

**Ralph Izzo  
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PSEG  
Prepared Remarks: "The Energy Workforce of the Future"  
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**Some years ago, several storms collided in the Northeast to produce what has been called the perfect storm. Without exaggeration, the energy industry could face a perfect storm unless we ramp up efforts to prepare the highly skilled workforce of the future.**

**Powerful currents are heading our way: the wave of Baby Boomers retiring...the lack of skilled replacement workers...growing energy needs – including for green energy.**

**It is important to issue storm alerts. But even more important is taking action before the storm hits.**

**We need to invest in workforce preparedness, development and training...and do this with the degree of care and attention that energy companies give to preparing for whatever the weather may throw our way.**

**Moreover, we need to think about workforce development more comprehensively than in the past. Workforce development is a safety issue, a reliability issue, a customer care and green issue rolled into one.**

**Investing in the future of our industry begins with investing in people. If this sounds familiar, it should.**

**Skilled, dedicated and motivated employees have always been our most important asset and will continue to be. They are the key to achieving operational excellence, which is the foundation for success in our industry.**

**To put it bluntly, we would not be anywhere without the skilled trades and the hard-working men and women who built America's energy infrastructure and who provide energy around the clock and throughout the year...with a reliability that is the envy of the world yet is often taken for granted.**

**We all too often associate reliability with replacing a pipe, wire or valve. But think of the investment to replace a skilled employee with 40 years of experience who is retiring.**

**Think of the foundational investment in education....so that a person completing school has the skills, the inclination and the interest to connect with a company like ours.**

**So much is involved in reaching this point, let alone the hiring, training and getting new employees up to speed so they can do energy jobs well.**

**It takes years of on-the-job training to become proficient in utility operations (so a smooth handoff can be made from an employee who is retiring to one filling his or her shoes). In short, it takes a special type of person with the right skills to work in our industry.**

**All of which explains why employers like me are concerned about what students are learning (or not learning) in school.**

**Frankly, it is troubling that our nation ranks 14<sup>th</sup> in graduating students from high school, and that less than 15 percent of high school graduates**

**have enough science and math background to pursue careers in engineering even if they wanted to.**

**Preparing students today for the jobs of tomorrow is a challenge that concerns us all. Labor, business, educational institutions and government have a common interest in the success of our students. We need to explore ways to create a closer alignment between what is learned in the classroom and what is needed in the workplace.**

**The energy industry will be creating plenty of jobs at all levels...thousands of new jobs in the coming years.**

**We will need more engineers and people with math and science degrees from colleges and graduate schools.**

**But I want to make it clear: We will also need more people coming from technical schools, vocational schools and high schools ready for great jobs in the skilled trades.**

**We have a major challenge to ensure our industry will have enough of these skilled employees in the years ahead for a number of reasons.**

**One reason is an aging workforce moving toward retirement...the first wave of a demographic transformation. The average energy worker will soon be almost ten years older than the average U.S. worker. In five years, from a combination of retirements and normal attrition, we could lose anywhere from a third to a half or more of our workforce, up and down the line, in positions from power plant technicians to engineers to line workers.**

**This situation has been building for some time. A few years ago, our company concluded we needed to market our industry more aggressively;**

reach out to diverse, non-traditional parts of the labor pool; and work more closely with educational institutions to help students get on a career path to our industry.

With these goals in mind, we developed a new initiative, our Energy Utility Technology Degree program, and got it up and running at one community college in 2003. The program now operates at four community colleges and a four-year state college, and has become a pipeline for non-traditional entry-level employees.

Our unionized workforce has done an incredible job in making this program their own...training and supervising the students during their internships with us, and serving as mentors and indispensable role models.

This program has created success stories as more than 60 of its graduates are now full-time employees. Building on efforts like this and others across the country will be critical.

We discussed the demographic challenge as one powerful current. Another is America's growing energy needs.

Even with big improvements in efficiency, America will need to invest more than \$500 billion in power plants, and another \$900 billion in transmission and distribution by 2030.

We have been hiring at our company for the construction of new transmission lines involving an investment of approximately \$1.6 billion over the next five to eight years.

