Energy & Management Resources

EAM Associates ("EAM"), a New Jersey based business, accredited by the Residential Energy Services Network ("RESNET") to provide Home Energy Rating Services ("HERS") in nine states, appreciates the opportunity to provide industry comments on the Federal Environmental Protection Agencies ("EPA") "Proposed Guidelines for Energy Star Qualified Homes in 2006". EAM's technical program implementation services for the New Jersey Energy Star Homes ("NJESH") program in the State of New Jersey to both the investor owned gas and electric companies is a strong experience base, and foundation for our comments.

EAM has been providing turnkey consulting, program design, grant writing, and complete marketing services to school districts, investor owned utilities, HVAC contractors, industry representatives, trade associations, residential builders, and commercial developers since 1993. A successful and growing consulting firm, our team represents 60+ years in the Demand Side Management/Market Transformation arena. EAM has completed more than 3,400 EPA certified ratings, encompassing Plan Analysis, Pre-Drywall Inspections, and Diagnostic Final Inspections, utilizing blower door and duct blaster tests. This resulted in over $9,689,000.00 in utility provided builder incentives.

EAM has capabilities in Building Sciences, Energy Design, Construction Plan Review, Home Energy Ratings, and Commissioning Services to provide feedback on the 2006 Proposed Guidelines. In addition, EAM employees are also members of RESNET's committees, Northeast HERS Alliance committees and Board of Directors, New Jersey Office of Clean Energy committees and task forces, as well as various National Association of Home Builders, and the New Jersey Builders Association committees/task forces.

EAM understands the need to evolve the Energy Star Qualified Homes Program ("Program") as the baseline changes and the minimum efficiency standards increase. With the introduction, and adoption of the International Energy Conservation Code ("IECC"), and the central air conditioner baseline efficiency increase from a 10.00 SEER to a 13.00 SEER, a revision to the performance standards of the Program is required to maintain the integrity and the value of the brand.

Based on the documents contained in the "Important Notice About Proposed New Guidelines for ENRGY STAR Qualified Homes in 2006", EAM would like to submit the following:

1. Heating and Cooling - these systems should have a default added to be inclusive of "manufacturer specifications" in addition to the ACCA Manuals.

   The requirement of integrated tankless coils should not be limited to just oil fired systems. EAM recommends dropping the fuel type or include others.

   Who does the EPA have in mind to determine if the heating and cooling equipment installed was sized to ACCA Manual S, D & J load calculations and sizing specifications? This may add additional time to the certification process and impact cost of service to the end user.

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In addition has EPA defined the threshold for sizing? EAM also recommends the mention of an allowance within sizing to Manual J specifications. Due to the nature of various software programs providing HVAC load calculations, and true installed capacities of available equipment, there needs to be clarification on the threshold parameters. EAM recommends the use of a percentage above or below the Manual J calculations. For example, cooling equipment must be within 15% and heating within 25% of the Manual J (or equivalent) calculations, and/or the next available size within a ½ ton capacity (due to limited manufacturer availability).

2. Ducts – EAM supports the inclusion of the documentation by a Rater to include, at a minimum RESNET approved duct leakage testing. The new standard of less than or equal to 4 cfm to outdoors per 100 square feet of conditioned floor area may be exclusionary to many construction practices in place – even those of today's Energy Star Builders. EAM would recommend maintaining the present standard as it relates to this proposed Program change.

3. Envelope – EAM supports the requirement of testing a dwellings envelope leakage and its documentation by a RESNET certified Rater using, at a minimum RESNET approved testing protocol.

   The standard of less than or equal to 0.35 air changes (natural) per hour may be exclusionary to many Builders, including those presently enrolled in today's Program. EAM would recommend establishing a threshold of 0.40 air changes per hour.

   In footnote number 9, the use of mechanical ventilation is "recommended" to "ensure consistent exchange of indoor air". EAM believes that the EPA should "require" mechanical ventilation since the new specifications suggest natural air changes of 0.35 or less.

4. Windows – as long as a Builder has access to Energy Star Qualified windows in the marketplace in which they are building, the standard should apply. To allow for window types – such as door sidelight windows, basement, transom types/styles – that are not presently covered by the ENERGY STAR windows protocol.

   In the specifications notes number 11 – climate zone 4 is not listed.

5. Lighting and Appliances – As homeowner taste and aesthetics vary, bundling of ENERGY STAR Qualified products into the thermal envelope and HVAC aspects of the Program may not be a prudent strategy. In many cases Builders do not purchase many of the "white goods" in a home, if any at all. If they do, it is a base efficiency model. If a homebuyer wants to upgrade an appliance, the builder generally provides a "credit" to the homebuyer and they purchase the appliance outside of his supply chain. Many homebuyers are specifying an upscale kitchen, which includes Sub-Zero refrigerators, commercial cook tops and ovens, with matching doors with installed cabinetry.

   If factored into the "Estimated Savings" values on the "Energy Star Reference Home Checklist", lifestyle plays a major role in appliance and lighting usage patterns that

are hard to predict, and to quantify when disputes arise between actual and estimated usage/cost. Knowing thermostat set points, as determined by an occupant's lifestyle, and current/historic weather data, allows for the quantification and comparisons between actual and estimated when a dispute with a homeowner may arise. As a side – EAM recommends adding a disclaimer:

> "that lifestyle, end use products, actual utility cost impact usage, therefore actual savings may vary".

