



VET MED ENERGY EFFICIENCY

COMMUNICATIONS BULLETIN – APRIL 2011

Communications Bulletin

This is a monthly e-bulletin that features news and construction highlights on the Vet Med Energy Efficiency Initiative.

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CONSTRUCTION UPDATES

Vent Duct Cleaning

- Expected to be completed by May 4, 2011
- SAC is 65% complete
- LAC is complete with the exception of Ward 3

Lighting/Occupancy Sensors

- Completed on April 14, 2011

Completed Coil Cleaning in SOL Fan 10 (surgery)

Building Codes

- Basic Sciences Building (BSB)
- Large Animal Clinic (LAC)
- Small Animal Clinic (SAC)
- Surgical Obstetrics Laboratory (SOL)
- Clinical Skills Learning Center (CSLC)

ENERGY CONSERVATION MEASURE (ECM) SPOTLIGHT COOLING TOWER REPLACEMENT

The Chilled Water Plant at the Veterinarian Center provides chilled water for the Basic Sciences Building, Large Animal Clinic, Small Animal Clinic and Surgical Obstetrics Lab. It is equipped with four centrifugal chillers, one absorption chiller, and three cooling towers located on the roof of the chiller plant. The control system maintains a constant condenser (cooling tower) water temperature of 85°F. By lowering the condenser water set point temperature, the chillers will operate at a cooler condenser water temperature which greatly improves their efficiency. Chiller efficiencies improve with every degree the condenser water temperature drops. This percentage can be as much as 1-2% depending on which chiller is on.

Assuming a 1% efficiency improvement per degree of condenser water temperature and a 5-degree temperature differential, this will result in a 5% overall savings on the chiller efficiency per year.

ESG has converted the chilled water plant from a constant volume to a variable flow to maintain a constant differential pressure that will allow the chilled water pumping distribution pressure to dynamically increase/decrease based upon system requirements, and not on a fixed differential pressure set point. As pressure requirements are reduced, pump speed and flow will also typically be reduced, resulting in pumping energy savings.

The original tower system was sized to include an absorption chiller that was eventually removed from service. The new tower was sized for the current chilled water loads.



New Cooling Tower on Chiller Plant Roof