

# Pasadena Citizens' Advisory Council

www.pasadenacac.org

## Summary of Tuesday, January 27, 2015 Meeting

### Overview and Tour of San Jacinto College Process Technology Program

PCAC member Kenneth Jackson, Professor of Process Technology at San Jacinto College, and nearly 20 of his students gave Pasadena Citizens' Advisory Council community and plant members a tour of the labs where future plant operators may obtain certification or an Associate's in Applied Science degree. Jackson began with an overview of the program over dinner.

Jackson's slides are posted at [www.pasadenacac.org](http://www.pasadenacac.org). They contain program history, the program's mission statement, members of the P-Tech Advisory Committee, the courses required for a certificate and for an Associate's degree, a description of the graduates, a list of ways students find out about job opportunities, and starting and maximum salary range for a process operator.

At the end of the overview, Jackson demonstrated a troubleshooting skills program, emphasizing that students are taught that trial and error is too risky a way to try to find the cause of a problem in a processing unit at a chemical plant or refinery.

The tour took members to the following labs:

- An Instrumentation and Electrical (I&E) lab where the department director had displayed dozens of kinds of analyzers for the students to learn to use.
- A process lab with half a dozen or so large tool boxes and many feet of pipes, flanges, valves, and gaskets. Here the students learn to use tools to, for example, fix a leak. A "hot" unit in this lab gives students familiarity with valve lineup. Here they control the process to maintain levels of liquid in two tanks. They also learn to run pumps in series or parallel and back flush a heat exchanger to remove blockage. The room also contains a pressure relief valve. Students also learn to use an eye washing station in this lab.
- A control room where students learn how to use process control systems such as the Delta V Distributed Control System (DCS). Here students practice controlling the glycol unit in the next room.
- The glycol unit, which was the program's first lab. Built in 1985 to train Saudi Arabian engineers involved in partnerships with two area companies, the glycol unit led to the Process Technology program. It grew into a certification program available to the public in 1986 and a degree program in 1998. In the glycol unit,

students learn about packing towers, reboilers, condensers, flares, and other equipment as they make glycol.

- Asked about safety training, Jackson said the glycol unit is also used to teach students about lifesaving procedures like confined space entry, lock out-tag out, hot work permits, fall protection, and Scott air packs.
- Students must also learn to read standard operating procedures. Technical writing lessons teach them how to write reports. A plant manager skimmed one of the training manuals and found its contents and format matched those typical in the chemical industry.

## FACILITY UPDATES SUMMARY

Acronym List on PCAC website

14 of 17 plants had no environmental reportable incidents

14 of 17 had no OSHA recordable injuries

13 had neither

3 plants each had 2 environmental incidents

3 plants had 1 OSHA recordable injuries

### 14 plants had no environmental incidents:

- |                        |  |                |
|------------------------|--|----------------|
| 1. Air Products        | 7. Ethyl                               | 11. Oxy Vinyls |
| 2. Albemarle           | 8. Gulf Coast Waste Disposal Authority | 12. Rentech    |
| 3. Axiall              | 9. Houston Products Processing         | 13. Sekisui    |
| 4. BASF                | 10. Intercontinental Terminals         | 14. Sun Edison |
| 5. Chevron Phillips    |  |                |
| 6. Enterprise Products |  |                |

### 14 plants had no safety incidents:

- |                     |  |                                |
|---------------------|--|--------------------------------|
| 1. Air Products     | 6. Enterprise Products                 | 10. Intercontinental Terminals |
| 2. Albemarle        | 7. Ethyl                               | 11. Kinder Morgan              |
| 3. Axiall           | 8. Gulf Coast Waste Disposal Authority | 12. Rentech                    |
| 4. BASF             | 9. Houston Products Processing         | 13. Sekisui                    |
| 5. Chevron Phillips |  | 14. Sun Edison                 |