Canadian GeoExchange Coalition
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Mr. Andrew Fanara
Environmental Protection Agency
Ariel Rios Building, SW, MS 6202J
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Ref: ENERGY STAR® Program Requirements for Geothermal Heat Pumps

Sir,

The Canadian GeoExchange Coalition (CGC), Canada's national ground source heat pump industry association, acts as the industry catalyst to unite private and public sector stakeholders, and to expand the market for geoexchange technology in Canada. As the nexus of information, training, certification, industry standards and public awareness, CGC works with stakeholders to build the necessary infrastructure to foster the growth of the Canadian geoexchange industry.

We have only been informed last week about the proposed revisions to the ENERGY STAR® program requirements for geothermal heat pumps. Accept our apologies for this late submission. We have reviewed the document and would like to offer some minor suggestions which could help alleviate a lot of confusion in the marketplace. Our objective is not to debate the merit of heat pump ratings under the ENERGY STAR® Program. We strongly believe the ENERGY STAR® Program is a very valuable way to improve R&D efforts and promote the commercialization of efficient technologies and products.

Background

Over the past three years, while developing and nationally deploying the ***CGC Global Quality GeoExchange Program*** in Canada, a number of industry stakeholders as well as government and industry officials raised the issue of ground source heat pump performance ratings. This issue also came up a number of times during a recent and extensive national consultation (225 + participants) conducted in June 2009 by the CGC in 7 cities across Canada.

During our June 2009 consultation, many stakeholders expressed concerns about testing conditions which do not always respect the ISO 13256 standard. It seems that, among other things, the testing is often done only for a period of 12 hours rather than the required full 60 hours. Many industry stakeholders also raised doubts about the conditions under which the units are tested. In short, according to them, the ratings are not always reliable.

Also, according to educated comments from experienced industry stakeholders, the COP ratings of many ground source heat pumps are performed under cooling conditions rather than heating conditions. If this is the case, COP ratings would therefore be less relevant in the Canadian context as well as in all regions in the United States where heating is dominant over cooling.

Finally, the technical reviews of more than 8000 applications for CGC system certification (2007 to today) tend to indicate that the stakeholders and program developers should be more concerned by the overall seasonal system performance rather than the rated heat pump COP. We recognize that this may be impractical from a program developer's perspective, interested in linking tax credit, grants and other subsidies to the heat pump COP. Though this proves to be a challenge for program developers, this reality cannot be ignored.

At the risk of oversimplifying, and for illustration purposes only, a ground source heat pump system has four important components: (1) the ground loop and soil conductivity, (2) the heat pump itself including installation, (3) the distribution system, whether it be water to air or water to water, and (4), the design. During our consultations, and when prompted to identify the most important element of a ground source heat pump system, the vast majority of industry stakeholders responded that among those 4 components, the least important is the heat pump COP. Poor design, installation errors, and badly evaluated ground conditions will have a significant impact on the system performance while the heat pump COP will have a marginal impact on the overall system performance.

Recommendations

Given the above, we believe the Final Draft should be revised to remove confusion between ground source heat pump systems and ground source heat pumps.

Specifically, we suggest the replacement of the word "systems" in lines 219 and 226, on page 5 of the Eligibility Criteria – Final Draft for the word "applications".

We further suggest the replacement of the word "systems" in lines 300, 303 and 306 on page 7 by the word "heat pumps".

These small changes would greatly help avoid any confusion between the heat pump itself, the product being considered under the ENERGY STAR® Program, and the ground source heat pump system, which includes all other parts and elements of the final installation.

The Canadian GeoExchange Coalition appreciates the opportunity to provide these comments. Should you have any questions, please do not hesitate to contact us.

Sincerely,

Denis Tanguay
President & CEO