



North Carolina Department of Environment and Natural Resources

Division of Water Quality

Beverly Eaves Perdue
Governor

Charles Wakild, P. E.
Director

Dee Freeman
Secretary

April 23, 2012

MEMORANDUM

TO: County Environmental Health Agencies
Geothermal Well Drillers and HVAC Installers
Other Interested or Affected Parties

FROM: Thomas Slusser, L.G. *TS*
Underground Injection Control (UIC) Program Manager

SUBJECT: Impact of Injection Well Rule Revisions on Certain Geothermal Heating/Cooling Systems
Criteria and Standards Applicable to Injection Wells (15A NCAC 02C .0200)

On April 19, 2012, the North Carolina Rules Review Commission approved revisions of the criteria and standards applicable to injection wells, which will become effective on May 1, 2012. Only geothermal installations that use a well or borehole as part of the system design are affected by these rules. One of the main revisions is reorganization of rule requirements such that each allowable injection well type has its own rule. Individual rules for geothermal systems are as follows:

- Rule 02C .0222 – Geothermal Aqueous Closed-Loop Wells (water-based, may have additives)
- Rule 02C .0223 – Geothermal Direct Expansion Closed-Loop Wells (uses refrigerant gas)
- Rule 02C .0224 – Geothermal Heating/Cooling Water Return Wells (“open-loop” types)

Revisions for the closed-loop systems (Rules 02C .0222 and .0223) include the following:

- All systems are permitted by rule and do not require an individual permit
- DWQ shall be notified 2 days prior to construction for single family residence projects and 30 days for all other project types (commercial, industrial, schools, etc.)
- Notifications will be processed in DWQ’s Regional Offices
- Copies of DWQ notifications shall be sent to the county environmental health agencies
- Setbacks have been established for septic systems and other potential pollution sources
- All boreholes shall be entirely filled with grout from bottom to top
- As-built maps shall be sent to DWQ plus the county environmental health agency and register of deeds

The new rules can be found online at <http://portal.ncdenr.org/web/wq/aps/gwpro/rules-statutes> and notification forms can be found at <http://portal.ncdenr.org/web/wq/aps/gwpro/permit-applications>.

Please contact me by email at thomas.slusser@ncdenr.gov or by telephone at 919-807-6412 if you have any questions about the new rules, injection wells, or the UIC Program.