CASE STUDY

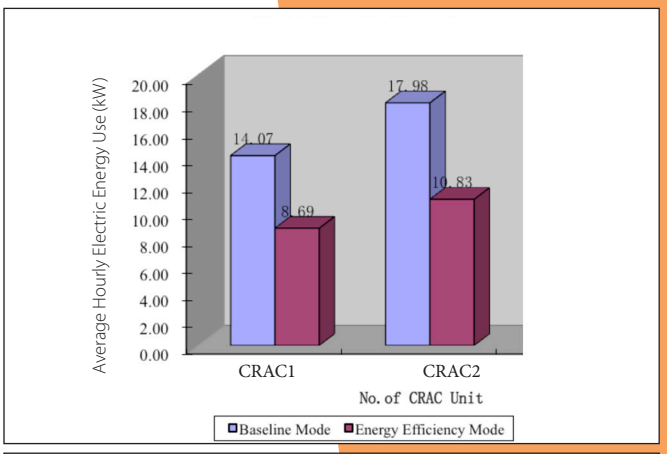
DIGI-CRAC™

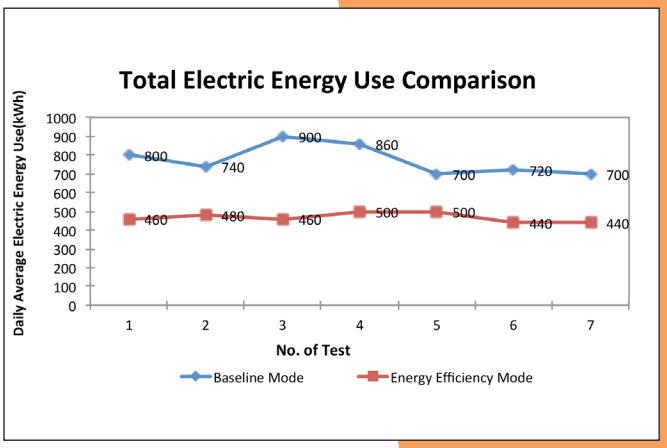
FACILITY:
DATA CENTER
BEIJING, CHINA

Building Information
» Function: Data center

System Information
» Space condition requirements are 18-26° C for temperature
» 45%-65% relative humidity
» Current setpoints are 20-22° C
» Current setpoints are 45% relative humidity
» Three (3) 25-ton DX units with two compressors

Project Date
» Implementation January, 2013





DIGI-CRAC™

» M&V for baseline mode 2 week period
» M&V for energy efficiency mode 2 week period
» Improve existing hot/cold spot situation and enhance temperature and relative humidity control to satisfy equipment operating condition.
» Install return air registers and return air duct work for Lab Room #3
» The air conditioning system can operate at optimal efficiency.
» Improve the HVAC system reliability and stability.
» Reduce maintenance cost, and prolong equipment life.
» Through duct work modification for Lab Room #3 eliminate equipment overheat that has caused system alarms.

BENEFITS

» Improved system reliability
» Standard electricity usage: 50.38 kWh/hr
» Electricity usage with Digi-CRAC: 36.07 kWh/hr
» Energy savings:
  » Electricity: CRAC 1 **(38.3%)**
    CRAC 2 **(39.7%)**
» Project simple payback: **1.8-2.1 years**

*A third CRAC unit generated 9.74% energy reduction, however it is removed from this case study because of it's abnormal operating and cooling requirements.

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