Blue Ridge Environmental Defense League

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January 13, 2012

Thomas Slusser
DWQ - Aquifer Protection Section
1636 Mail Service Center
Raleigh, NC 27699-1636

RE: Injection wells, 15A NCAC Subchapter 02C, Section .0200

Dear Mr. Slusser:

On behalf of the Blue Ridge Environmental Defense League and its members and chapters in North Carolina, I write to provide comments on the proposed rulemaking.

Background

According to the Division of Water Qualityôs fiscal note, the purpose of the proposed rule revisions are to comply with federal requirements, clarify existing rule requirements, reorganize existing rules to improve usability, incorporate technological changes, permit by rule specific low-risk injection wells, and comply with the regulatory objectives of Executive Order 70, and Session Laws 2011-13 (Senate bill 22) and 2011-389 (Senate bill 781). The draft rule identifies specific activities for deregulation via permitting by rule, including certain injection wells.

General Comments

Session Law 2011-389 (Senate bill 781) prohibits the implementation or enforcement of a regulation unless adopted in accord with the bill. Governor Beverly Perdue vetoed Senate Bill 781 because, as she stated, ñIt would take final decision-making authority in certain circumstances away from state agencies and instead give it to the Office of Administrative Hearingsð a result that the Attorney General has repeatedly declared is in violation of the North Carolina Constitution.ò[1] Therefore the foundation of draft rule is built upon sand, subject to the vicissitudes of political brinksmanship and legislative overreach.

Further, the draft rule opens the door to groundwater injection wells. Waste companies utilize injection wells to dispose of hazardous aqueous wastes from many types of industrial operations including:[2]

- Acid wastewaters
- Airport de-icing fluids
- Ammonia and other caustic wastewaters
- Aqueous solutions of pesticides and pharmaceuticals
- Brines and salt solutions
- Chemical manufacturing wastewaters

[1] Governorôs Objections and Veto Message, June 30, 2011
[2] Waste Management, Vickery, Ohio, http://www.wmsolutions.com/services/deep_well_injection.asp

- Leachate
- Metal plating and galvanizing solutions
- Waste pickle liquor (acids)

The liquids pumped into injection wells include wastes otherwise prohibited for land disposal. At present, injection of aqueous wastes such as those listed above is prohibited in North Carolina. But industrial operations here do ship large amounts of these wastes out of state to New York, Ohio, Arkansas and Texas. For example, South Atlantic Galvanizing in Alamance County exported 435,324 pounds of waste offsite for disposal from 2000 to 2010.[3] (This figure does not include waste materials recycled, such as zinc and other metal compounds.)

North Carolinaôs injection well regulations were last amended in 1997, well before hydraulic fracturing was used to produce natural gas; essentially, current law creates a *de facto* ban on hydraulic fracturing. Although the draft regulations do not directly make deep well injection of hazardous and radioactive wastes or hydraulic fracturing legal, the changes which are proposed are steppingstones to overturning the effective ban on these unsafe and unhealthy practices.

Specific Comments

In the comments following, the ~~strikethroughs~~ mean regulatory language eliminated and underlines mean language added in the draft rule.

15A NCAC 02C .0204 DEFINITIONS

The definition of ñcompliance boundaryò is completely eliminated in the draft rule change:

> ~~(8) ñCompliance Boundaryò means a boundary as specified by 15A NCAC 2L (Classifications and Water Quality Standards Applicable To The Groundwaters of North Carolina), at and beyond which groundwater quality standards may not be exceeded.~~

Yet the term is defined in a similar manner in 15A NCAC 2L .0102 under the authority of NCGS 143-215.1 or 130A. The change appears to indicate the abandonment of a regulatory compliance measure for injection wells.

The definitions of contaminant, contamination and contaminate are altered by the draft rule:

> ~~(11)~~(10) ñContaminantò means any physical, chemical, biological or radiological substance or matter ~~which, if injected, may cause a violation of any water quality standard under 15A NCAC 2L, may adversely affect the health of humans, or may degrade the quality of the groundwater~~ in water.

The altered rule makes a hash out of the existing text. First, as the draft rule reads: ñóContaminantômeans any physical, chemical, biological or radiological substance or matter in water.ò Really? So, contaminants in waterð the universal solventð here would include salts, sugars and carbon dioxide plus harmless microorganisms, fish and sand.

[3] TRI Transfers Off-site for Further Waste Management (in pounds), by South Atlantic Galvanizing (TRI ID 27253STHTL3025S) for ZINC COMPOUNDS chemical, for All counties, U.S., 2000-2010

Second and more important, the draft rule change would remove the proper association of groundwater contamination with its deleterious impact on human health.

> ~~(12)~~(11) ñ~~Contamination~~ò ñContaminateò or ñContaminationò means ~~foreign materials of such nature, quality, and quantity as to cause degradation of the quality of the water~~ the introduction of any contaminant into groundwater in excess of the applicable groundwater quality standards specified in Subchapter 02L.

Changing the definition alters the intent of the meaning of contamination from an ambient standard to an emission standard. In other words, the existing text defines contamination as anything which pollutes groundwater; conversely, the new text restricts contamination to an emission rate in excess of a benchmark level. Under the draft rule a permittee could freely pollute groundwater but would not ñcontaminateò it unless exceeded a benchmark level. The existing rule says to contaminate is to pollute. Moreover, the new text is at variance with the stateôs 2L standards and state statutes (see G.S. 143-215.1) which calls for enhancement and restoration of degraded groundwater, not mere maintenance.

