

ENERGY STAR

Discussion on Alternative Verification Testing Pilot Program Webinar: Steam Cookers

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Call-in Information



- Audio provided via conference call in:
Call in: +1-877-423-6338 (in the US, Canada)
+1-571-281-2578 (outside the US, Canada)
Code: 132085
- Phone lines will remain open during the presentation to allow for open discussion
- Please keep phone lines on mute (*6) unless speaking

Agenda



- Background
- Current Qualification and Verification requirements
- Issues identified as concern in April 2012 memo
- November 2013 memo
- Next steps

Introduction



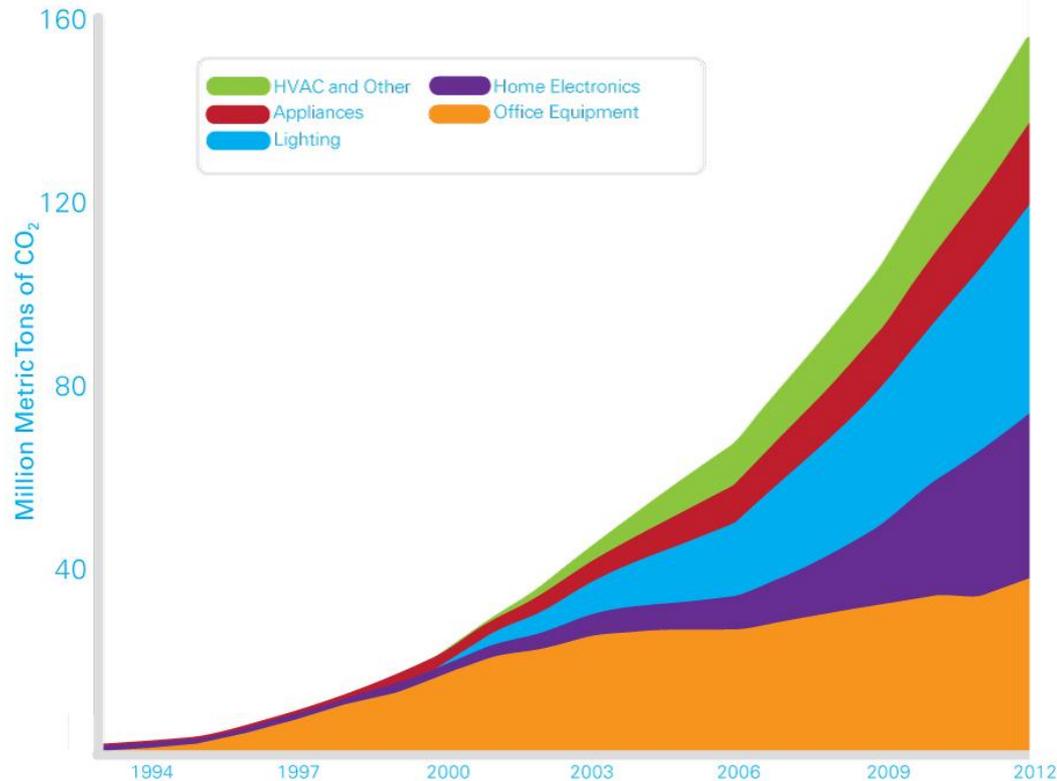
- EPA thanks all stakeholders who have been participating in the ENERGY STAR program
- Interest since the introduction of third-party certification to align with safety testing protocols and reduce repetitive testing
- Stakeholder participation is critical to this effort

What Is ENERGY STAR?



