

Salaries, demand up for engineers

Engineering salaries are up, said the National Society of Professional Engineers 2007 Engineering Income & Salary Survey (www.nspe.org). Median salaries for engineers are up over 10% from 2006, and up more than 19% from 2005. Other statistics show the number of engineering graduates is also strong, with almost 75,000 new engineering bachelor's degrees awarded in the 2005-06 academic year.

A matched sample of engineers participating in the survey indicated the median salary for 2007 was \$81,316, quite an increase from \$74,000 in 2006 and \$68,025 in 2005. Starting salaries for

those with less than one year of experience are up 9% from \$45,250 in 2006 to \$49,250 in 2007. Factors such as engineering discipline, geographic location, education, and licensure status can affect engineering salaries, but salaries are still rising even when taking these into account.

Engineers with a bachelor's degree currently earn a median salary of \$73,000, compared with \$70,000 in 2006. Those with a master's earn \$82,558 compared with \$79,000 in 2006, and engineers with doctorates saw an even greater increase from \$87,561 to \$94,000.

Licensed professional engineers (PEs) are reaping rewards with significant increases in their salaries from \$82,000 to \$86,000 in a one-year span. In addition to the increase over last year, PEs also earned

24% more than engineers with no license or certification. Petroleum engineers have the highest median annual salary of all

disciplines at \$119,500, followed by a tie between mining and forensic engineers at \$107,750. Nuclear engineers come in

a close fourth at \$106,000. The median income of female engineers (\$65,000) is 80.3% that of male engineers (\$80,995). However, the gap closes a bit when other factors such as length of experience and education are factored in.

Location, location, location

"In addition to inflation and cost of living increases, salaries are driven by the competitive landscape in certain geographical areas. If a similar job with better pay can be obtained just down the road, incentives may be used to retain the top talent in each job category. In areas where job hopping requires lengthy commutes or physical relocation, the need for salary perks is not as critical," said Richard Harner, online spectroscopy specialist in process analytical chemistry at The Dow Chemical Company in Midland, Mich.

Engineers in the Pacific Southwest (California, Nevada, and Hawaii) and Middle Atlantic (New York, Pennsylvania, New Jersey, Delaware, and Maryland) regions earn more than engineers in other parts of the country. In the Pacific Southwest states, engineers earn a median salary of

\$88,000 a year, while those in the Middle Atlantic earn \$81,000. By contrast, engineers in the Upper Mountain region (Idaho, Wyoming, and Montana) earn a median annual salary of \$70,200.

A good engineer is hard to find

Steve Pflantz, an associate at CRB Consulting Engineers, Inc., in St. Louis, Mo., saw salaries rise close to survey percentages last year, but he said he believes the main reason is a continued strong demand for engineers. Automation engi-

neers at the mid to senior level are still hard to find as demand far exceeds the supply, Pflantz said.

"Senior mechanical engineers are also a rare commodity. Trends are for increased referral fees and bonuses for internal referrals for these positions. For architectural and engineering (AE) consulting firms, I am aware of internal referral bonuses on the order of \$3,000 up to \$5,000 that companies pay employees for referred candidates that get hired. Most AE firms seem to be saying the same thing; experienced engineers are hard to find. The oil and gas industry is creating a lot of demand for engineers right now, and the power industry seems to be recruiting heavily in engineering and design fields," he said.

"There seems to be a solid or slightly increased number of engineering graduates, however demand still seems to outpace the supply increase," Pflantz said.



"A slowing of the economy may reduce the demand a bit, but I am confident that the demand will stay stronger than the supply. We anticipate strong demand for engineers for the foreseeable future."

Pill spill

Overall conditions are "slightly less favorable as the economy and downsizing by major pharmaceutical companies is resulting in a fair number of layoffs globally," Pflantz said. "However, the AE firm workload seems very solid with slight increases for us. I think the layoffs are more of a cost-cutting measure to keep the investors happy—just trimming up a bit due to the tougher economy."

Pflantz and his team hear projections of nearly 30,000 layoffs globally for 2008, "which is all staff, and not just engineers," he said. "I would not expect engineering to be a major percentage of that. A few major companies are going through some lean times, yet some are really doing well.

We don't see it as a major pharmaceutical industry downturn."

Breath of fresh air

"Conditions are very good in the air pollution control industry as a number of air pollution control regulations for coal-fired power plants will require significant numbers of equipment installations over the next 5-10 years," said Chad S. Whiteman of Institute of Clean Air Companies (ICAC) in Washington, D.C. "The controls being installed take several years to design and install, requiring large numbers of engineers and construction workers. The engineering staff at some of ICAC's member companies have more than doubled in some instances in response to this market growth," he said.

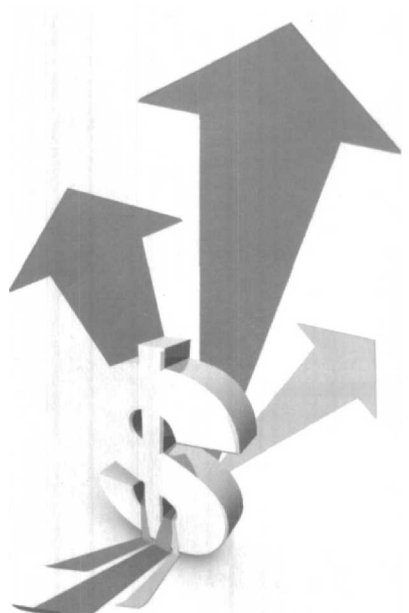
In the case of mergers in the air pollution control industry, "large companies such as GE and Siemens are buying air pollution control companies that provide specific products to specific markets in order to broaden the products and services that they provide," Whiteman said.

Members of the ICAC list career op-

portunities on their web sites, such as for environmental engineers, who develop process design for the proposal, contract, and plant improvements of air pollution control technology systems; and process design engineers, who design selective catalytic reduction systems and wet flue gas desulfurization systems including sizing, fuels evaluation, emissions, functional descriptions, ammonia system design, mass balances, and equipment specifications.

Chemical engineers can breathe easier when comparing themselves to chemists if they take into account numbers from a 2005 American Chemical Society survey (www.acs.org). In 2005, the median salary for working chemical engineers with bachelor degrees was \$77,000. This compares with \$63,000 for bachelor degree chemists. At the master's degree level, the difference is between \$96,000 and \$75,000, and at the Ph.D. level \$107,000 for chemical engineers compared with \$93,000 for chemists.

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