> 15A NCAC 02L .0103 POLICY
> It is the policy of the Commission that the best usage of the groundwaters of the state is as a source of drinking water. These groundwaters generally are a potable source of drinking water without the necessity of significant treatment. It is the intent of these Rules to protect the overall high quality of North Carolina's groundwaters to the level established by the standards and to enhance and restore the quality of degraded groundwaters where feasible and necessary to protect human health and the environment, or to ensure their suitability as a future source of drinking water.

[emphasis added] In fact, state policy holds that ñthe Commission will not approve any disposal system subject to the provisions of G.S. 143-215.1 which would result in: (1) the significant degradation of groundwaters which have existing quality that is better than the assigned standardé .ò In short, the altered definition of contamination in the 2C .0204 draft rule conflicts with state policy in extant state regulations and statutes.

A brand new definition, for hydraulic fracturing, though not included in the Departmentôs Explanation and Reason for Proposed Rules, is included in the draft rule:

> (25) ñHydraulic or Pneumatic Fracturingò means the intentional act of forming new fractures or propagating existing fractures in a geologic formation or portion thereof with the explicit intent of increasing the formation's permeability. Hydraulic fracturing can only be used in association with groundwater remediation injection activities and shall not result in the fracturing of any confining units or otherwise cause or contribute to the migration of contamination into uncontaminated areas.

Why, if hydrofracking is to continue to be prohibited in North Carolina, should there be a definition?

> ~~(32)~~(33) ñMechanical Integrityò means:
> (a) an absence of a leak in the casing, tubing, or packer of an injection well; and
> (b) an absence of ~~any significant~~ fluid movement ~~into an underground source of drinking water~~

through vertical channels adjacent to the injection well bore.

The elimination of the text, ñinto an underground source of drinking water,ò renders the meaning of mechanical integrity as ñan absence of fluid movement through vertical channels adjacent to the injection well bore.ò The alteration here again eliminates the reference to potable water supply and restricts well integrity solely to consideration of the injection well bore.

(37) ñPermitted by Ruleò means that the injection activity is authorized by the rules of this section and does not require the issuance of an individual permit when injection wells are constructed and operated in accordance with the rules of this section.

The permit by rule concept is flatly unconstitutional, as stated by the Governor and the Attorney General of North Carolina.

15A NCAC 02C .0207 MECHANICAL INTEGRITY

Regarding mechanical integrity of wells, in place of clear, unequivocal text *infra*:

~~(a) An injection well shall be considered to have mechanical integrity if:~~
~~(1) there is no measurable leak in the casing, tubing or packer; and~~
~~(2) there is no measurable fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore which would result in deterioration of the water quality in zones above or below the injection zone; and~~
~~(3) injection pressure is no greater than atmospheric pressure (i.e. 14.7 pounds per square inch).~~

The draft rule would substitute:

(a) An injection well has internal mechanical integrity when there is no leak in the casing, tubing, or packer as demonstrated by one of the following methods:
(1) monitoring of the tubing-casing annulus pressure, following an initial pressure test, with sufficient frequency to be representative as determined by the Director. This test must be performed at the well head while maintaining an annulus pressure different from atmospheric pressure;
(2) pressure testing with liquid or gas;

In this context, ñmonitoring of the tubing-casing annulus pressureé with sufficient frequency to be representativeò is meaningless. To what is monitoring to be representative of? This is tantamount to stealth deregulation.

15A NCAC 02C .0217 PERMITTING BY RULE

This entirely new section of the draft rule permits-by-rule certain wells, opening the door to further such permits. The precedent thus established is a bad one, with implications for negative impacts on groundwater quality and public health.

(a) The following injection well systems are deemed to be permitted by the rules of this section pursuant to G.S. 87-88(a) and it shall not be necessary for the Division to issue an individual permit for the construction or operation of the following injection well systemsé .

> (d) Injection well systems permitted by rule under the rules of this section shall remain permitted by rule, notwithstanding any violations of the rules of this section, or until such time as the Director determines that they should not be deemed to be permitted.

In fact, the draft rule includes: ñ15A NCAC 02C .0231- .0239 RESERVED FOR FUTURE CODIFICATION,ò a harbinger of nine future well types.

15A NCAC 02C .0230 OTHER WELLS

The draft rule establishes a grab-bag ñother wellò category which gives the Division Director *carte blanche* in the matter of Class 5 injection wells:

> Rule requirements for Other Wells shall be evaluated and treated as one of the Class 5 injection well types in this section that the Director determines most closely resembles the equivalent hydrogeologic complexity and potential to adversely affect groundwater quality. The Director may impose additional requirements for the protection of human health and the environment based on site specific criteria, existing or projected environmental impacts, compliance with the provisions of the rules of this section, or the compliance history of the facility owner. The Director may permit by rule the emplacement or discharge of a fluid or solid into the subsurface for any activity that meets the technical definition of an ñinjection wellò that the Director determines not to have the potential to adversely affect groundwater quality and does not fall under other rules in this section.

This is the camelôs nose under the tent, which would allow unspecified well injection practices to occur in North Carolina. The Department has begun a program entitled ñState Review of Oil & Natural Gas Environmental Regulations (STRONGER).ò The regulatory trend embodied in the proposed draft rule would be under a different program: ñWork Essentially Aimed at Killing Environmental Regulations (WEAKER).ò

The Division should go back to the drawing board and correct the errors and oversights and close the loopholes in the draft rule.

Respectfully,

Louis A. Zeller, Science Director