December 2, 2011

Ms. Abigail Daken
ENERGY STAR® Water Heater Program Manager
U.S. Environmental Protection Agency (EPA)
1200 Pennsylvania Avenue NW
MC 6202J
Washington, DC 20460

Subject: ENERGY STAR® Version 2.0 Draft 2 Commentary

Dear Ms. Daken,

Again, on behalf of Rheem Water Heating, I want to re-emphasize our support of the U.S. EPA efforts in the development of a second generation (Version 2.0) ENERGY STAR® Water Heater Product Specification for Residential Water Heaters. Accordingly, Rheem is submitting further commentary in response to the EPA request and the ENERGY STAR® Version 2.0 Draft 2 Water Heater Product Specification document for Residential Water Heaters.

1. **Point of Use (POU) Electric Category:**

   Rheem continues to support the inclusion of electric mini-tank type products in this category. Our Version 2, Draft 1 commentary included a Table (attached in Appendix A herein) outlining proposed qualification criteria for this category including electric instantaneous type products. We also support the proposed Small (Point of Use) Storage Electric Water Heater Test Method found in AHRI's ENERGY STAR® Version 2.0, Draft 2 commentary.

   Should the EPA decide to include the POU Category in its Version 2.0 release, it needs to include BOTH instantaneous type AND small storage type products to preserve EPA's core goal of promoting Technology Neutrality of both of these highly efficient technologies and their associated use in water heating applications.

   Further, to avoid delay of incorporating a POU category in Version 2.0, you should keep the 12kW maximum input ceiling as currently defined by the U.S. Department of Energy (DOE) within the Residential Product Classification found in Title 10, Code of Federal Regulations, Chapter 11, Part 430, Subpart B, Appendix E.

   Should the EPA decide to NOT include the POU Category in its Version 2.0 release, the EPA needs to remove the current Point-of-Use Electric Units Table found on page 4 of the Version 2.0, Draft 2 Product Specification.

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2. **Total System Efficiency for Add-On Heat Pumps**:

   With reference to previous Draft 1 Rheem commentary, not requiring Supplier testing of representative tank/heat pump water heating system combinations is a significant hole in the specification for replacement or new installations. Accordingly, ENERGY STAR® eligibility for add-on HPWH's should be treated as a system which includes HPWH module and specific tank by model number and related components. Rheem recommends add-on heat pump manufacturers test "HPWH module with specified tank models and components" as a system and list accordingly. This approach is consistent with Solar Water Heating System ENERGY STAR® listings where solar panel, tank and components play a key role and are certified as a system (SRCC_OG300).

   Further, with respect to EPA's last Version 2.0, Draft 2 Webinar Stakeholder meeting held on November 10, 2011 and specifically the discussion around the ENERGY FACTOR Multiplier concept, Rheem recognizes this as strictly a "theoretical" discussion as none of the information presented was validated with test data. Should the EPA want to pursue this concept, Rheem encourages the DOE to initiate a stakeholder review process to properly vet the concept.

   Lastly, breaking into any existing field installation of a Rheem water heater including the addition of any equipment and/or the subsequent modification of our water heater voids our Manufacturer warranty immediately.

3. **Whole-Home Electric**

   While Rheem believes adding an alert to notify the Consumer of a blocked condensate drain may be valuable it shouldn't be a made a "requirement". Other appliances with condensate drains (e.g., instantaneous water heaters and gas furnaces) are not "required" to have the capability to detect and provide an alert should the condensate drain be blocked. Also, if this feature is desired by the Consumer there are many field installable options currently available in the market that can accomplish this.

4. **Whole-Home Gas Storage**

   With respect to ENERGY STAR® Version 2.0 proposals, Drafts 1 & 2 to combine both high efficiency gas storage (non-condensing and condensing) categories into one, Rheem holds to the position of maintaining current ENERGY STAR® criteria for each as currently defined in ENERGY STAR® Version 1.0 and to keep the two categories distinct.

Reducing or removing these minimum qualification requirements is premature and removes the expected differentiated incentives that could follow to those whom achieve the highest levels of energy efficiency in a product technology.

Lastly, Rheem supports the six year warranty provision proposal for this product category which effectively aligns both Whole-Home categories (Gas and Electric) with respect to this ENERGY STAR® requirement.

5. **Solar Water Heating**

While we agree that standardization with respect to Consumer labeling and test methods of Solar vs. alternate water heating technologies is needed to allow Consumers to make relative purchase decisions when comparing technologies, Solar remains THE most efficient technology available in the market today. To not have this technology recognized as such including the bearing of the ENERGY STAR® label seems very inappropriate.

Perhaps during the next ENERGY STAR® product specification revision process, the EPA can address these standardization issues or create a separate alternate fuel category to properly recognize Solar however, in the interim Rheem continues to support the current ENERGY STAR® Version 1.0 criteria for Solar Water Heaters and the continued ENERGY STAR® labeling program for this highly energy efficient technology.

Thanks again for the opportunity to provide commentary and respectfully request that the Department consider our input outlined above. Should you have any questions please feel free to contact me directly.

Kind regards,

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APPENDIX A

Qualification Criteria:

Point-Of-Use Electric Units

Criteria	**ENERGY STAR® Requirements**
Energy Descriptor	• EF≥0.97 (instantaneous) • Watts Loss ≤35 (mini-tank)
Capacity	• Less than 20 gallons capacity • Less than 36”x25”x24” product footprint
Safety	• Maximum Input 12kW • ANSI/UL499 (instantaneous) • Flicker – units shall perform within acceptable region defined by IEC 61000-2-2 (Instantaneous) • UL174 (mini-tank)
Warranty	≥10 years on heat exchanger and 5 years on parts
Test Method	• DOE 10CFR430 Subpart B, Appendix E (instantaneous) • (Mini-Tank) Test Method from California Code of Regulations Title 20, Chapter 4, Article 4, 1604(f)(5) (*some revisions needed)

*Please note that revisions needed, will allow the mini-tank test method to more closely relate to the DOE Test Procedure.