**What is Energy Management & Information Systems (EMIS)?**

**EMIS Features**

- Energy information systems (EIS) help find energy waste using smart meter data
- Fault detection and diagnostics (FDD) detect and prioritize HVAC system faults
- Automated system optimization (ASO) modifies control settings to minimize energy use while maintaining occupant comfort

**How EMIS work:**

- **Data Warehouse:** Integrates and organizes building data
- **Data Analytics:** Transmits actionable information to building engineer
- **Implementation:** Building engineer reviews analytics and makes repairs or improvements

**EMIS Field Evaluation Challenges & Opportunities**

With the number of EMIS field validation projects growing, the EMIS Protocol provides a standardized way to assess benefits

**Challenges**

- Studies have been conducted in different ways
- Inconsistent datasets can be hard to generalize
- Uncertainty slows EMIS adoption

**Opportunity**

- Standardized EMIS Evaluation Protocol:
  - Validates energy & non-energy benefits
  - Identifies key and optional metrics
  - Balances high rigor with flexibility

**How you can use the EMIS Field Evaluation Protocols**

**Target Audience**

Evaluators & Researchers on:
- Federal or state-sponsored emerging technology programs
- Utility industry emerging technology programs
- Large building portfolio pilot studies

**How the EMIS Protocol can help**

- Includes a template to describe EMIS technology features & capabilities
- Provides an easy-to-follow EMIS field evaluation plan
- Identifies minimum & optional evaluation parameters and approaches for determining costs & benefits from EMIS


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The EMIS Protocol provides an approach to assessing EMIS’ energy and non-energy benefits using a minimum set of standardized metrics supplemented by optional metrics.

### Overview
- **Introduction**
- **Overview of EMIS Field Evaluation**
- **EMIS Field Evaluation Plan**

### Field Evaluation Parameters & Approaches (⭐ Key Metrics)

#### Energy & Utility Cost Metrics
- Annual energy savings ⭐
- Annual energy cost savings ⭐
- Monthly peak demand reduction
- Demand response load reduction

#### Non-Energy Impacts Metrics
- Occupant comfort satisfaction
- Operations & maintenance

#### Cost Effectiveness Metrics
- EMIS cost ⭐
- Simple payback period ⭐
- Net present value (NPV)
- Savings-to-investment ratio (SIR)

#### Operational Capability Metrics
- Installation & commissioning effort
- Capability to enable energy efficiency ⭐
- Accuracy of FDD issues/opportunities

### Appendix
- **Relevant Publications**
- **Sample Evaluation Report Outline**
- **Site Selection Criteria**
- **Evaluation Reporting Template**
- **Common Capabilities of EMIS**
- **Common Efficiency Measures**


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