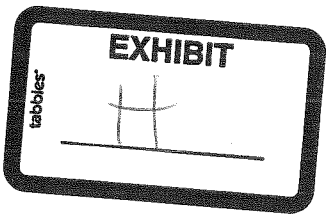


Mr. Jerry Farrell, Jr.
Commissioner
Department of Consumer Protection
Room 103
State Office Building
165 Capitol Avenue
Hartford, CT 06106

April 18, 2008

1 Geothermal Heating and Cooling is the best way to lower any homeowner's carbon footprint. All of the DX geothermal installers, drillers, and manufacturers here today desire to emphasize how great we believe this technology is regardless of borehole size, well or borehole depth and regardless of what liquid, refrigerant, or antifreeze solution is used throughout any given system.

2 We view DX as the Chevy or Dodge, which followed Ford. Limiting competition and consumer choice is not a positive step for the state of CT.

3 Although the two technologies, water based ground sourced heat pumps and refrigerant based direct exchange systems are both geothermal systems there are many functional and implementation differences.
   - Drilling depths are different
   - The size of the bore holes are different
   - The liquid medium for heat transfer is different
   - Grouting needs and methods vary
   - The use of heat exchangers is not the same
   - The number of pumps per system

- It appears that there are several parts of the document that attempt to blend these two types of geothermal installations into one set of standards. This is very difficult since they are both installed in very different fashions. This would be the same as trying to blend the regulations for both horse drawn and gas powered cars in the late 1800's since both were used for transportation.
   - water/glycol in plastic pipe should not be the only allowed underground heat transfer materials.
   - backfilling/grouting methods should be installation specific and not blended together by requiring DX installers to use bentonyte grout and other non-sand only mixtures.
   - The borehole drilling licensing process should follow the same regulations as excavation not well drilling. The current requirements are both onerous and detrimental to the states ability to service all those who desire

geothermal system installations. If the document in question is approved in its current form, these regulations will:

1 Greatly reduce competition in the geothermal market,
2 Significantly increase the installation costs of geothermal systems to Connecticut consumers
3 Ultimately serve to decrease state-wide energy efficiency.

Requested Modifications to the Draft Regulations

Specifically, it is hereby requested that the following modifications be made to the draft regulations (presented in the order presented in the draft regulations):

Sec. 25-128-39a Geoexchange bore holes

No minimum bore hole size (four (4) inches).

Sec. 25-128-39b Closed-loop geoexchange system fluid

No limitation on using transfer fluids other than water-based heat transfer fluids,

In order to best serve the interests of CT consumers, this section should be amended to allow for the installation of copper/refrigerant DX systems, which are permitted in 48 other states.

Sec. 25-128-39c Closed-loop geoexchange system piping

Copper pipe, which has been the material of choice for underground water piping and refrigeration applications for many decades, is a stable, naturally occurring material perfectly suited for use as DX geothermal loop material.

In addition, paragraph (c) should be modified to require a 24-hour pressure test as 30 minutes is not enough time to detect a pressure variation due a very slow leak in any type of large piping system.

Sec. 25-128-48a Annular space

Paragraph (c) of this section specifies that all closed-loop geoexchange bore holes must be backfilled with bentonite grout. b) water well drilling equipment typically drills bore holes six inches in diameter and if such a large bore hole is not filled with a relatively conductive material, system efficiency will drop significantly. Thus, in order to offset these effects, water-based geothermal loops have to use these grouts in order to attain reasonable efficiencies.

The copper pipe used in DX systems, however, is highly conductive and can be installed in smaller bore holes. With a highly conductive loop material and with a much smaller

space around the pipes, it is not necessary to go to the expense of using bentonite grouts to backfill a DX bore hole.

In addition, paragraph (g) of this section specifies that tremie tubes must be used to grout geothermal boreholes. As DX installers often use bore holes just 50 feet in depth, the tremie method of backfilling is not required and is of no practical benefit.

Sec. 25-128-58d Contractor limited to geoexchange bore hole drilling

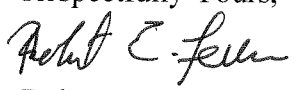
This entire section has been written to reflect past practices of the water well drillers that served to govern licensing and methodologies pertaining to the drilling, plumbing and servicing of water supply wells. The drilling of geothermal boreholes, whether for water-based or DX applications, has nothing to do with "the installation, repair and maintenance of pumps, pump motors, pump piping, valves, wiring, electric controls and tanks."

It is suggested hereby that a new drilling license be created that limits a geothermal drilling contractor to boring holes, inserting copper pipes and backfilling the bore holes as appropriate for the method of loop construction being employed for the particular installation.

In Conclusion

Geothermal heating and cooling has the potential to make a real difference in our society and Connecticut regulators and legislators should be doing whatever they can to promote its rapid growth. I urge the Connecticut Department of Consumer Protection to redraft these regulations with this objective foremost in mind.

Respectfully Yours,



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