Compressed Air Assessment

Scope of Compressed Air Assessment

In December 2002, the DOE and Chevron Phillips collaborated on an assessment targeting three compressed air systems at the Cedar Bayou Plant.

Benefits

- Saves 6,147,001 kWh, or $233,587 per year.

Assessment Recommendations

System 1 (PEU-1792)
- Reduce dryer purges.
- Eliminate open drains.
- Retrofit eight dust collectors from the bag houses.

System 2 (PEU-1796)
- Convert the dryer to vacuum regeneration.
- Eliminate air horns.
- Retrofit the bag houses with additional storage.
- Install a header between the 1792 and 1796 systems to allow the second compressor in the 1796 system to back up the 1792 system, thus eliminating the need for a rental compressor.

System 3 (Ethylene & AO)
- Install 600-hp motors on the compressors to increase output.
- Install new controls on the compressors to automate the system.
- Increase control air receiver size.
- Eliminate the crossover valve and increase the pipe size between utilities.
- Install 20,000 gallons of control storage (air receiver) behind a pressure/flow controller to create a trim station.
- Base load the utilities centrifugal compressors, allowing the AO screw compressor to serve as the swing compressor for the newly combined AO/Utilities system.