



**NEW BOILER  
AND CHILLER  
PLANTS, &  
ELECTRIC  
SERVICE  
UPGRADES**



## VA MEDICAL CENTER

Syracuse, NY

IPD has had the honor of playing a significant role in helping the 750,000sf Syracuse VA Medical Center meet its ever increasing energy efficiency goals over the last 6 years. We have provided MEP/FP design services on well over a dozen renovation projects throughout the hospital during this time, however, our biggest impact on the facilities energy use came from a project titled ENERGY CONSERVATION MEASURES, which spanned from 2010 to 2012.

This project, drastically reduced the need for steam by installing a high efficiency hot water boiler plant. One of our biggest challenges with the boiler plant was finding a place to put it, as the site is very limited and the budget was too tight to build new space. Our solution was to remove a large water storage tank at the top of the hospital that was used to provide water pressure in the mid 1950's. Not only did the storage tank occupy enough space to accommodate the boiler plant, its contents weighed more than the (albeit heavy) equipment we replaced it with. With the boilers at the top of the building, the stack costs were also minimized. This energy measure in and of itself increased efficiency of the heating plant from roughly 70 to 90+ percent.

Among seven other energy measures taken on this project, another notable one included overhauling the 4,000-ton chilled water plant with a control system overlay from a company called

Optimum Energy (OE). We worked with OE to implement a system that lays over top of the existing control system and changes settings, such as pump speeds, cooling tower fan speeds, chiller set points and more, in 30 second intervals. Each time a setting is changed, the system looks to see if the overall energy consumption of the chiller plant went up or down, while also verifying the needs of each space are met. We knew the results would be significant by installing this system, but we were concerned about how complex the algorithms were to perform these tasks. To make sure the chiller plant wouldn't fail due to an unforeseen error by the new control system, we implemented a feature that would allow the original control system to take over, literally with the push of button.

To bolster the hospitals electrical system reliability, in early 2015 we embarked upon a major project to move all of the 208V loads over to a new 480V system. The 208V loads covered an area of over 500,000sf, or approximately 2/3 of the entire facility. The project is currently in contracting, getting ready to go out for bid with an estimated cost of \$12,000,000. The complexity of the project was extreme due to the requirements set by the client to minimize disruption to patient care and avoid outages.

**CLIENT**  
VA Medical Center

**COMPLETION**  
2012

**COST**  
\$20 M +