

## Houston Chemical Companies Searching for Thousands of New Workers — but Where will They Find Them?

Manufacturing and technology reporter Molly Ryan discusses the chemical worker shortage.



MICHAEL STRAVATO

“Chris Witte, site manager of BASF’s Freeport plant in Texas”



Molly Ryan  
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Since the start of the chemical manufacturing boom about a year ago, petrochemical companies have said that struggling to find workers for their expanded facilities is a good problem to have. However, there is now a bit of a quiver in their voices.

The problem is that not only will the chemical companies need thousands of new employees to operate more plants as they come online in the coming years (see page 8), but they must also face the fact that a significant amount of their workforce will probably retire around the same time.

To cope with this issue, companies such as German chemical giant BASF SE and Chevron Phillips Chemical Company LLC are pouring money into hiring and training initiatives, as well as working on retention efforts to keep employees from being lured away by retirement or other equally needy chemical companies.

“Basically, we are really struggling with two things: the growth opportunities associated with the shale gas boom, as well as a change in age demographics,” said Greg Wagner, Chevron Phillips’ vice president of human resources. “ Over 31 percent of our U.S. workforce is retirement eligible.”

In the next five to six years, the Woodlands-based Chevron Phillips expects to have to hire 2,500 to 3,000 new employees across all of its operations. About half of these will be chemical plant operators and mechanics, a quarter will be technical engineers and a quarter will be business professionals.

Like other chemical companies, Chevron Phillips may be able to hire qualified graduates or pick off a few good recruits from its competitors. But it may have to hire some people who have no previous training whatsoever.

And, even if the company hires untrained workers, Wagner said he still doesn’t think there are enough recruits to meet Chevron Phillips’ and the industry’s skyrocketing demand.

The American Chemistry Council estimates that between 2010 and 2020, the U.S. chemical industry will fill more than 46,000 permanent positions due to nearly 100 new chemical plant investments valued at \$72 billion.

The majority of these positions will most likely be in the Gulf Coast area — the heart of the petrochemical industry.

Ever since the shale gas boom started close to three years ago, the local chemical industry has been itching to get its hands on cheap natural gas and natural gas liquids produced throughout the U.S. Chemical companies use natural gas and natural gas liquids as feedstock, and, since there is an abundant, cheap supply of these products nearby in shale plays, it makes sense for companies to improve their margins by expanding or setting up new plants in the Houston area, where a massive amount of chemical infrastructure exists.

In Texas alone, the ACC estimated more than 81,000 permanent jobs will be created by the chemical industry and the supply chain supporting the industry. And, these jobs are not shabby. In 2011, the average wage of a chemical industry employee in Texas was about \$86,000 — 43 percent higher than the average manufacturing wage.

### **Training programs**

No matter where they come from — another chemical company, fresh out of an operator certification program or even directly from high school — almost every new chemical employee goes through a rigorous training process.

Due to the anticipated surge of new chemical employees, training programs are expected to skyrocket, said Robin Knowles, CEO and president of TDS, a Houston-based workforce development firm that primarily serves the chemical industry.

“I’m predicting that, going into 2014, there is going to be a big expansion (in our business),” Knowles said. “ Companies are already asking us (about new training).”

Right now, TDS is experiencing a calm before the storm, Knowles explained. Chemical companies first need to construct their new and expanded plants in the Houston area, then, they work on hiring. Knowles expects it will be a few more months before TDS sees a major surge in business.

And, when this rush of new employees comes in, it won’t be cheap for the hiring companies. TDS trains operators, engineers and management for chemical plants, and Knowles said each position needs specific training. Some of the skills companies are looking for include specific technical abilities, such as knowing how to turn the right valves; the ability to evaluate what chemical systems are reporting; and communication skills.

Chemical companies also have internal training programs, and many have recently heightened their efforts on these.

“We’ve put a huge focus on building organizational capability and workforce management,” Chevron Phillips’ Wagner said. “ Everyone is looking for the best and brightest. There is more demand than supply now, so (developing a supply) is a big focus that we have.”

Furthermore, companies are strengthening their partnerships with local educational institutions that can supply them with certified plant operators. For example, Irving, Texas-based Exxon Mobil Corp. (NYSE: XOM) recently gave \$500,000 to a new partnership of nine Houston-area community colleges so they can develop a chemical workforce training program.

### **Retention programs**

Many companies are also concentrating on retaining employees who are ready for retirement and those who could be tempted by other chemical companies.

For instance, at BASF SE, the company has implemented a retirement notification plan, said Chris Witte, a senior vice president and site manager of the company’s Freeport plant. In this plan, if employees notify BASF of their plans to retire six months or more ahead of time, they get a bonus. With this extra time, the company can extract as much knowledge from employees as possible and begin to train their replacements.

“Knowledge transfer is an issue — we need to capture knowledge in people’s head and understand the intricacies of how they work,” Witte said. “ We also are starting a mentoring program and assigning new employees mentors to transfer knowledge from their years of experience. And we are looking at ways to use video to capture employees’ work activities.”

Also, both BASF and Chevron Phillips said they are working on programs that allow employees to work part time or have more flexible work schedules. In addition, both companies said they pride themselves on staying competitive in terms of salary expectations for chemical workers, which can be pretty high.

“It’s not unrealistic to have six-figure salaries with overtime,” Witte said. “ These are really excellent-paying jobs, and our focus is to expand the (workforce) population as much as possible.”

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### **Chemical snapshot**

- Ethane: a natural gas liquid used as a feedstock to produce chemicals
- Ethylene: produced from ethane, it is a building block for other chemical production
- Polyethylene: a plastic resin made from multiple ethylene molecules
- Methanol: a natural gas derivative used as a building block for other chemical production
- 1-Hexene: a critical component used to manufacture polyethylene

*Sources: American Chemistry Council and [Chevron Phillips Chemical Company LP](#)*

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### **By the Numbers**

\$100,000 — Average cost for a company to recruit, hire and train a chemical operator for their first position. This includes the cost of their salary during the training, overtime costs associated with covering the position they were hired to fill until they are fully trained, the trainer’s time and the cost for training materials like manuals, tests and learning aids.

Furthermore, training can last four to six months from hire until first job qualification for downstream positions. — *Source: TDS*

\$8.5 billion — More than \$8.5 billion of capital investment is going into Texas chemical facilities

81,000 — More than 81,000 permanent jobs will be created in the chemical industry and throughout the supply chain supporting the chemical industry in Texas

\$5.5 billion — More than \$5.5 billion in wages will be paid to Texas chemical industry workers

**\$86,329 — The average wage of a Texas chemical industry employee in 2011**

Molly Ryan covers manufacturing, technology, the Port and logistics for the Houston Business Journal.