

Energy Conservation Opportunities/Measures

⌘ Energy Conservation Opportunities (ECO's)

- ☒ possible areas/options to save energy
- ☒ potential improvement in components, function and/or procedures
- ☒ conduct site walk to evaluate condition of existing systems
- ☒ survey customers for ideas- start "communication process"

Energy Conservation Opportunities/Measures

⌘ Energy Conservation Measures (ECM's)

- ☒ taking action on ECO's
- ☒ might not directly result in reduced cost (i.e. improved comfort = improved productivity)
- ☒ "Primary" vs. "Applied" ECM's
 - ☒ Primary ECM- financed thru normal O & M budget
 - ☒ Applied ECM- require special financial investment beyond normal O & M budget

Eco's/ECM's

⌘ "No Cost- Low Cost" Primary ECM's:

- ☒ adjusting temperature setpoints
- ☒ make preventative maintenance a PRIORITY
!
- ☒ Shutdown systems when not in use
- ☒ Signage in workplace
- ☒ optimize start/stop times of large HVAC system components

ECO's/ECM's

⌘ Applied ECM's:

- ☒ life-cycle cost analysis
- ☒ strategic planning process
- ☒ administration/customer "buy-in" required (shared objectives)
- ☒ learn the language of the customer
- ☒ good communications a must !

Energy Conservation Opportunities (ECO's)

⌘ Building Envelope:

- ☒ Weatherproofing
- ☒ Glazing upgrades
- ☒ Install shading devices (films, blinds, deciduous trees)
- ☒ Wall/roof insulation
- ☒ roof coatings (CEC/"Cool-roof" program)
- ☒ Automatic door closers

⌘ Lighting Systems:

- ☒ re-lamping
- ☒ replace ballasts
- ☒ occupancy sensors
- ☒ photo-cells on exterior lighting systems

⌘ Electrical Systems:

- ☒ high efficiency motors
- ☒ check existing panels
- ☒ demand limiting

Energy Conservation Opportunities (ECO's)

⌘ HVAC Systems:

- ☒ install VFD's on fans/pumps
- ☒ calibrate/replace existing temp controls
- ☒ convert CV systems to VAV
- ☒ check insulation on ducts/pipes
- ☒ upgrade equipment efficiency

⌘ BMS/DDC controls:

- ☒ replace/augment existing pneumatic control systems
- ☒ turn systems off when not needed (time-of-day scheduling)
- ☒ duty cycling
- ☒ load shedding
- ☒ demand limiting
- ☒ optimum start/stop

Energy Conservation Opportunities (ECO's)

⌘ Office Equipment:

- ☑ turn off when not in use.
- ☑ Utilize "Energy Star" equipment where practical
- ☑ share printers/reduce printer usage
- ☑ batch copying
- ☑ 2-sided copying

⌘ Water Heating:

- ☑ insulate tanks/pipes
- ☑ check for leaks
- ☑ upgrade efficiency of equipment

⌘ Renewable Energy:

- ☑ PV cells for outdoor lighting
- ☑ fuel-cells
