



TAKE CHARGE

# Case Study: Clay Center for the Arts & Sciences of West Virginia

Commercial & Industrial Program

**\$24,583**

Rebates Paid

**\$38,670**

Estimated Annual Savings

**0.63 years**

Payback Period

**529,730**

Annual kWh Savings

## The Opportunity

When the Clay Center for the Arts & Sciences of West Virginia decided to upgrade their chilled water system, they knew it would save them money. They just didn't know it would be so much.

The educational center, which houses museums and performances in Charleston, West Virginia, worked with their supplier, Graybar, to make the upgrade. To help cut project costs, Graybar contacted Appalachian Power on behalf of the Clay Center.

## The Project

The Clay Center's previous chilled water system used three-way valves and inefficient constant-speed water pumps and fans. To make the system run more efficiently, the Clay Center added variable speed drives to the chilled water pumps, condenser water pumps and cooling tower fans. In addition, the three-way valves were modified to operate as two-way valves. The upgrades led to incredible savings.

## The Results

Since the Clay Center is such a large facility (240,000 square feet), the upgrade made a major difference in the organization's energy costs. In total, the Clay Center is estimated to save \$38,670 and 529,730 kWh a year. They also received \$24,583 in rebates from Appalachian Power, putting the project's combined rebate/savings payback period at just over half a year.

Now the Clay Center is more comfortable, and they can invest the savings back into their mission.

## Environmental Impact

The kWh savings are equivalent to the energy used by:



**42.6**

homes in one year



**966,260**

miles driven by an average passenger vehicle



[The Clay Center's] chilled water pumps, cooling towers, and condenser pumps ran all the time. With Appalachian Power's rebate program I have installed variable frequency drives on these units. I look forward to working with them on a few more projects to save the Clay Center on energy costs. Appalachian Power is very easy and helpful to work with!"

Phil Neubaum, Building Operations Manager, The Clay Center



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