Gaps in the Energy Workforce Pipeline: *2008 CEWD Survey Results*

Background

The Center for Energy Workforce Development (CEWD) is a non-profit consortium of electric, natural gas and nuclear energy utilities and their associations—the Edison Electric Institute, the American Gas Association, the Nuclear Energy Institute, and the National Rural Electric Cooperative Association. CEWD was formed in 2006 to help energy utilities work together to develop solutions to an expected workforce shortage in the utility industry during the coming decades. CEWD represents the first partnership between utilities, their associations, contractors, and unions to focus on the need to build a skilled workforce pipeline that will meet future industry needs.

In 2007, CEWD conducted and released its first national industry survey, which found critical gaps needing to be filled in the energy workforce pipeline. The 2007 report revealed that 40 percent to 60 percent of utilities' skilled workers and engineers could retire by 2012. The 2007 report further concluded that growing demands for electricity and natural gas would lead to an even greater demand for skilled workers in the years ahead, as companies make major investments in new power plants, energy efficiency, and the infrastructure systems used to deliver electricity and natural gas where it's needed.

Since the release of the 2007 survey, several factors changed. Foremost, the U.S. economy weakened dramatically, delaying retirements among those reaching eligibility and impacting utilities' capital expenditures. The effect of these changes is reflected in the 2008 survey results.

2008 Survey Methodology

The 2008 CEWD survey assessed current workforce levels in the electric and natural gas industries and projected significant hiring needs over the next five years and beyond. The survey did not include data from the nuclear power industry or supplemental labor.

Specifically, the survey looked at the age and years of service of current utility employees, expected attrition rates, and current vacancies. The data were used to define retirement and hiring trends in five job categories: lineworkers, power plant operators, technicians, pipefitters/pipelayers, and engineers in both the Generation and Transmission & Distribution workforces.

(continued)

Future Outlook

By 2013:

- 49% of skilled technicians may need to be replaced
- Nearly 48% of those employees who operate gas and coal fired generation will be eligible to leave
- Roughly 45% of engineering job in all disciplines could become vacant
- About 40% of lineworker jobs may need to be filled

Center For ENERGY Workforce Development

The 2008 survey includes an even larger data pool than the 2007 survey, due to responses from a broader representation of energy companies of all sizes and all regions of the United States. The 2008 survey includes responses from 56 electric and natural gas companies, as well as all electric cooperatives in the nation. In total, the 2008 survey includes data from more than 46 percent of all U.S. electric and natural gas employees—more than 267,800 workers.

The 2008 survey also includes a new feature: projections for what would happen if those eligible to retire delayed their retirement by five years, which is a possibility due to current and projected short-term economic conditions.

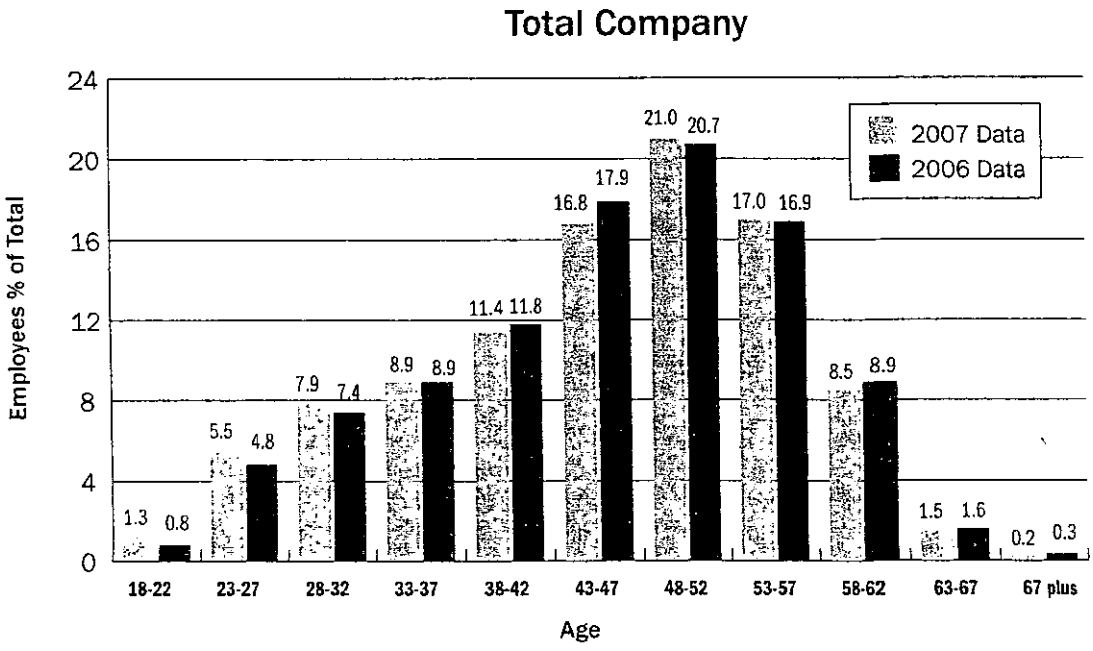
Finally, the 2008 survey data do not take into account additional jobs that may be generated to staff new power plant construction, infrastructure expansion, or the emerging green energy sector. The survey is based upon current energy needs.

