



Field Test Best Practices (FTBP) Update: *It's here! And we need you!*

NREL Buildings Research

Field Test Best Practices
A Resource for Practical Residential Building Science

Home About Field Test: Start to Finish Building Components & Systems Measurement & Instrumentation Search

Leakage and Infiltration Measurement
Use a blower door test to help identify areas where you can tighten the building envelope.

Leakage and Infiltration Measurement

Lighting Level Measurement

Air Flow Measurement

Duct Pressurization Testing

The Field Test Best Practices site is a collection of best practices and lessons learned from the U.S. Department of Energy's (DOE) [Building America](#) program.

On this website, you will find detailed guidance on:

- Planning for your field test
- Conducting a field test
- Choosing, testing, and installing components
- Selecting equipment and knowing when and how to use it.

Get started by browsing the topics below.

Related Links

NREL Buildings Research ›
NREL develops innovative technologies to significantly reduce energy consumption in buildings.

National Residential Efficiency Measures Database ›
A centralized resource of residential building retrofit measures and costs.

Building America ›
A DOE program that develops integrated energy systems to reduce energy use in homes.

Field Test: Start to Finish

- Field Test Planning
- Field Test Execution
- Research Questions
- Role of Building Simulation in Field Testing
- Short Term Tests
- Long Term Monitoring

Building Components & Systems

- Envelope
- Electric Water Heaters
- Gas Furnaces
- Hydronic and Radiant Systems

Measurement & Instrumentation

- Leakage and Infiltration
- Temperature Measurement
- Humidity
- Fluid Flow
- Electrical Energy
- Pressure
- Weather
- Occupancy
- Combustion Analysis

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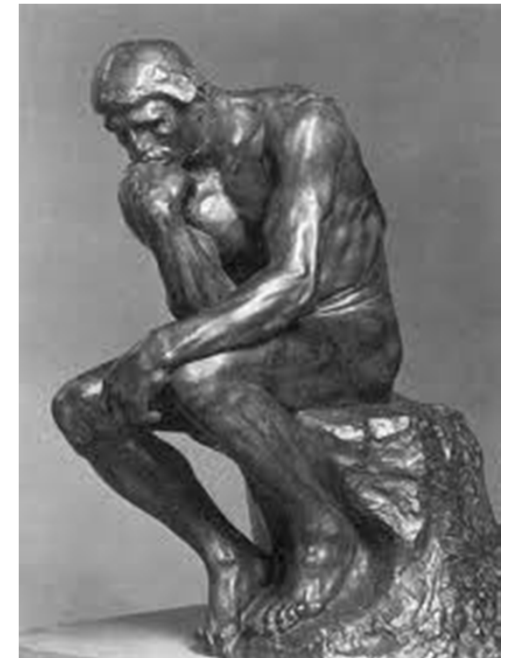
Bethany Sparn

*Building America
Stakeholder Meeting*

2012-03-02

Identified Field Testing Needs

- Difficult to find good general guidelines
- Difficult to find examples of good field test plans
- Difficult to find information on instrumentation options
- No easily-accessible central repository for best practices knowledge
- Field tests were taking longer and costing more \$\$ than initially estimated
- We keep reinventing the wheel
 - Start from scratch each time we write a data-logger program?
 - Repeat each other's mistakes?