**And we will need more people to produce energy as well as bring it to consumers.**

**For example, our nation will need more emissions-free nuclear energy... nuclear being the only proven technology capable today of producing vast amounts of electricity without carbon.**

**The nuclear power industry is positioned for a renaissance, but must rebuild the parts of its workforce pipeline that dried up in the last two decades when new nuclear seemed like a pipedream and many colleges stopped offering nuclear engineering courses.**

**Our industry will be busy filling traditional energy jobs. But in addition, we can be a driving force in the creation of thousands of new green jobs in the fight against climate change.**

**Climate change is a scientific reality. And energy-utility companies have resources that will be vital in combating climate change...our skilled and dedicated employees, our recognized brand and our proven ability to invest over the longer term in ways that benefit the public.**

**Indeed, our workforce and environmental priorities come together: Timely action by our industry to reduce greenhouse gases can stimulate one of the biggest waves of job creation in our nation's history.**

**We need nothing less than complete electrification of transportation and decarbonization of electric power production and maximum efforts at energy efficiency.**

**This means there will be a huge need for workers to install solar panels, build wind turbines, lay insulation, do energy audits and bring more**

**energy-efficient lighting, cooling and heating to homes and businesses across America.**

**This opportunity will be immense.**

**For example, New Jersey is looking at energy-efficiency retrofits for 3.7 million buildings (the entire building stock in the state) as an important step to help achieve the state's greenhouse-gas reduction goals for the year 2020.**

**Also, by the same date, New Jersey is looking to build a renewable energy sector able to supply 20 percent of the state's electricity. This could involve 1,500 megawatts of solar energy and thousands of additional megawatts generated from wind, biomass and geothermal energy.**

**We believe a new nuclear facility may also be needed to help New Jersey reduce greenhouse gases. Building such a facility could create 2,500 construction jobs and another 500 jobs in nuclear operations.**

**When our federal government follows the lead of many states with an aggressive program to reduce greenhouse gases, it will give an enormous shot in the arm to green-job creation. We need to make it happen.**

**We recently released a position paper on what is needed to develop a green workforce. The answer is many of the same things we must do overall to create the future workforce. For the most part, the green jobs coming down the road will not be entirely different from traditional energy jobs, but rather modifications of them.**

**Green and traditional energy functions will overlap. The line worker who hangs a transformer could also hook up solar installations to the grid.**

**People in green jobs will be engineers, electricians, skilled technicians, workers in construction and manufacturing...and other traditional occupations in the energy field.**

**So where do we go from here? We need to mount the largest recruiting, training and workforce development effort since the creation of the energy industry.**

**We will need everyone engaged and active. Let me discuss three imperatives.**

**The first is partnerships. We need to build on:**

- **The progress made especially during the last two decades of labor and management working together successfully, to mutual benefit, on a range of common issues. This is where groups like LAMPAC fit in and play an important role.**

**We need to build on:**

- **Groundbreaking collaborations like the Center for Energy Workforce Development, the first partnership between utilities, their associations, contractors and unions focusing on strengthening the workforce pipeline.**

**We need to build on:**

- **Partnerships with educational institutions like our Energy Utility Technology Degree program, career academies like the one sponsored by Gulf Power in Florida, and other initiatives to support the development of career-oriented education.**

**We need to build on:**

- **Innovative efforts to create green jobs in cities...boosting the local economy while improving access to energy-efficiency savings and**

**clean, renewable energy – tasks that utilities are uniquely equipped to assist as universal service providers.**

**Last but not least, we need to build on:**

- **Public-private sector collaborations, such as the apprenticeship programs that the International Brotherhood of Electrical Workers (IBEW) sponsors in association with government agencies.**

**By no means does this exhaust the list of partnerships, but let's move on.**

**Second is knowledge transfer along with skills development. We need to ensure that our employees' vast store of knowledge is passed to new hires.**

- **Many companies such as ours have dedicated training facilities to help with this.**
- **But it will be vital to draw in new ways on our longer-term employees as teachers and mentors.**
- **Reinventing retirement with a view to offering retirement-eligible employees opportunities to continue working but at reduced hours will help in the knowledge transfer, training and development of the new workforce and could be ideal for an employee looking for either phased retirement or a part-time position while in retirement.**

**Third and finally, we must do a better job of promoting our industry as a great place to work. Our industry offers:**

- **Highly competitive wages and benefits, with an average hourly wage about 70 percent higher than the average hourly wage in the private sector.**

**We offer:**

- **Abundant opportunities not only to land a job but build a satisfying, rewarding career, working with skilled, dedicated people on some of the most important challenges of our time, in one of our nation's most important industries, one which is not going away.**

**We offer:**

- **The chance to be part of something terrific, indeed noble, to provide essential energy, to do it in new ways that help our customers live better and help clean the planet.**

**In short, we offer something we can proudly sell...and what is more important, something people can proudly do to earn a good living and raise a family, as generations before them have done.**

**Pride is deeply woven into the fabric of our industry and workforce. But it is a quiet pride. We need to shout about it more. Raise the decibel level.**

**To conclude, the perfect storm heading our way could have a silver lining if we act now. The silver lining is jobs, growth and opportunity that will enable a new generation to realize the American dream and build a bright future.**

**Let's make it happen. Thank you.**