



Managing An Aging Technical Workforce

By Wanda Reder

News Flash>>

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UK'S NUCLEAR POLICY

The best way to slash greenhouse gas emissions in the United Kingdom is to build up nuclear generation, says a new report by the Oxera consulting group.

The report provides support for Prime Minister Blair's announced plans to build up to 10 new nuclear plants.

Britain hopes to cut carbon emissions by 60 per cent by 2050.

CHINA TURNS TO NUCLEAR

China will build 40 nuclear power generation units in 15 years.

By 2020, China's nuclear power sector is expected to equal about 4 percent of Chinese generation.

Last year, it accounted for 2.3 per cent of power generated in the country.

UTILITIES ARE PURSUING speculative activities to satisfy financial demands. As these companies move into other businesses, leaders have placed less importance on developing the technically skilled workforces needed to build and operate power delivery systems. Yet, highly loaded systems and increasingly sophisticated systems and technology are demanding expertise. In addition, increasing capital investment in the power delivery industry, following years of cost reduction measures, calls for the wisdom and technical experience of highly capable workers.

The average age of the power workforce is nearing 50 — with a large percentage eligible for retirement in the next few years. Hiring in recent years has also been minimal. The lack of jobs and the less-than-glamorous image of power careers have yielded declining student enrollment. University electrical engineering programs have shifted focus, putting the power education foundation at risk. The demographic dynamics of those entering the workforce, which includes significant numbers of women and minorities, further hinders progress because these groups have traditionally not been power students.

For many employers, less than 10 percent of their workforce is 35-years old or less. And a 2004 Edison Electric Institute (EEI) survey shows that approximately 20 percent of the delivery workforce is expected to retire in the next five years.

Clearly, the power delivery Industry needs to plan for technical attrition and invest in a workforce pipeline. According to the EEI survey, succession plans are in place for senior management; however, plans are limited for technical positions and first-line management. Respondents in that same survey projected increasing demand for entry, mid-career, and senior positions, while simultaneously predicting shortage in supply. There is other attrition phenomenon in addition to retirement that may not have been considered in these responses.

Recent studies creating visible metrics to monitor the distribution of ages and diversity are a critical first step. Companies can now better define their situation; manage staffing proactively, outsource appropriately, and perform knowledge-retention formally. But these improvements will probably

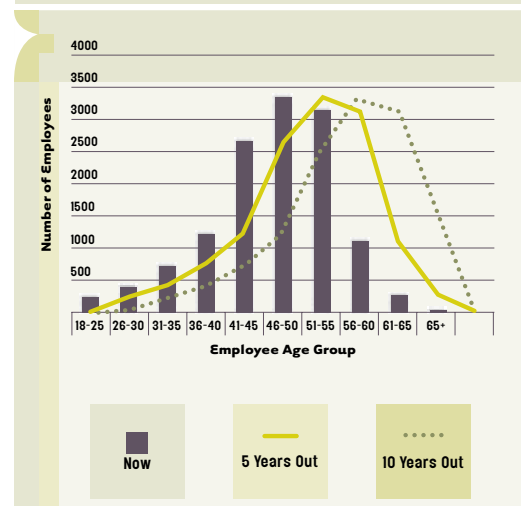
not be sufficient; improvements in the hiring and development of power engineers will still be needed. At least three improvements could foster the hiring and development of power engineers.

First, reverse the power engineering enrollment trend or at least rebalance power engineers as percentage of electrical engineers. Universities have experienced a decline in enrollment for power-related courses, impacting power curricula. According to IEEE, there are approximately 500 power engineering graduates per year now as compared to approximately 2,000 in the 1980s.

Second, fill the mid-career gap in experience and expertise. Ideally, firms would have junior engineers in the pipeline before senior engineers retire.

Third, recognize that the labor pool is changing — ethnic diversity and women will provide the long-term solution to the power engineering workforce needs.

Typical Power Delivery Industry Employee Age



Actions can be taken now to mitigate the effects of attrition and ensure an adequate supply of technical skills and experience to maintain the viability of the electrical infrastructure.

Wanda Reder is vice president, power systems services division, at S&C Electric Co., and an IEEE Power Engineering Society governing board member-at-large.

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