

Availability of jobs in environmental management, engineering, facilities operations & maintenance, regulation, auditing and assessment is on the increase. The demand for water quality and environmental professionals in the U.S. is outgrowing supply. This shortage is expected to get worse. Citizens need to know this so their awareness can help strengthen the status of environmental careers. Recruiting and hiring managers need to use best practices to attract needed talent.



PE Tip Sheet No. 35

Workforce Concerns Challenge the Water Environment Sector

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Creating an environmentally sustainable economy has already generated an estimated 14 million jobs worldwide, with the promise of millions more in the 21st century (Worldwatch Institute). The environmental careers market is set to become still larger and more diverse. It is driven by an exceptional combination of evolving statutory regulations and the growing awareness of the need for sustainable development.

According to the U.S. Bureau of Labor Statistics (BLS) of the U.S. Department of Labor, scientists, engineers, and technical specialists will account for about 25 percent of all projected jobs for college graduates in the natural resources sector. The environmental engineering field will continue to grow, according to the BLS.

Environmental engineering was one of two engineering disciplines projected for employment growth much faster than the average (increasing 27 percent or more) through 2014. Contributing factors to the projected growth of environmental engineering jobs include compliance with environmental regulations, cleaning up existing hazards, increasing health public concerns, and a shift in emphasis toward preventing problems.

Demand Outpaces Supply

Now here's the problem. The demand for environmental professionals in the water resources sector continues to outpace availability. Some say there is no shortage of certain professionals like engineers. Matt Barkus, president of Precision Executive Search Inc., doesn't agree. He said, "The biggest shortage that I see out there today is for talented engineers with a strong understanding of the water/wastewater industry and new technologies like enhanced

nutrient removal and biosolids. There is also a very strong upward trend in the federal programs segment and finding experienced engineers with experience in water resources, drainage, flood control, and flood plain mapping. Whether contracts target studies, planning, or engineering solutions to environmental or man-made disasters, candidates will be needed to oversee this work. Additionally, security upgrades to existing infrastructure will continue."

Where are all of these educated and motivated workers going to come from? According to the BLS, U.S. universities and colleges are barely graduating enough water resources professionals to meet current and future expected demand. Graduates make up nearly 35 percent of the emerging workforce, but according to Kevin Wheeler, president and founder of Global Learning Resources Inc. and an internationally known consultant in human capital acquisition and development, graduates are "vastly under-recruited and underused."

Further, most employers are still looking for candidates with several years' work experience – even at the most junior levels. Wheeler says that recruiters and hiring managers have fallen into a routine of searching for top talent around people who are between the ages of 30 and 45 years old. This practice, he says, is "slowly strangling" recruiting efforts, so recent graduates still find it difficult to get that first job and many end up drifting into unrelated professions, only to worsen the demand-side shortfall predicament.

Today's Workforce – Tomorrow's Need

There is a huge compounding factor impacting the demand and supply equation – the Boomer factor. Many water-quality

professionals are rapidly reaching retirement age. Boomers make up 40 percent of the workforce. Employers are recruiting now to fill positions left open by early retirements and to prepare for those retirements expected to occur ever-increasingly. Water and wastewater utilities in Florida are beginning to move now to head off this issue.

As an example, with a regular workforce of approximately 2,000 employees, JEA serves more than 360,000 electric customers in Jacksonville and is the largest municipal electric utility in Florida. It is also the second-largest water and wastewater utility in Florida, serving 80 percent of all water and wastewater customers in its 850-square mile service area.

JEA employees are an average age of 46, down 4 percent from eight years ago. They retire at an average age of 56. About 60 percent of JEA's 6-percent turnover rate is due to retirement. Approximately 300 employees, or 16 percent of JEA's workforce, are eligible to retire today. In five years, 36 percent of JEA's workforce will be eligible to retire. You get the picture.

Employment expectations of today's workforce are another factor that complicates recruiting. Diversity in worker values challenge today's employers. Boomers have a sense of duty, commitment, obedience, and long-term outlook. They work long hours and do what they are told. They want things in order and struggle with change.

Generation X has a new sense of self and the role of authority. This generation is comprised of young adults used to constant and rapid change and is shaped by technological revolution.

Generation "Y" is the "Look at me" generation—tattoos, untraditional hair color, body piercing, etc. They value time off, actively participate in work and

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