

**State Board of Examiners of Plumbing,
Heating and Fire Sprinkler Contractors**
From: Dale L. Dawson, Executive Director
November 24, 2009

GEOHERMAL HVAC INSTALLATIONS

Over the last several years with the increased popularity of geothermal HVAC system installations there has been an increased misunderstanding on the licensing requirements for these installations. Although incorrect, there is a widely held belief in the industry that well contractors can perform the piping installation on geothermal installations, be it vertical or horizontal.

The act of drilling the well and grouting the well casing is not governed by our licensing board, but the task of installing the piping (open loop or closed loop) is regulated by the Board's Laws and Rules.

The installation of piping does require either an H-3 license (for systems 15 tons or below) or an H-2 license for systems larger than 15 tons. The definition of H-3 and H-2 reads in part as follows:

The phrase "heating, group number two" means an integral system for heating or cooling a building consisting of an assemblage of interacting components producing conditioned air to raise or lower the temperature, and having a mechanical refrigeration capacity in excess of fifteen tons, and which circulates air.

The phrase "heating, group number three" shall be deemed and held to be a direct heating or cooling system of a building that raises or lowers the temperature of the space within the building for the purpose of comfort in which electric heating elements or products of combustion exchange heat either directly with the building supply air or indirectly through a heat exchanger using an air distribution system of ducts and having a mechanical refrigeration capacity of 15 tons or less. A heating system requiring air distribution ducts and supplied by ground water or utilizing a coil supplied by water from a domestic hot water heater not exceeding 150 degrees Fahrenheit requires either plumbing or heating group number one license to extend piping from valved connections in the domestic hot water system to the heating coil and requires either heating group number one or heating group number three license for installation of coil, duct work, controls, drains and related appurtenances.

Licenses who hold H-1 licenses cannot perform the geothermal piping installations since their license (H-1) only covers hot water or steam piping systems.

It is illegal for a well contractor to contract the geothermal piping installation even if the geothermal piping installation is subcontracted to a licensee who holds the appropriate license. In addition, it is illegal for a licensee (H-2 or H-3) to subcontract these installations from a well contractor. Well contractors can only contract or perform that is classified as well construction activities through their board. Should anyone have any questions or concerns please contact our office for further details.

AMENDED
October 11, 2010

Pursuant to the Memorandum of Agreement entered by the State Board of Examiners of Plumbing, Heating and Fire Sprinkler Contractors (BOARD) and the North Carolina Well Contractors Certification Commission (COMMISSION):

1. In a geothermal HVAC installation, a well contractor may drill and grout the borehole, and either the well contractor or H-2 or H-3 contractor may install piping in the borehole. The well contractor may install the vertical piping outside the presence of the heating contractor if both have a signed written agreement between the H-2 or H-3 contractor and the well contractor which specifies the depth, diameter, material and thickness of the vertical piping and the number and location of the wells as determined to be necessary of the particular heating or cooling system by the H-2 or H-3 contractor or a licensed mechanical engineer. The installation of the piping for the heating or cooling system by the well contractor is limited to the vertical piping within the well only.
2. Both the heating contractor and well contractor will maintain a copy of the foregoing agreement in their job file for the particular project. Nothing in this Memorandum affects the BOARD requirement that only a HVAC contractor may bid or install a geothermal HVAC job. Nothing in this agreement affects the COMMISSION requirement that only a well contractor may conduct well contractor activity.

[Click here to view the Memorandum of Agreement.](#)