



## NO MORE BOIL ORDERS: INNOVATIVE FINANCING MAKES CITY'S WATER QUALITY TURNAROUND POSSIBLE



Although it sits along the banks of the Ohio River in southern Indiana, the city of Mt. Vernon struggled for years to consistently provide its residents with safe drinking water. The problem was three-fold: The community's century-old main water intake pipe was crumbling, its water filtration process was unreliable and its metering system proved to be inaccurate. The challenges combined to create uncertainty among residents who were often forced to boil drinking water, and reluctance among prospective business owners to invest in the local economy.

That's now changing.

Today, Mt. Vernon is a city nationally recognized for its water conservation program and poised for economic growth, according to water superintendent Chuck Gray. "Right now we've got a small power plant that's being built here. We're going to have a large fertilizer plant that's going to be built here. And a steel mill is looking to locate here. Things are really picking up for Mount Vernon." Gray credits the turnaround to the city's partnership with Johnson Controls and an innovative financing method that made it possible to implement much-needed change without increasing taxes or municipal water rates.

### PROJECT AT-A-GLANCE:

Location: Mt. Vernon, Indiana

Population: 7,478

Projected Savings:  
\$26 Million, primarily in revenue  
enhancements

Capital Outlay:  
\$0 (Project funded through guaranteed  
energy and operational savings)

### THE NO-CAPITAL-NEEDED OPTION: PERFORMANCE CONTRACTING

The local Johnson Controls team designed a plan to fund a series of water system upgrades using an [energy savings performance contract](#). Under the contract, improvements



In this three-minute video, hear firsthand how city of Mt. Vernon leaders describe the success of their water conservation initiatives.

would be paid for up front by Johnson Controls and guaranteed to generate enough savings to pay for themselves over time. "Without this funding mechanism and the expertise Johnson Controls was able to bring to the table, we would never have been able take these steps forward," said Gray.

The three-phase got underway in 2007 and included a series of water plant and distribution system improvements:

- **Phase 1: Replace meters to increase billable consumption.** The first phase of the project featured the installation of an [Automated Meter Reading \(AMR\)](#) system. The project included changing out 3,300 manual water meters for automatic meters, which are expected to save the city \$3.7 million in increased billable consumption and operational efficiencies over 15 years.
- **Phase 2: Replace filters to enhance water clarity.** A year later, Johnson Controls implemented phase two which updated the city's [water plant delivery systems](#). Specific upgrades included designing and installing an intake pumping system building, new transfer pumps with variable frequency drive (VFD) retrofit and a trident

filter system and building. This phase resulted in a 77 percent increase in the city's water clarity and a reduction in electricity use of more than 800,000 kWh per year, saving the city \$10 million over 15 years.

- **Phase 3: Update infrastructure to better protect the environment.** Phase three focused on upgrading the Mt. Vernon water treatment plant, increasing treatment capacity to 4.4 million gallons and preventing 720,000 gallons of contaminated water per day from being discharged into the Ohio River. This phase is expected to create more than \$10 million in savings over the term of the contract.

The results have been so impressive, a fourth phase of the project is currently underway, designed to improve the city's water distribution system.

More important than the accolades, however, is that Mt. Vernon's water system improvement initiatives will have a lasting impact on the community. With safe water and significant cost savings, the city is transforming itself into a place where people want to live and businesses hope to thrive.

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