

## EFMA Zone III & VI Meeting Minutes - October 19, 2012

School District No. 57 Boardroom – 9:00 a.m.

1. Group Speakers were introduced by Nino Maletta – Chair
  - Mathew Redecop
    - Introduced 5 Value drivers to consider when doing a project
    - Queried group on how many districts had an energy policy.
    - Reviewed a number of schools that he put together an analysis of their energy use.
      - Reviewed a summary of the VFA reports in a graphical view.
      - Reports indicated where the need was an indication of what was going to be done. Paybacks indicated as well.
      - Reviewed energy and cost pie graph of district energy use.
      - Reviewed energy intensities and benchmarks.
      - Discussion on what was on a project list for re-lamping, LED, daylight harvesting, occupancy sensors, programmable thermostats, timers and DHW circulation.
      - Described bud lights, LED vs CFL's and explained what they do in crawlspaces for lighting. (They have gates that come up and switches that automatically turn lights on and off.)
      - Occupancy sensors have a 30% rule of thumb for savings on kwh's.
      - Boiler replacement is the highest ECM (12). Building automation follows at (4).
      - Further discussion on inventory for each building and electrical component.
      - Value at a Glance – improved infrastructure – 16 schools energy audited and fully funded.
        - Estimated \$500,000 in BC Hydro Funding
        - 12,300,000 kwh of identified savings – 60% reduction.
        - 9,888 Gj of gas savings – 23% reduction
        - \$151,000 annual energy cost savings after 3 years.
        - \$1,134,000 in capital expenditures with a 7.5 year payback.
        - All projects done 'in house'. They have hired a lot of apprentices.
  - Wayne Cousins – BC Hydro - Topics
    - BC Hydro Programs Overview
    - Improving Support and Communications
    - Group Discussion and Input

### Power Smart Express

- Pre-inspection required. Post inspections required. Program change was initiated in May.

### Power Smart Custom Program

- New Construction Program – pays for 50% of the study costs up front and then 50% on completion of project.
- Whole building needs 50,000 kwh savings
- System Design – 50,000 kwh
- Energy Efficient Lighting Design – 10,000 kwh

### Continuous Optimization

- Reduce equipment run time.
- Optimize economizer operation.
- Eliminate simultaneous heating and cooling.
- Optimize zone / setback tempera.
- Eliminate unnecessary lighting hours.

### Re-Commissioning of Equipment

- Planning phase
- Investigate phase
- Implementation phase
- Hand-off phase – training phase to bring operators up to speed

### Coaching

- Quarterly visits from consultants – 4 visits
  - Consultant comes up with measures to be implemented. Emphasize use of EMIS to measure building performance.
  - EMIS – 3 approved vendors
    - Energent
    - Energy Profiles Ltd.
    - Pulse Energy
  - Produces load profiles, benchmarking, utility bill analysis, exception reporting, measurement and verification.

Continuous optimization is not really re-commissioning it is feedback at building level – re-commissioning is just the primary activity. Continuous optimization is the mechanism which ensures that the building continues to perform. It is the persistence to make sure the savings continue.

Sample reports reviewed – CuSum / Storyline – if the chart goes up it is a cumulative savings, if it is flat lined you are not changing or saving, if it is going down you are losing energy. Storyline indicates time and also the improvement measures that are added to the program.

#### Program Offer

- BC Hydro – 100% of the re-commissioning consultant.  
100% EMIS hardware and software license.  
100% Consultant fees for investigating, etc.
- Customer has to implement all measures that show 2 year payback up to a maximum cap of \$0.25 per sq. ft.
- Customer can opt out of program by paying for consultant fees.
- Customer has to pay incremental cost of additional meters and equipment if required. (Data logger power, communication and hookup to the BC Hydro meters – which averages \$1,000 to \$1,500 per site.)
- Results:
  - Average 113,946 sq. ft. cost \$0.92 sq. ft. (\$0.48 for gas and \$0.44 for elect)
  - Average consumption 15 ekwh / sq. ft. / yr
  - Implementation cost \$0.22 sq. ft.
  - 12% savings for a payback of 2 years.
- Barriers to participating?
  - 50,000 sq. ft. threshold
- What does a School District have to pull out of their wallet?
  - Install EMIS
  - Commit to spending up to \$0.25 sq. ft.
  - 9 months of baseline data once the meters are put in. Data is used to quantify good performance going forward.
  - 12 months to investigate the building, after bundles are proposed. 12 months to get things done and 12 months of coaching afterwards.
- Problems:
  - Drop it down to 30,000 sq. ft. per school for some of the elementary schools would work better.
  - Initially was set up handle very large buildings.
  - Could be better once the smart meters are all installed because the price point is too high for those smaller buildings.
  - Indications were from other districts that did the program that Pulse Energy was very responsive.

## Energy Manager:

Reports to senior management  
Has senior management sponsor  
Commits to annual kwh savings target  
Identifies claimable kwh savings projects via business cases  
Assigned a budget to implement projects  
Presents four quarterly meetings per year  
Has 5 key objectives to achieve, identified by ema  
Given annual contract - renewed based on performance  
Prepares strategic energy management plan  
Provides 50% funding from BC hydro up to \$50,000 per year  
Program is currently capped, we need to be creative

Sharing of energy manager beyond districts - is this logistically possible?

- Mathew is an example of how this works.

## Closing Remarks:

- As a group we will connect two to three times a year via conference call, setup by BC Hydro to discuss opportunities and strategies. Third Tuesday of each month – starting in November.
- Early in 2013 we will be able to go into a commercial portal and see consumption 24 hours after the fact and get details on our building.
- Billing data is quite challenging. We can email Wayne for details on our consumption history. Data plus will be coming back in another format with the smart meter applications.
- New products can be put on the BC Hydro list if you email Wayne and see if the marketing team agrees with the selection.

2. Meeting adjourned at the Board Office

3. Site Tour at Pinewood Elementary and Highglen Elementary with the group ensued to review lighting improvements and boiler retrofits done at those locations.