

## Case Study: SOUTHWESTERN BELL

### Site Location:

- Southwestern Bell Switching Station
- Richardson, Texas

### Concerns:

- Frequent nuisance trips
- Numerous compressor failures
- Mounting and piping of the Hanbell compressors in the McQuay frame

### Equipment:

- Two (2) McQuay ALS-155-A chillers
- Two (2) Frame 2 Oil-less compressors per chiller
- Two (2) circuits per chiller
- One (1) Sporlan custom Electronic Expansion valve per circuit (EXV)
- Air cooled condenser, five (5) fans per circuit
- Johnson P66 Fan Speed control on the 1st fan per circuit
- McQuay Micro Tech microprocessor controller
- Andover Building Management System (BMS)

### Steps Taken:

- Install Hanbell continuous loading compressors
- Install standard Sporlan EXV's
- Install MCS microprocessor controller

### Results:

This upgrade was completed in January 2006. The McQuay Chillers were installed to replace older Trane centrifugals located in the basement. The McQuay compressors were a new design but due to frequent outages and numerous compressor failures, they switched back to the Trane units until a solution was found.

Stability and reliability were realized when the Hanbell replacement compressors were installed along with the MCS controller. Communication is achieved via Bacnet with the BMS which rotates the chillers. The Trane centrifugals are now offline and the upgraded McQuay chillers have had no failures. Because the upgrade was done for reliability, no data was collected on energy savings. It is expected that a 10% to 15% savings would be achieved based on the MCS controls and the Hanbell screw compressors.



McQuay chillers upgraded with Hanbell screws and MCS Controls



**ELIMINATED NUISANCE TRIPS !**

**ELIMINATED COMPRESSOR FAILURES !**