



Belk “Chills” with Shultz Engineering Group and Saves Big

When Belk needed a changeout of their central chiller plant at their headquarters building on Tyvola Road in Charlotte, rather than call several contractors and solicit quotations for this replacement, we contacted Shultz Engineering Group (SEG), a long-time trusted engineering partner of ours, to advise us how to best approach this project. Their engineering expertise and advice allowed us to far surpass our expectations for such a project.

First, SEG ran cooling loads for the entire building served by the existing chiller plant and examined our past usage history. They determined that our three existing 500-ton chillers could be replaced with three 400-ton chillers. This significantly reduced our project's first cost, not only on the chillers themselves but on the accompanying smaller cooling tower, pumps, and electrical service. This resulted in first cost savings in the range of \$300,000.

Next, SEG created an energy model for our entire facility, tuned to our actual historical energy usage, which determined that we would experience very significant energy savings by going with a new piping configuration and controls strategy. Using this same energy model, they were able to demonstrate to the IRS that the proposed replacement chiller plant would provide a 15 to 24% improvement over the baseline chiller code minimum plant. They then successfully achieved tax deductions of more than \$170,000 for us on this project.

Through their energy model demonstration and consultation with Duke Energy, SEG was also able to demonstrate projections of significant energy usage reductions to Duke Energy and secured a Custom Utility Incentive for us of over \$200,000.

Since the completion of this chiller plant project, the system has performed much more reliably than our original system and has amazingly been saving us an average of more than \$10,000 per month in energy costs.

SEG saved Belk approximately \$670,000 in initial costs and is on track to continue to save \$120,000 per year going forward.

-Belk Facilities Department

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