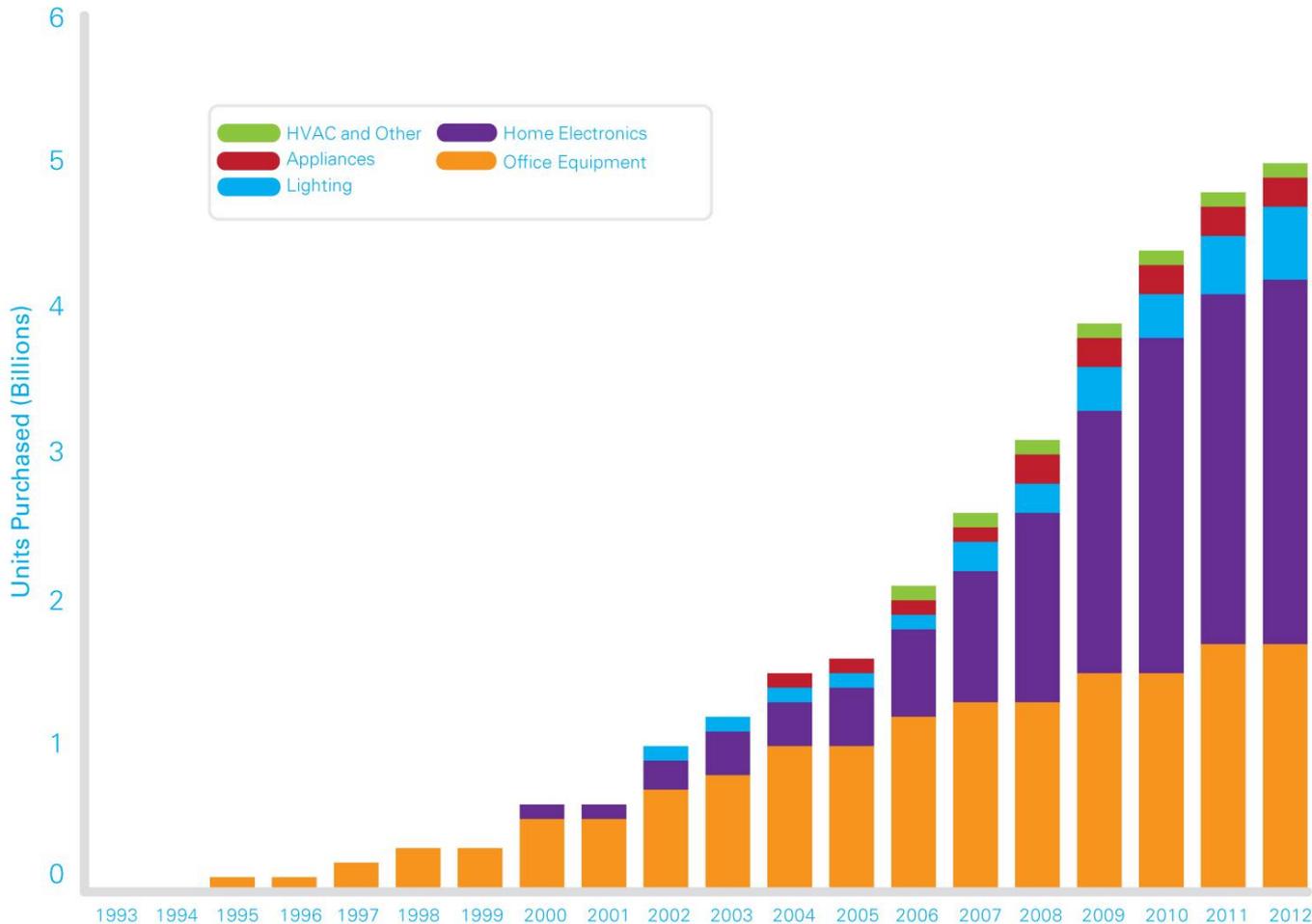
- Voluntary climate protection partnership with the U.S. Environmental Protection Agency (EPA)
- Strategic approach to energy management, promoting energy efficient products and practices
- Tools and resources to help save money and protect the environment
- Influential brand recognized by over 85 percent of Americans

Annual GHG Emissions Avoided



As of 2012, EPA estimates that ENERGY STAR products prevent more than 150 million metric tons of greenhouse gas emissions annually. More than 200 billion kilowatt hours (kWh) of electricity is saved per year, which represents 15 percent of U.S. residential electricity use. These savings have offset the need for more than 185 additional power plants.

ENERGY STAR Products Sold



Since the program's inception, thousands of individuals from more than 2,200 manufacturing companies, 1,600 retailers, 800 energy efficiency programs and the federal government have worked under the ENERGY STAR banner to define, build and create both supply and demand for energy-efficient products. Over the past 20 years, Americans have purchased a total of more than five billion ENERGY STAR products.