2008 Survey Findings

The 2008 CEWD survey finds that there are still gaps in the workforce pipeline, though opportunities exist to meet the challenges ahead. Among the results:

- Companies increased hiring in all job categories, especially in the 18- to 22-year old and 23- to 27-year-old age ranges. However, these hirings were largely one-to-one replacements for those leaving or retiring, so there were no net gains in the number of employees.
- The average age of utility workers declined slightly, from 45.7 to 45.3, a reflection of recent hiring activities. The U.S. Department of Labor reports the median age of American workers will reach 40.7 this year; the median age of energy workers is already higher, at 45 years.
- Those eligible for retirement left at a lower rate than anticipated, most likely due to the weakening economy and losses in retirement savings plans.

2008 Pipeline Survey Results



Estimated Number of Potential Replacements by 2013

Job Category	Percentage of Potential Attrition & Retirements	Estimated Number of Replacements	Estimated Retirement Only
Technicians	49.0	27,000	20,500
Non-Nuclear Plant Operators	47.6	12,000	9,000
Engineers	44.7	14,500	10,000
Pipefitters/ Pipelayers	45.0	8,500	6,500
Lineworkers	40.2	29,500	19,000

- If all workers eligible for retirement opted to leave over the next five years, and an equal number retired every year, the industry would need to hire new workers at a much higher rate. The survey found that just 1,250 were hired last year.
- Should workers now eligible for retirement opt to remain on the job an additional five years, the industry still ultimately would need substantial numbers of new hires. For example, the industry would see a 30-percent loss of experienced lineworkers, compared to a 40-percent drop, were all lineworkers to retire when eligible or to leave through natural attrition.
- Trends identified across job categories in the 2007 survey were validated and reconfirmed using the updated and expanded data from 2008. Overall, within five years, the industry may need to replace 40 percent to 50 percent of its employees in the five surveyed job categories, with a replacement need of up to 60 percent for some positions.
- The Generation workforce remains more vulnerable to this hiring need than the Transmission & Distribution workforce.

Conclusions

While the current economic downturn raises new challenges, it also brings expanded opportunities. The Obama Administration has indicated that incentives for green energy and smart grid development will be included as part of a broad economic stimulus package. If enacted, these incentives would spur further job growth within the energy industry. In addition, workers who have been displaced from other industries and are seeking new careers already may have many of the skills needed to enter mid-level energy jobs. With appropriate retraining, these workers could prove an unexpected asset to energy companies.

(continued)

Overall, within five years, the industry may need to replace 40 percent to 50 percent of its employees in the five surveyed job categories, with a replacement need of up to 60 percent for some positions.

Likewise, delays in retirements give the industry and its partners the opportunity to fully develop those collaborations that CEWD has identified, so that training and marketing programs may be implemented in a well thought out manner and on a wide scale.

Unified training programs put into place now will produce workers ready to step in when those delaying retirement are ready to depart. Likewise, marketing campaigns and mentoring programs aimed at students of all ages will help to provide an increasingly larger pool of candidates in the years ahead, making it easier for companies to fill positions as needed.

Despite the weakened economy, utilities need to continue to increase hiring at all levels in order to keep workers moving up the skill ladder. Replacing experienced employees with entry-level workers on a one-to-one basis as they retire could leave the industry playing catch up because of the number of years it takes to train new workers and to get them up to speed.

The industry must broaden its marketing reach to those leaving the military and those in untapped populations, emphasizing the benefits of working in jobs that will never be outsourced and for companies that provide a vital product—energy—to the country.

The 2008 CEWD survey reaffirms that utilities should use the next few years to plan, to train, and to ensure that we have a skilled workforce ready and able to meet the energy opportunities and challenges that lie ahead.

The survey was conducted by Chris Messer, Programming Plus++ and was completed in October, 2008.

Members of CEWD can view survey details at www.cewd.org

Center For
ENERGY
Workforce Development

701 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-2696
Ph: 202-638-5802
www.cewd.org