

July 12, 2007

Mr. Richard H. Karney, P.E.
ENERGY STAR Products Manager
U.S. Department of Energy
Washington, D.C. 20585

Dear Mr. Karney,

The Northwest Energy Efficiency Alliance (“NEEA”) continues to applaud the Department of Energy for seeking to establish ENERGY STAR[®] criteria for residential water heaters. NEEA is a non-profit corporation supported by electric utilities, public benefits administrators, state governments, public interest groups and energy efficiency industry representatives.

This second set of comments builds on our previously submitted comments and focuses on heat pump water heater (“HPWH”) elements of the criteria.

1. **NEEA appreciates DOE’s willingness to re-engage stakeholders on HPWHs.** The market penetration of electric water heating in the Northwest exceeds 60% making heat pump water heater a key efficiency measure for our region. NEEA is convinced that the ENERGY STAR label would be helpful as part of any market intervention strategy.
2. **NEEA continues to support DOE’s objective establishing meaningful efficiency differentiation for ENERGY STAR qualified products.** NEEA considers the use of the ENERGY STAR brand and label on electric resistance water heaters of any efficiency to be a waste of earned market clout and we are concerned that labeling these technologies could potentially damage the ENERGY STAR brand. NEEA also strongly encourages DOE to set the HPWH criteria at 2.0 EF as proposed in the Draft Criteria Analysis. COPs of 2.0 and higher are technically and economically practical.
3. **NEEA urges DOE to use caution regarding the inclusion of add-on heat pump water heaters in the ENERGY STAR program.** Although add-on HPWHs may be viable in niche market segments, NEEA believes supporting this technology configuration will be an unproductive distraction. NEEA continues to believe that an integral/drop-in heat pump water heater design will be needed to address the large emergency replacement market and ultimately lead to any significant market transformation. Based on field experience, NEEA is concerned that HPWH designs (such as add-on configurations) that require water circulators and refrigerant-to-water heat exchangers may exhibit decreased system reliability and performance degradation over time and where poor water quality is an issue. NEEA also believes that the uncertainties regarding the size, condition, and life expectancy of the tanks the add-on HPWHs are installed on will negatively impact the viability of, and satisfaction with, this particular technology configuration. If DOE elects to include add-on HPWHs, the criteria/specification should include performance requirements to account for the range of tank efficiencies (e.g., 2.0 EF with tank loss assumption), and should address other potential issues such as freezing, reverse thermo-siphoning, corrosion/scaling, pump longevity (sealed pumps only), and maintenance requirements.

4. **The final ENERGY STAR criteria/specifications for water heating should include specific consideration for other advanced HPWH system approaches.** HVAC desuperheaters, triple function heat pumps (with full on-demand water heating), and advanced “split-system” HPWHs all have some existing and growing market presence in the U.S. and/or in Europe and Asia. DOE should develop dynamic ENERGY STAR criteria that will readily address emerging vapor compression water heating products.

Again, thank you for considering ENERGY STAR water heater criteria and for allowing NEEA to participate in the review and comment process. NEEA is very much looking forward to participating in the remainder of the process and plans to support DOE’s efforts in this area wherever and however possible.

Sincerely,

Marci Sanders
Senior Manager, Residential Sector
Northwest Energy Efficiency Alliance