**The lighting data do not include CFL sales. Product sales may not appear in every year a category was included in the program due to scale.*

What Makes ENERGY STAR a Successful Product Label?



- Binary structure
- Commitment to core principles
- Focus on integrity
- Systematic approach
 - Data driven
 - Open and Transparent
- Wide ranging set of program partners
 - Retailers, manufacturers, utilities and other efficiency program sponsors, environmental groups, international partners
 - Re-enforcing value proposition
- Effective educational message

Partnership Program



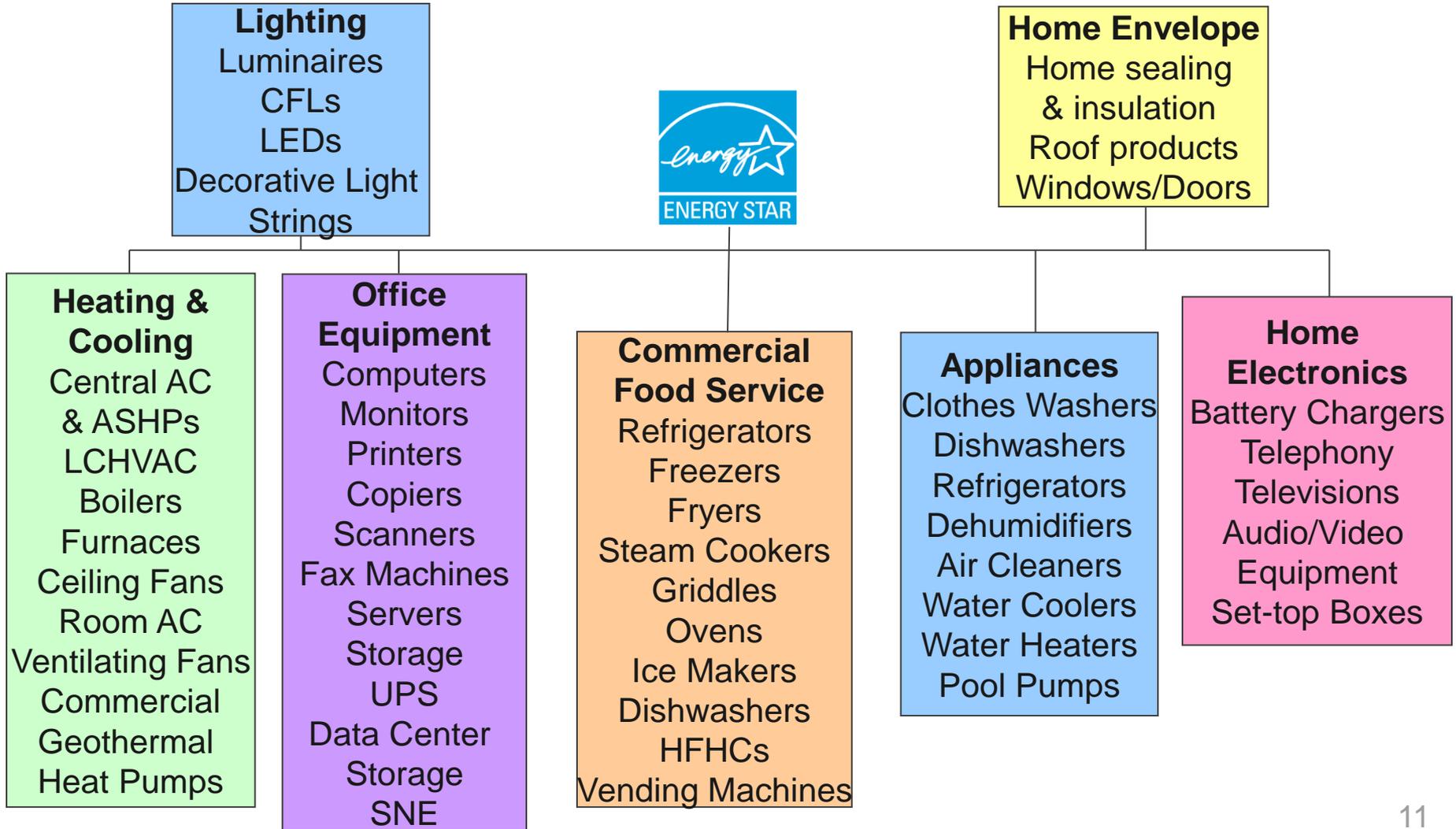
- 18,000 partners - across all sectors of the economy
 - Product Manufacturers
 - Retailers
 - Utility/efficiency programs
 - Home Builders
 - Commercial and Industrial building managers

