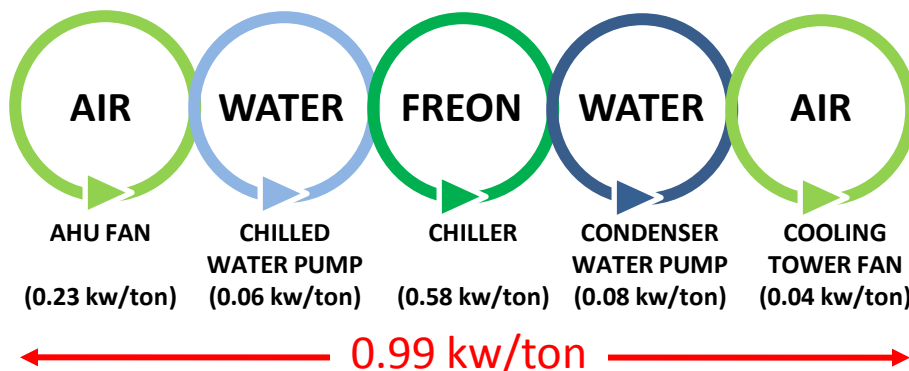


**UNDERSTANDING HEAT TRANSFER PROCESSES**



**SITUATION**

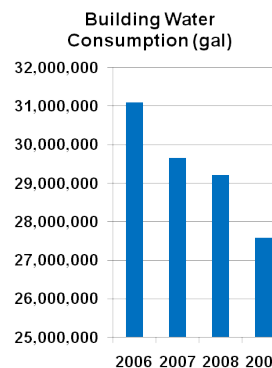
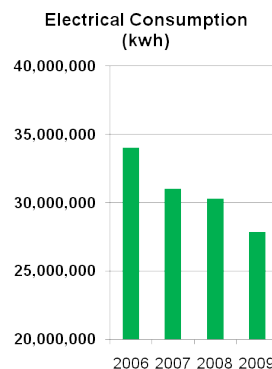
The Building Engineers are a vital part of the commissioning process. Now that the 5,000 ton chiller plant has been replaced (See “Highrise Chiller Replacement Project”), the next step is the education of the Operating Staff on how to optimize the entire chiller plant. The above figure is paramount in the educational awareness of removing the heat from the office and rejecting it at the cooling tower on the roof.

**WHY EDUCATION VERSUS TRAINING?**

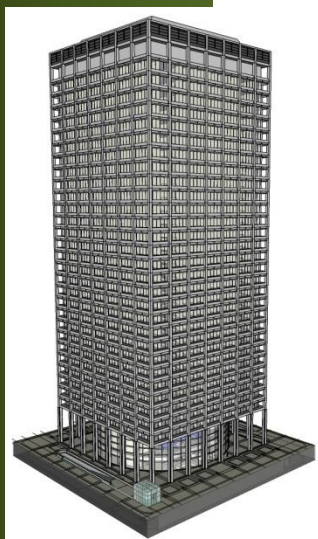
Training is only single dimensional based on conditions that one may not recognize when they occur. By educating an Operator on the heat transfer fundamentals of the figure above, one quickly recognizes how to prioritize energy efficiency. The CHILLER and the AHUs respectively are the largest consumers of energy in the entire process. Knowing how to optimize both of these by spending the right amount of energy on the remaining three processes is the key. This enables the Operator to learn on the job by taking the right risks.

**RESULTS**

Over 6,000,000 kwh of electricity are saved annually when we compare the building consumption of 2006. Water consumption decreases as well when Operators realize evaporating more water than necessary does not necessarily change condenser water temperature which in turn improves chiller efficiency.



- GOALS:**
- Educate Operations Staff
  - Reduce Energy Consumption
  - Improve reliability
  - Project ROI



*“Education is much more valuable than training....”*

*Greg Schindler, PE, CFM*