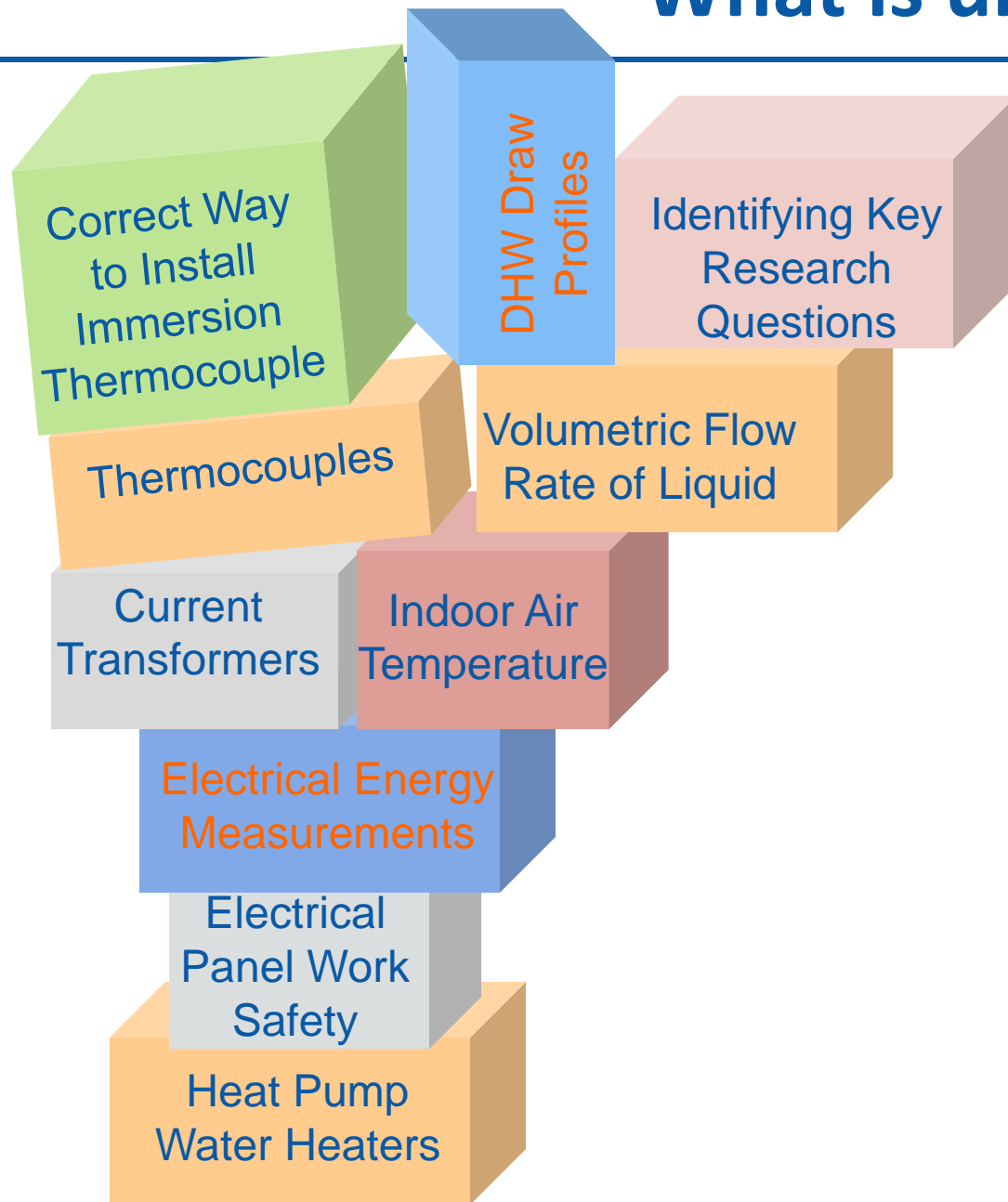
What is the FTBP Resource?

- Web resource for Residential Field Testing Tools & Techniques
- Announced at 2011 August technical update meeting
- Key objectives / features:
 - Publicly available central repository of best practices knowledge (including 'expert folklore') → efficiency
 - Guidelines and examples of well-designed tests → consistency
 - Dynamic: search, sort, assemble, update information → convenience
 - Distributed content generation → input from content experts

Continue to build on what we already know

Accelerate Speed, Scale, and Quality

What is unique about FTBP?



1

Modular content
(a.k.a. CHUNKS)

Assembled as-needed to
create content-specific
pages

Only one instance of
each CHUNK, which may
appear in multiple pages

What is unique about FTBP?

2

3-D Approach to Content Organization

Field Test Start to Finish

- Structuring research questions
- Building simulation
- Experiment design
- Short-term testing
- Long-term monitoring
- Field test execution logistics
- Data analysis & uncertainties
- Examples of test plans and final reports

Building Components & Systems

- Envelope
- HVAC systems
- Dehumidification
- Domestic Hot water
- Appliances and MELs
- AHAM systems
- On-site renewables
- EV Charging Station
- Lighting

Measurement & Instrumentation

- Leakage & Infiltration
- Temperature
- Humidity
- Fluid flow
- Electrical energy
- Pressure
- Heat flux
- Data acquisition systems
- Weather
- Occupancy

How Can You Help, You Ask?

Super

Become a content contributor:

- Get a user/contributor login account and submit content chunks at your convenience

Platinum

Recommend good sources of information:

- Documentation you authored
- References you find helpful
- Web sites we should cite / link to

Gold

Browse the site, give us feedback:

- Did you find what you're looking for?
- Are we missing key content?
- email us, call us, fill out "Help" form on site

Plans for 2012

- Continue to insert content to fill all section headers
 - Collect all relevant *already-existing* documentation
 - Document new tools and methods as needed
- Webinar kickoff with stakeholders
 - Comment solicitation:
 - Usability feedback
 - Prioritization of new content
- Launch forum for informal exchange information
- Deploy process for external content collaboration



<https://buildingsfieldtest.nrel.gov/>

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(or talk to Lieko, Dane, or Bethany)