



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

February 28, 2012

Dear Geothermal Heat Pump Stakeholder or Other Interested Party:

The purpose of this letter is to clarify the policies and procedures of the Environmental Protection Agency (EPA) regarding ENERGY STAR verification testing of geothermal heat pumps (GHPs) and to clarify the definition of a product family for purposes of ENERGY STAR qualification.

Verification Testing

In order to ensure that ENERGY STAR labeled products deliver promised energy and greenhouse gas savings, a third-party certification requirement went into effect across all 60 product categories, including GHPs, last January. In addition, verification testing of ENERGY STAR qualified products has expanded dramatically. This letter explains, for GHP stakeholders, ENERGY STAR program-wide policies and procedures in the context of GHPs.

Qualification of ENERGY STAR products is by a single unit test unless multiple unit testing is described in the specification. For most ENERGY STAR product categories, including GHPs, qualification requires a Certification Body (CB) to examine the test data of a single unit to determine if a product earns the ENERGY STAR. Manufacturers may only qualify products based on multiple samples if the ENERGY STAR specification describes a statistical combination of tests on multiple units (e.g., per DOE certification sampling plan associated with Federal energy conservation standards). For qualification based on one-unit testing, the test results for that unit are the sole basis for product qualification. This reflects consumer expectations that the ENERGY STAR unit they purchase will meet the requirements for labeling.

Verification testing follows what is called for in the specification and matches qualification approach. The purpose of verification testing is to assure that products continue to meet ENERGY STAR requirements. As described in [Directive 2011-4](#), in most scenarios, a single unit test is used. In cases of products with specifications that describe multiple-unit ratings (e.g. DOE-covered products), a verification path using multiple samples is provided.

Procedures following a test result that does not meet ENERGY STAR requirements. When a product is tested for verification either by DOE or by a CB, and the results fall outside the requirements for ENERGY STAR labeling, EPA is informed. In the case of a single-unit test for verification, test results for the unit tested will be the basis for assessing model performance and no tolerances or averages are used in making that determination. EPA may determine, however, that in certain circumstances the test results do not warrant product disqualification (e.g., a CB or lab administrative error, or a *de minimis* performance deviation). Upon receipt of a testing failure, EPA contacts the partner in accordance with the procedures outlined in EPA's [ENERGY STAR Disqualification Procedures](#); this may or may not lead to disqualification of the product. EPA will work with partners to understand the extent of the issue, identify the root cause of the testing failure, and agree on product control measures where appropriate.

GHP Product Families

EPA has become aware that different CBs have been interpreting the definition of a GHP product family differently. In response, EPA clarifies the intention of the definition that a product family include models with compressors and direct geexchange heat exchangers with the same energy efficiency performance, such that efficiency metrics of all models in the family can be predicted from testing of a

single model in the family. Manufacturers may choose which model within the product family is tested for initial qualification. However, the model chosen for verification will be random, and any disqualification will apply to the entire product family. The family definition in the ENERGY STAR GHP specification will be modified slightly to be consistent with this clarification, and the document will be reposted at www.energystar.gov.

EPA appreciates the continued engagement of GHP manufacturing partners, and looks forward to working with you to keep ENERGY STAR credible and relevant. Please direct any specific questions to Abigail Daken at EPA, daken.abigail@epa.gov or 202-343-9375, Kathleen Vokes at EPA, vokes.kathleen@epa.gov or 202-343-9019, or Sarah Medepalli at ICF International, smedepalli@icfi.com or 202-862-1268.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Abigail Daken', written in black ink.

Abigail Daken
EPA Product Manager
ENERGY STAR for HVAC