



## *The “Role of Batch Testing”*

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## *Agenda*

- What is batch testing?
- But does it work?
- Where do we go from here?



## *What is Batch Testing?*

- *The Sampling Protocol*
  - Production builders
  - Initial testing of first 3 homes
  - Batch selection
  - Random sample
    - Select 15% of homes for inspection/testing
  - Tested home fails, whole batch fails



## *But does it work?*

### *EPA Sampling Protocol Review*

- Full HERS ratings on 71 homes
- Three raters
- Six builders
- Three different climates



## *But does it work?*

### *EPA Sampling Protocol Review*

- Zero failures
- Mean HERS score: 87.6
- Variance: 0.45
- Standard deviation: 0.66



## *But does it work?*

- *Rater Implementation*
  - Advance Preparation
    - Worst case modeling on all models
    - Custom BOP for all models
    - Training subcontractors
    - Testing every model once



### *But does it work?*

- Rater Implementation
  - Batch Selection
    - Batch size (keep it small)
    - Size of sample (15% minimum)
    - Random selection (target different models)



### *But does it work?*

- Rater Implementation
  - Inspections
    - Visual inspections of all homes
    - Test additional homes at start of every new subdivisions
    - Repeat training for new crews or subs, inspect additional homes



### *But does it work?*

#### Participating Production Builders

- Top 15 builders produced 50% of the ENERGY STAR Labeled Homes in 2000
- 4 out of the top 5 builders have homes verified with the sampling protocol
- In the year 2000, two builders built over 1000 ENERGY STAR Labeled Homes
- 11 out of top 15 builders have homes verified with the sampling protocol



### *A Partnership with the HERS Industry*

- New Pilot Sampling Program in Ohio
  - HERS Provider
    - Terry Smith, Ohio Office of Energy Efficiency
  - HERS Rater
    - Paul Rimelspach, Energy Design Alternatives