ENERGY STAR Products



- Label identifying efficient products in more than 70 categories
 - Appliances, electronics, HVAC, lighting, data center equipment, and commercial food service equipment
- Leader in efficiency metrics and test procedures
- Platform for changing behavior
- Influential consumer brand
 - 85% awareness
 - 72% of purchasers report the label is influential
 - 82% of purchasers would recommend ENERGY STAR to a friend

70 Product Categories are Covered by ENERGY STAR in the US, such as:



Partner Responsibilities



- **Work with EPA-recognized CB to certify to V1.2**
 - Testing must be conducted at an EPA-recognized laboratory
 - EPA-recognized CBs and Laboratories can be found [here](#)
- **Cooperate with product verification and challenge testing and outcomes**
 - Work with CB efforts to select, procure, and test products, and EPA product control measures to address product testing failures
- **Submit Unit Shipment Data**

Current Approach to ENERGY STAR Qualification and Verification Testing



- Third-party certification of test data prior to qualification and labeling
 - EPA-recognized laboratories test the product and submit test results to a third-party certification body to certify the product meets ENERGY STAR specifications
- Verification testing after qualification
 - Verify that products continue to meet the ENERGY STAR requirements regardless of changes in the production process

Certification Bodies



- Certify product performance before labeling
- Select products for and administer ongoing verification testing
- Administer challenge testing
- Re-evaluate products in the event of modifications that effect the energy profile
- Oversee supervised and witnessed manufacturer test labs (S/WMTLs)

ENERGY STAR's Third-Party Certification Process



January 2011: ENERGY STAR Labeled Products Program moved from self-certification to third-party certification.

Entities apply to become EPA-recognized laboratories, certification bodies, or accreditation bodies



Manufacturers test products with EPA-recognized laboratory or manufacturer lab (W/SMTL)



EPA-recognized certification body reviews data & certifies performance



EPA lists qualified models on website and partners market as ENERGY STAR qualified

Details available at www.energystar.gov/3rdpartycert

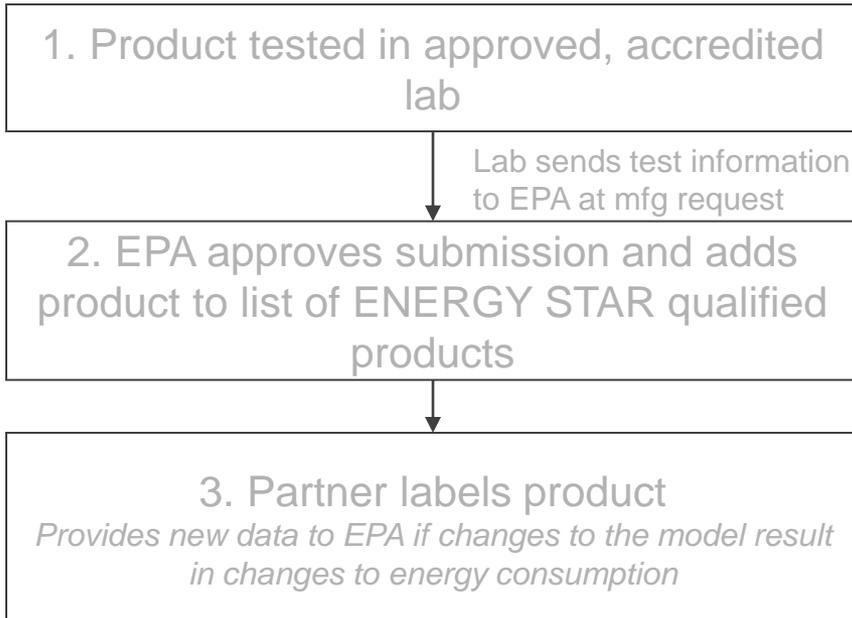
ENERGY STAR Enhanced Testing and Verification – Market-Based Testing Program