Including products into the certification equation that have the ability to "walk" or be replaced (qualifying lighting fixtures for example) very easily with a non-qualifying product should not be a Program requirement, but a recommendation/awareness building attribute. As individual tastes vary, and decorating trends enter and leave the overall marketplace – consumers will remodel interior spaces that may include the elimination of the bundled ENERGY STAR qualifying products. EAM recommends limiting the bundling of ENERGY STAR qualifying products to those that are exclusive a permanent part of the structure, for example a dishwasher installed in the dwelling cabinetry. EPA should also consider the impacts of builders taking the path of least resistance, and installing low cost qualifying lighting fixtures.

EAM agrees with the expanded list of locations that cannot be used to count qualifying lighting fixtures with the exception of laundry rooms, if this attribute remains a Program requirement. EAM would recommend dropping Laundry Rooms from the list of locations that cannot be used to count qualifying lighting fixtures.

EAM would propose that a comprehensive list of qualifying ENERGY STAR products be outlined to avoid confusion or the inclusion of, for example, entertainment or home computer equipment.

6. Water Heater – the proposed standard for natural draft ventilation gas water heaters may be market limiting as availability of the products may not be on a national basis – but more regional in nature.

7. Thermal Bypass Inspection Checklist – when previewed by EAM's internal certified Raters, was very well received.

   Thermal Bypass items six and seven (Duct shafts and Flue shafts respectively) should include the following language to allow for local/regional/state code enforcement official requirements:

   > "Code Enforcement Official requirements and direction supercede this thermal bypass checklist item, if in conflict."

   In Thermal Bypass Item nine EAM recommends adding recessed lighting fixtures, or breakout lighting fixtures as a stand-alone Thermal Bypass Checklist Item.

   Thermal Bypass item ten - Fireplace Wall should include the following language:

   > "… as specified by the manufacturer."

8. The "Verification Instructions" number 7, for both Prescriptive and Performance Paths, should allow for a home's circuit breaker box's inside cover that already contains a label that defines the location of circuits served by the breakers. This would ensure that the existing label is not covered or blocked by the EPA label.

9. "The Estimated Savings Table" should include kW, kWh, and therm savings estimates to comply with electric/gas utility or State regulatory reporting needs. This would be beneficial in calculating savings impacts, and lost revenues for investor owned utilities. What rates will be used to generate the savings: a national weighed average cost; regional cost; or specific utility rates?

Global Comments on Proposed Program Guidelines

1. The proposed prescriptive approach to Program certification, inclusive of the above comments, provide the next logical progression in Accredited HERS Providers utilizing an alternative path, thereby replacing the current Builder Option Package ("BOP").

2. It is implied that Certified Raters would be qualifying dwellings to Program prescriptive standards, it should be included in the Guideline narrative in both the Prescriptive and Performance Paths.

3. RESNET's 2006 Standards should be used in guidance of a Certified Rater and/or Rater Data Collector in the field inspection process (such as, but not limited to the proposed Insulation Installation Grade Guidelines).

4. The proposed performance method of using, as the reference, the same home built to the prescriptive standard is flawed in our perspective. It increases plan analysis time (driving up builder cost), and Program evaluation time (driving up Program Sponsor – Utility – cost). It decreases accuracy of forecast savings reports and environmental benefits, and the value of those homes that have been built across the nation as ENERGY STAR dwellings. This would provide for a moving standard that makes it hard to quantify direct, indirect, and tangible "value" in the new homes as well as resale markets.

EAM proposed that the EPA adopt a similar HERS score threshold, determined by factors such as, climate zone, and clustered climate zones of similar characteristics to minimize an approach that would have to address eight different zones. If consistent similar characteristics to cluster Climate Zones can not be achieved, then expanding it to eight zones, representative of the IECC, will ensure that the value that the Program brings, to the various impacted market actors (Builder, homebuyer, Utility/State sponsor, Federal Government, HERS Rating Industry) will continue.

5. EAM believes that effective date of the Final 2006 Program specifications is too punitive in nature and will de-motivate builders and force them to discontinue participation and delivering certified homes to the residential marketplace. EAM's services, based on current New Jersey Board of Public Utilities ("NJ BPU") approvals provides for a two year commitment to build to the specifications in place at the time an agreement is executed. This agreement also provides for an extended two-year period of "grand-fathering", if the NJ BPU changes the Program.

EAM recommends a two-year grandfather period upon adoption by the EPA of the new guidelines effective based on a calendar year. Base year would be 2006. This would allow for sponsored programs – such as the New Jersey Energy Star Homes Program to maintain the obligations and commitments made under the current program presently offered.

EAM is in agreement with the EPA in developing new guidelines to ensure continuity with their core program principles. We applaud the desire to ensure ENERGY STAR certified homes represent a premium product in terms of energy efficiency, and cost effectiveness. Third party verification of the performance of certified ENERGY STAR homes, regardless of the choice taken: prescriptive or performance, is the important driver to ensure these principles are achieved.

EAM believes that the above comments are responsive, and representative of maintaining the flexibility and value to ensure that certified ENERGY STAR dwellings achieve the goals and objectives of the new residential construction initiative.

EAM's comment Team is available to expand on, and discuss any of the above items in more detail.

Once again, EAM appreciates the opportunity to provide real world comments on an important evolution of the Program to continue to provide value and savings.

If there are any questions, concerns or need for clarification, please do not hesitate to contact the undersigned directly.

Sincerely,

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