

Case Study: WASHINGTON MUTUAL BANK

Site Location:

- Washington Mutual Bank Building
Lake Worth, Florida

Concerns:

- Repeated Compressor and chiller outages
- Service man on location during open hours of operation
- Unable to maintain stable temperatures
- A 95° F day required all compressors and chillers to run to hold the building
- Convert without interrupting business hours

Equipment:

- Four (4) 90 ton Carrier Chillers
- Four (4) Reciprocating Compressors per chiller
- Two (2) refrigerant circuits per chiller
- Two (2) compressors per refrigerant circuit
- One (1) unloader on the lead compressor for each of the circuits
- Air cooled condensers
- Three (3) fans per refrigerant circuit
- One (1) Carrier Flowtronics EXV per circuit

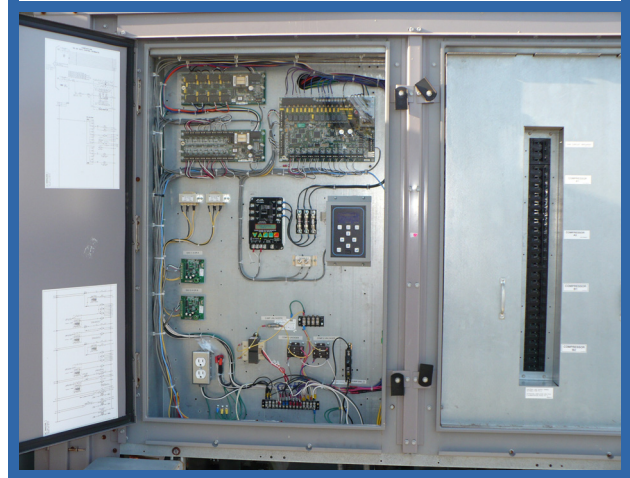
Steps Taken:

- Install MCS microprocessor control system
- Install new electronic expansion valve (EXV's)

Results:

The upgrade was completed in September 2002. The primary objective was to improve up-time on the chillers and reduce failures. The original Carrier controls were removed and replaced with the MCS controls and new EXV's. The first two chillers were upgraded on a Saturday at 10:00 AM and completed by Sunday evening using five people for 17 hours. The other two chillers were converted the same way a month later.

After the conversion, the new MCS controller managed the operation of the chillers so much more efficiently that on a 95° F day, only 3 compressors per chiller were needed to maintain the building. The original plan was to eliminate nuisance trips and improve chiller reliability. This goal was achieved with an added bonus of energy savings that paid for the upgrade in less than 1 year.



Panel mounted MCS Controls on Carrier Chiller



CUT ENERGY CONSUMPTION BY NEARLY 25%

ELIMINATED OVER 99% OF NUSIANCE TRIPS