

Medical Center Finds Unique Process for

## Keeping Energy Costs Down

The University of Minnesota Medical Center (formerly Fairview Medical Center), a hospital complex with approximately 2 million square feet, was looking for a way to keep air quality and comfort at a peak as well as save on energy costs. John Marshall, Director of Facility Services, had heard about Dr. Mingsheng Liu of Bes-Tech in Dallas, Texas from a business associate and contracted Dr. Liu to work as Project Director to find methods to better improve energy costs and the environment. “We can’t compromise on these issues,” stated Marshall. “We really wanted someone who could work with our maintenance engineers and help them have a good understanding of the importance of energy conservation since they run the buildings day-in and day-out. We also wanted to verify any results on the savings we got.” The measured savings turned out to be \$250k - \$300K per year.

The process started with a training session for the engineers on various things to look for in energy conservation. Then, Dr. Liu and his team came in and performed a Continuous Commissioning- Energy Efficiency Feasibility Study (C2-EEFS) on the buildings. The objective of the C2-EEFS is to evaluate HVAC system function and performance, identify energy conservation opportunities, and optimize energy usage. Upon completion of the onsite portion of the C2-EEFS, engineering team compiled an in-depth energy analysis, created a revised baseline and produced a C2-EEFS report and proposal. The report included an existing HVAC system summary, measurement results, maintenance and comfort concerns and solutions, energy conservation opportunities and benefits, the comparison of existing and proposed control algorithms, savings calculations (in both real dollars and KWH), potential retrofit costs and payback.

Marshall concluded, “After Dr. Liu and his team researched our equipment, variable speed drives, control programs, reset points and other areas, they presented a list of recommendations. One of the things that impressed us was that Dr. Liu and his team of engineers knew hands-on how to accomplish our goal, not just giving theoretical recommendations. Their practical understanding helped build good rapport, common ground and an ideal working climate with our maintenance and operations staff.” The process took two to three years with all of the training and implementation. “We ended up getting some better equipment in as part of the overall process, and the energy savings for each building was significant - thirty five cents to one dollar per square foot.”