Market-Based Testing Scope: All ENERGY STAR Product Categories

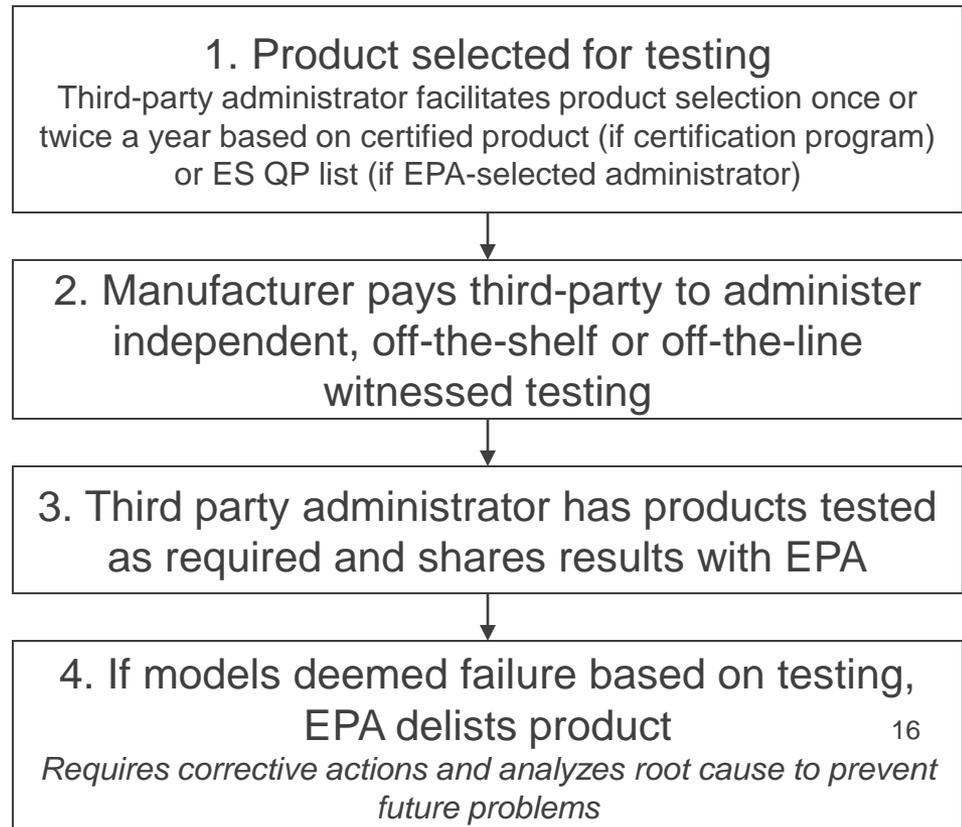
Qualification Testing

Purpose: Ensure that testing is conducted as required by ENERGY STAR specification and that lab submits test results to EPA that are representative of products sold to customer



Verification Testing

Purpose: Ensure that products continue to meet ENERGY STAR requirements



Recognized Bodies for Steam Cookers



- 7 certification bodies offering certification for commercial steam cookers
 - 5 labs qualifying products
 - Wide range of pricing options available
- **CBs**
 - CSA International
 - IAPMO R&T, Inc.
 - Intertek
 - NSF International
 - SGS North America
 - TUV SUD America
 - UL
 - **Labs**
 - Bureau Veritas ADT
 - Food Service Technology Center
 - Intertek
 - NSF International
 - UL

Products Listed on the Qualified Product Listing (QPL)



- 151 individual products listed on the QPL
 - 137 electric
 - 14 gas
- 149 registered (pre-3/11), 2 certified in 11/2011

Verification Process



- In general, 10% of ENERGY STAR products are subject to “off the shelf” verification testing each year (including registered products)
- Goal of verification testing is to ensure that changes or variations in the manufacturing process do not undermine the product’s qualification with ENERGY STAR requirements
- Verification testing is overseen by EPA-recognized certification bodies, and in some cases, DOE

Verification Testing Results



- In 2012, 1169 ENERGY STAR models were subject to verification testing (204 through DOE's program)
 - CFS equipment:
 - Commercial Refrigeration Equipment - 26
 - Commercial Ice Machines - 13
 - Commercial Steam Cookers - 5
 - Commercial Hot Food Holding Cabinets - 4
 - Commercial Fryers – 1

[Verification Testing 2012 Summary](#)

Limiting Testing Burden



- Limiting the amount of testing for a particular manufacturer to no more than 10% of unique qualified models per product category
 - 60% of ENERGY STAR CFS partners would only have 1 model tested each year for verification
 - Fewer than 20% of CFS partners would have more than 2 models subject to verification testing each year.

