



# Example Retrocommissioning Measure: Modify Heat Pump Schedules

## Facility

This seven-story, 125,000 square foot office building holds 85 different tenants. Its heat pump HVAC system includes 175 water source heat pumps, two water loop circulating pumps, and two fluid coolers.

## Investigation Finding

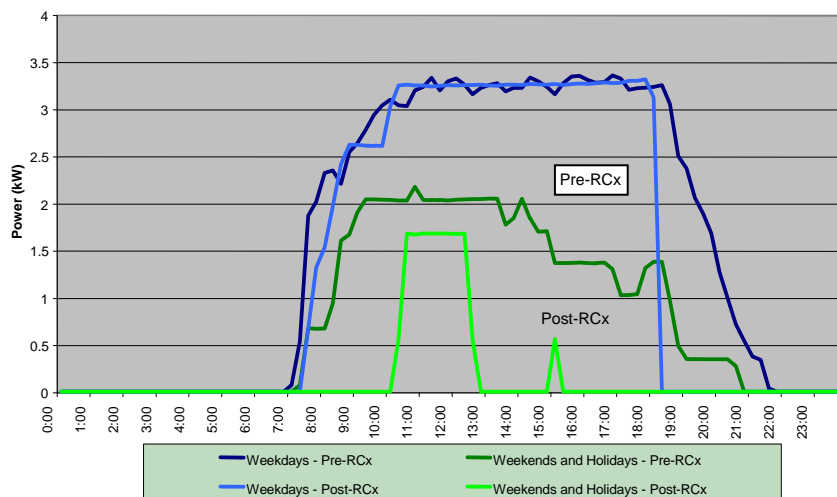
The regular HVAC operating schedules had been modified to accommodate temporary after-hours occupancy, rather than operating the system under a temporary override. As a result, the entire heat pump system was operating when the building was unoccupied, even after the temporary occupancy period had passed. This savings opportunity was identified through system trend analysis and use of data loggers that revealed the modified heat pump schedules.

## Implemented Measure

The schedules for the heat pumps, water loop circulating pumps, and fluid coolers were modified to reflect actual building occupancy schedules. The building operators were trained on how to accommodate temporary after-hours occupancy requests.

System operation was monitored through trending of the building control system and use of data loggers to confirm that the HVAC system was operating in accordance with the new schedules. Utility interval data also confirmed a reduction in operation during weekends and other unoccupied periods.

**Fluid Cooler Spray Pumps**  
Pre- and Post-RCx Average Daily Load Shapes



## Results

Estimated annual electric savings	<b>\$17,120</b>	<b>219,460 kWh</b>
Implementation cost	\$240	
Simple payback	Immediate	