ©2004 Water Environment Federation. All Rights Reserved.

FINAL

The L/E WWTP Apprentice Operator Program was developed to support long range success for apprentice employees, as well as the facility. Incentives and resources have been developed and incorporated to provide the tools necessary to foster individual career growth. The addition of a more formalized training program will ensure transfer of knowledge is ongoing and successful.

For the L/E WWTP, a new pool of certified operators has been created. Each apprentice is trained specifically to the idiosyncrasies of the L/E WWTP process. Each of these individuals has ownership in a successful program and a successful facility. Each will take pride in their contribution to facility recognition. This is indeed a program for the future and with a future.

Copyright ©2004 Water Environment Federation. All Rights Reserved.