

January 24, 2013, Raleigh: Four Committees met, Mining & Energy Commission.

NOTE: No one is signing up for Public Comment (the last item on each committee agenda).

Environmental Standards Committee; Chair, George Howard and Vice Chair, Ray Covington

- a. Presentation by US Geological Survey, Melinda Chapman. Water wells in Lee County average 240-ft depth, and the target gas formation is 2,000 ft. USGS has inventoried 305 water wells that have driller's tags that show the depth of that well, and one spring. The yields of the wells vary widely from 100 gallons per minute to one-quarter gallon per minute. Casing depths vary, and some are just open holes. USGS collected samples from the spigots of 56 of major the 305 wells. There was dissolved methane in 46 wells. Tested (two laboratories) for ethane, ions/metals, VOCs, glycols, radium isotopes, strontium isotopes. Exceeded Drinking water standards? Only 1 or 2 across samples. Elevated metals are in the area water. Dissolved methane was fairly low and comparable to water from crystalline rock formations in other parts of Piedmont/Mountains. Nitrates could be from farming practices, old and current. Major Point: Lee Co has 5,000+ addresses NOT served by municipal water, which "could" mean a well. Regarding methane...not enough info, samples were from shallow wells, open holes with limited casings. Said they have 30 more sites (currently unused wells) that could be tested...for more money. George Howard asked, how much. She said the study of 30 more wells could cost \$145,000 and \$30,000 needs to come from DENR, balance is available federal money. These wells would be tested for metals and help characterize the aquifer lithologies and actual water-flow paths. Some wells are near geologic faults and diabase dikes (considered problematic) and would show how a well is recharged (rain infiltration, groundwater?). Mentioned contacting Worth Pickard and Russ Patterson, Lee County well-drillers with extensive history in that area.

- b. Duke U study, Rob Jackson. Been studying shale gas for 3 years and in 6 states. Some elements (strontium, barium, arsenic, hydrocarbons) at high concentrations deep underground, and come back to surface in frac water. Some tests have very high costs. Rao asked if there was a smaller subset of these elements that should be tested for because of expense: hydrocarbons/benzene, glycol, bromide, as a tiered approach, and not test for everything. Rao mentioned that in PA, 500 household wells were tested, and found salty water in two areas, which can make more vulnerable to incursions.

- c. Presumptive Liability. In WV the legislature expanded the distance the operator is responsible for water pollution from 1,000 to 1,500 ft; PA expanded range to 2,500 ft. NC legislation (S820) established 5,000 ft.
- d. Baseline sampling/testing, disposal, Evan Kane, DENR. Technical discussion on two types of baseline sampling for ground water: monitoring; and site characterization to construct, permit, and identify potential receptors. There could be storage basins (anerobic), and injection wells that require geochemical and aquifer matrix that look at the maximum contaminant concentrations in affected soil and water. Then, the monitoring component to detect transfer of fluids within/without the injection zone. Breakdown of chemical components can become hazardous products over time. Ellen Lorscheider (Div. Waste Mgmt), talked about disposal at landfill, and land application of waste...what should they test for? Muni landfills and industrial landfills are different. Although pits are lined, leachate accumulates at bottom and must be pumped out and tested. Muni landfills leach acetone, benzene, sulfates, nitrates. Industrial landfills leach hydrogen sulfide, tetrahydrofuran (glue). Must characterize whole area and map elevations, geology, diabase dikes. They have 62 detection monitoring constituents, but they do NOT test adjacent property owners outside of any land fill. Re methane, most landfills capture this and some reuse the methane. Mike Abraczinskas, Div of Air Quality; said NC only tests for prominent sources, such as internal combustion engines (running drills, diesel). Federal regulations cover hydraulic fracturing, compression, storage vessels, processing, pneumatic controllers. State has fugitive dust requirement in air toxics program. State can only monitor three items: Ambient air at source, to check particulates; emissions testing (at smokestacks); and operational monitoring, a variable such as fuel usage rates at a particular site. Discussion: WV has no baseline regulations for air; VA and KY do not require baseline or source-oriented ambient monitoring. Federal Regulations coming 2015 for METHANE and well completion. Amy Pickel said CO saw a spike in ambient readings under fracking, asked staff to check on this.

c. Chemical Disclosure draft rules and Stakeholders. Katherine Marciniak, new DENR staff person, said most accidents occur at the pad and during transportation. The vendor doing fracking must report within 30-days to operator of well. The chemical composition (no trade secrets) will be submitted to FracFocus registry and a summary to MEC. MT, OK, TX, PA, ND are using FracFocus website as principal repository. What gets reported to FracFocus? MSDS, date of frack event, each additive, well information, total water used, contents of base fluid. TRADE SECRETS are not disclosed UNLESS there is emergency, however, a chemical family name of the mystery chemicals is required. In event of emergency, DENR's Div. of Energy, Mineral & Land Resources must request TRADE SECRET info and sign confidentiality

agreement. Even physicians must keep TRADE SECRET info confidential and NOT share statistics. Sue in court for disclosure? No can do in NC Business court, per Attorney General, there is NO legislation. Need to change legislation, to allow a challenge to go to Business Court or to Superior Court.

Trina Ozer, DENR, said 24 people in the Stakeholder Group met in January and made 17 recommendations by consensus. Those recommendations were reviewed by Asst. Secretary, Mitch Gillespie, and he will forward 11 of the 17 to the MEC meeting the next day. The request for disclosure of TRADE SECRETS was dropped. This sparked conversation from Amy Pickel and Charlotte Mitchell on one hand, and George Howard on the other. The women thought this discussion short-changed the stakeholders, and she wants trade secrets revealed to DENR as matter of course. Ken Taylor said there was a provision in the last draft that asked for immediate access to Trade Secrets and chemicals by the Environmental Management Commission.

NOTE: Stakeholder Items dropped by Mitch Gillespie:

- (a) Group recommended MSDS sheets to be available on site for Trade Secret chemicals if they are subject to federal requirements for MSDS info.
- (b) Group recommended that 7 calendars days prior to beginning hydraulic fracturing treatment the operator be required to submit to DENR a pre-plan and chemical disclosure.
- (c) Group recommended MEC explore ways to notify leaseholders, landowners within a drilling unit 7 days prior to beginning hydraulic fracturing.
- (d) Group recommended chemical disclosure be shared with DENR, and DENR keep it confidential, via a master list.
- (e) Group recommended those claiming a Trade Secret actually substantiate the claim under NC law.
- (f) Group recommended NO time limit on Trade Secret challenges.

ONE FURTHER NOTE, the Stakeholder group wants to discuss the component of the rule relating to disclosing information to health professions...ran out of time.

Diana Hales, retired