

Energy Efficiency: System Design Strategies: Operations and Maintenance Measurement and Verification / Submetering

Strategy: Track energy cost and usage involving the use of submetering to measure individual loads, such as lighting, refrigerators, equipment, main meter, and HVAC.

Relevant Store Scale/Type: M-L/New

Initial Cost:

1. Additional submeters.
2. M&V Plan and Data analysis

Return on Investment:

1. Savings depends on what is being submetered. See case studies below for some ranges in savings.

Operator Benefits:

1. Helps assure that all systems are running at best efficiency creating energy savings.
2. Very helpful in testing new strategies.
3. Data can be used to help determine problem areas or areas not performing as expected.
4. General energy analysis data can be applied to all stores in chain.

Technical Considerations:

1. Special consideration needs to be given to electrical design in order to most effectively allow for submeters.
2. Important to create a Measurement and Verification plan to understand the scope to be analyzed.
3. Need to have a facilities person that is collecting and analyzing data; often works well in conjunction with building automated systems and controls.
4. "If you don't measure it, you can't control it."

Product/Manufacturer Suggestions, Resources & Examples:

Case study: Shaw's Supermarkets

<http://www.cool-companies.org/ads/shaws.cfm>

Case study: Food Lion

http://www.energystar.gov/index.cfm?fuseaction=partners_in_practice.showStory&step=AP&storyid=1000000