Webinar Goals

- Highlight key changes in Version 2.0.
- Solicit stakeholder feedback on proposal and outstanding issues.
- Address stakeholder questions about process and/or changes.
- Identify next steps and timeline.
Key Areas for Discussion

- Technology Neutrality
  - Product Categories
- Add-On Heat Pump Warranty Requirements
- Labeling Solar Water Heaters
Revision Drivers

- Technology Neutrality
- Specific small issues with specification
- Expansion to cover more products

- New federal standards in 2015 will be addressed by Version 3.0
Technology Neutrality

• Product Categories
  – Distinguished by Fuel Source
    • Electric
    • Gas
    • Solar
  – Further Distinguished by Use
    • Whole-home
    • Point-of-Use (POU)

• Distinctions also affected by test methods
### Proposal Summary

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Product type</th>
<th>Requirements</th>
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<tbody>
<tr>
<td>Electric</td>
<td>Whole home storage</td>
<td>EF ≥ 2.0, FHR ≥ 50</td>
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<td>Point of use</td>
<td>EF ≥ .97, min flow ≤ .3 GPM</td>
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<td>Whole home storage</td>
<td>EF ≥ .67, FHR ≥ 67</td>
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<td>Whole home tankless</td>
<td>EF ≥ .82, GPM ≥ 2.5</td>
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<td>Solar</td>
<td>Electric or gas backup</td>
<td>SF ≥ .5</td>
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</table>

- All categories have additional warranty and safety requirements
- Solar unchanged pending resolution of larger questions
Whole-home Electric

• Includes both integrated and add-on Heat Pumps: Removed language requiring “integrated/drop-in” units

• EF ≥ 2.0

• Warranty Requirement Issues (for add-on)
  – Differences in how a tank manufacturer handles the warranty
  – Consumer placed in awkward situation between manufacturers
Whole-home Electric Contd.

• Options for warranty
  – Add-on heat pump manufacturer assumes the remaining warranty of the tank up to a maximum of 6 years (current proposal)
  – Limit warranty responsibility by defining what constitutes a void in warranty, or by defining “alterations to the tank”.
  – Other options?
    • Fair for manufacturers (all designs not equal)
    • Ensure the consumer is protected
Poll

• What is the best option for warranty requirements for add-on heat pumps?
  – All add-ons required to assume warranty, as in Draft 1
  – Limit warranty responsibility of add-on manufacturer in some way
  – I have an idea you didn’t mention
POU Electric

• Defined by input and physical dimensions
  – 36x25x24 (LxWxH)
  – Limit to less than or equal to 12kW

• Larger units not covered by NAECA, so manufacturers reluctant to make EF claims

• Larger units (and hybrid units) may be considered for a commercial specification, or the next revision (before 2015) by which time the test method landscape may be different
POU Electric Contd.

- Qualification requirements proposed
  - $\text{EF} \geq 0.97$
  - Low-Flow Rate Requirement
  - Allow user to adjust temperature
  - Capable for use as booster or alone
  - Flicker requirement
  - Warranty
  - Safety
POU Electric Contd.

- 12 kW units have limited applicability (single sink fixture)
- Cost effective to serve single fixture addition
- Can be used to improve HW system without increasing energy use
- Energy savings dependent on situation
Whole-home Gas

- Includes high efficiency gas storage and gas condensing water heaters
- EF ≥ 0.67
- Warranty ≥ 8 years
  - Needed to reconcile varying warranties in previous categories
  - Longer warranty necessary to support longer payback periods
- Gas Storage vs. Gas Tankless
Labeling Solar Water Heaters

• Goal: To effectively promote the adoption of energy efficient technologies.

• Question: What role does ENERGY STAR play in a consumer’s decision to purchase a solar water heater?
Poll

• What are the primary market barriers to broader adoption of solar water heating?
  – Education/consumer knowledge
  – Education/contractor knowledge
  – Initial cost
  – Lifetime cost/benefit
  – Social issues (e.g. my neighbors will think I’m a hippie, my HOA won’t allow it)
  – Other
Key SWH Questions

• Do utilities rely on ENERGY STAR for their solar water heating programs?

• Market changed since the ENERGY STAR program took effect?
  – More sales? More confidence in SWH?

• Does ENERGY STAR change consumers’ performance or payback expectations?
  – Are expectations met? If not, market impact?
Solar Thermal Growth

U.S. Solar Market Insight™
2010 Year in Review Executive Summary
GTM Research for SEIA

SWH: Annual Installed Capacity by Market Segment, 2000-2010

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<thead>
<tr>
<th>Year</th>
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Financial Incentives for Solar Water Heating

www.dsireusa.org / April 2011

41 states + DC, PR & USVI offer financial incentives for solar water heating
Utility Use of ES

Use of ENERGY STAR in Solar Water Heater Rebate Programs

Legend
- Solar Water Heater Rebates
  - No Rebate
  - Utility Rebate Program
  - ENERGY STAR used in rebate

Map of the United States showing states with and without solar water heater rebates.
Key SWH Questions

• Do utilities rely on ENERGY STAR for their solar water heating programs?
• Market changed since the ENERGY STAR program took effect?
  – More sales? More confidence in SWH?
• Does ENERGY STAR change consumers’ performance or payback expectations?
  – Are expectations met? If not, market impact?
Other SWH Programs

• Solar Rating and Certification Corporation (SRCC)
  – Does the ENERGY STAR label add significant value to this?

• EPA
  – EPA Emerging Tech Awards
  – Building scale energy efficiency programs
Other SWH Programs, cont.

• DOE:
  – Utility Solar Water Heating Initiative
    • Partnership program that helps facilitate utility implementation of solar water heating initiatives

• State Programs:
  – CA Solar Initiative, Florida Solar ratings program, Wisconsin solar rating program
    • Rating systems based on specific regions or climates.
    • Additional focus on installation and system design
Other SWH Programs, cont.

- Federal Incentives/Policies for Renewables & Efficiency
  - Residential Energy Conservation Subsidy Exclusion
    - Subsidies provided to customers by public utilities are non-taxable.
  - Residential Renewable Energy Tax Credit
    - Up to 30% tax credit on solar water heaters. Expires 12/31/2016.
  - Energy-Efficient Mortgages (EEM)
    - FHA backed homeowner EEM.
  - Energy Standards for Public Buildings
    - Requires adopting renewable technologies such as solar water heaters for public buildings.
Revision Timeline

- Aug. 23rd: Draft 1 Stakeholder Webinar
- Sept. 9th: Draft 1 comment period closes
- Oct. 2011: Draft 2, webinar and comment period
- Nov. 10th: Stakeholder meeting at ENERGY STAR Partner Meeting
- Nov. 2011: Draft final, comment period
- Dec. 2011: Final specification published
- Sep. 2012: Effective date
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