Variability Assessments: A RESNET Training and QA Tool

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Welcome to this Session

- Welcome and Introductions – M. Lubliner

- Overview of Variability Assessment (VA) Research

- NIST NZE Home VA proposed rating – D. Hales

- DOE planning VA confirmed rating – D. Cohen

- Stakeholder "Next Step" Discussions – All

Variability Assessment (VA) History

Oct 2013: WSU develops NIST guideline

Feb 2014: 1st RESNET VA Work Group (WG) Meeting

July 2015: WSU Proposed Rating VA Pilot of NZEH

Sept 2015: WSU shares VA Pilot Report with VA WG

Oct 2015: WSU completes NIST grant effort

Nov 2015: WSU & RESNET continue VA (proposed & confirmed) planning efforts

Mar 2016: WSU presents NZEH Pilot results NOW!

RESNET VA WG discuss next steps TONIGHT!

Variability Assessments of HERS Index?

- **Goal** – Assess the variability of the HERS index, and improve the consistency of information to builders, efficiency program providers, and code officials using the HERS index

- **Objectives** – Implement a RESNET VA pilot project, develop future RESNET programs focused on proposed HERS ratings (for new construction), and identify key factors that impact variability of HERS Score

Purpose of VA Guidelines

- Define important considerations for ***planning, conducting, analyzing,** and **disseminating the results*** of a VA to study a specific aspect of Home Performance Contracting (HPC) industry services

- Gather information to ***provide a better understanding of the variability in any number of performance characteristics*** of interest to HPC industry sectors

- Help developers of best practices, guidelines, and standards to ***improve those products to provide a more reliable prediction*** for the homeowner and to ***elicit confidence*** in those who will pay for enhanced building performance or measures to attain that performance

Purpose of VA Guidelines

- Reproducibility is a focus
  - Desired outcome: the HPC industry can assess the ability of standards and guidelines to **_provide more consistent results_**

- Stakeholder organizations involved include:
  - Contractors
  - Program sponsors
  - Implementers
  - Training providers
  - Standards organizations (ASHRAE 90.2, IECC, etc.)

Work Group (WG) VA Project Scope

Planning:

- Identify and recruit task group to manage and advise on project throughout process:
  - Identify and refine research questions
  - Determine what data will be provided to participants vs. which require rater judgment
  - Determine which software application(s) will be used in the effort
  - Establish a communications protocol

- With task group, discuss viability of two approaches:
  - Web-based VA effort in conjunction with RESNET
  - In-person VA at 2016 (or future) RESNET conference

TG/Project Scope

Identify Raters and Select Site/Plan Sample:

- Determine a general target sample of plans for VA implementation

- Ensure that the sample is adequate to answer or to inform stated research questions

- Discuss the level of statistical analysis required to answer the research questions

WG/Project Scope

Test Protocol:

- Determine a realistic timeline and budget, and identify potential stakeholder partners

- Define data necessary to inform goals and objectives

- Develop a database structure to support data analysis

WG/Project Scope

Implement VA Testing:

- Implement the VA in accordance with the research plan

- Collect and filter data

- Identify and resolve issues and questions encountered during review

WG/Project Scope

Analyze Data and Report Findings:

- Conduct data analysis in accordance with the WG guidance

- Provide the draft report to targeted stakeholders and the task group, and solicit comments for inclusion in the final report

- Produce and distribute final report to RESNET and NIST

Next Steps

- RESNET work group and stakeholders discuss VA NIST Pilot

- WSU/RESNET implement VA efforts at Kentucky RESNET

- RESNET WG evaluates VA efforts and review WSU report

- RESNET WG recommends future VA efforts/QA programs