Key Meetings with NAFEM on Third-Party Certification



- 5/2010 – Meeting with EPA staff on third-party certification for CFS equipment
- 12/2010 – Meeting with EPA senior management
- 4/12 – EPA memo on piloting component review in lieu of verification testing
- 6/12 – EPA response to NAFEM on findings
- 11/2012 – EPA memo limiting testing burden

Initial Input on a Component Audit Approach



- EPA's primary interest that a component level review would provide comparable outcomes in verifying product performance as actual testing
 - CBs noted that there is no data to support this

Similar to Safety Testing?



- Experience shows that safety of the product can be tied to the safety of the components, regardless of how those components are integrated
 - the same correlation has not been established for energy efficiency of products
 - component review would not necessarily reflect the quality of the integration of these components, especially with highly engineered control systems – would need additional systematics

Reduction of Burden?



- EPA received comments in its initial review noting that the component level review approach would not necessarily provide any cost savings
 - What are the upfront cost associated with documenting constructional details in addition to the ongoing factory inspections?

Level Playing Field?



- Not all CBs engage in safety testing
- Need to document the requirements for conducting a component review
 - Tools
 - Data Needs
 - Complimentary Data Systems
 - Identify Needed Expertise
 - Potentially feasible for all CBs?

Required Analysis



- Must demonstrate the correlation between energy efficiency and key components
 - system integration impacts on energy efficiency
- Important to explore the cost implications of this approach
 - cost savings between existing VT and pilot approach
- Document burden reduction while providing equivalent accuracy associated with VT

Follow up Services



- During follow up service inspections, products undergo inspection /audits at the manufacturing facility to verify continued compliance with safety requirements
- All products and systems are audited periodically to ensure
 - Products continue to comply with requirements
 - No unauthorized change in the construction compared to original sample that was test to obtain certification

Follow up Services, cont.



- Usually unannounced, but may be scheduled
- Most visits are done quarterly but some products require additional surveillance
- Inspections include
 - Construction review/requirements
 - Component/material traceability
 - Product line testing
 - Calibration of test equipment
- Inspection report document audit
- Nonconformance results in Variation Notice

Identifying Critical Component Modifications Prompting Re-test



- Model number
- Electrical rating
- Water consumption
- Heating elements
- Gas burner and rate
- Thermal insulation
- Heat exchanger
- Air circulation fans
- Combustion fan (gas)
- Cooking fan & motor
- Thermostat & setting
- Timer, controls
- Lighting
- Door gaskets
- Glass door (A/R)
- Safety Listing (UL) file
- Sanitation (NSF) file

UL Critical Component Lists

- **Gas Steamers:**

- Via Audit testing
 - Rate and combustion
- Via Component Review
 - Burner assembly and manifold pressure setting
 - Flow vent design
 - Cavity seal integrity
 - Water level control
 - Heat exchanger design with respect to shell, tube dimensions, and hydrostatic testing
 - Door gasket materials

- **Electric Steamers:**

- Via Audit testing
 - Element kW and V
- Via Component Review
 - Flow vent design
 - Cavity seal integrity
 - Water level control
 - Heat exchanger design with respect to shell, tube dimensions, and hydrostatic testing
 - Door gasket materials

Proposed Timeline



- November 20, 2013 – Launch letter on pilot
 - December 18, 2013 – Stakeholder webinar
 - December 20, 2013 – Comments due
- Q1 2014 – Calls with individual stakeholders to gather input
- Q2 2014 – Share findings and approach
 - Q2 2014 – Stakeholder meeting at NRA
- Q3 2014 – Finalize approach

Contact Information



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Thank you