

**Meeting Minutes of the Water and Waste Management Committee of the
North Carolina Mining and Energy Commission
January 24, 2013
8:30 am – 10:30 am**

1. Preliminary Matters

Chairman Dr. Vikram Rao called the meeting of the Water and Waste Management Committee to order at 8:31 am in the Ground Floor Hearing Room of the Archdale Building in Raleigh, N.C. Chairman Rao read the relevant excerpt of the State Government Ethics Act, and asked Commission Members to consider whether or not they had conflicts of interest with respect to any items on the agenda. No conflicts were reported.

The following personnel were in attendance for all or part of the meeting:

Committee Members

Dr. Vikram Rao (Chair)
Ivan (Tex) Gilmore
Charles Holbrook
Charlotte Mitchell
Dr. Kenneth Taylor

Attorney General's Office

Jennie Hauser (legal counsel)

DENR Staff Members

Trina Ozer, Office of the Secretary
Tracy Davis, Division of Energy, Mineral and Land Resources (DEMLR)
Mell Nevils, DEMLR
Walt Haven, DEMLR
Katherine Marciniak, DEMLR
Don Rayno, Division of Water Resources

Others in Attendance

Refer to the attached meeting sign-in sheets.

2. Water Management for Hydraulic Fracturing - Other States Review and NC Water Management Plan - Katherine Marciniak, DEMLR (see attached presentation).

Ms. Marciniak described water use plans in other states as well as the proposed components of the North Carolina Water Management plan as it relates to the oil and gas industry in North Carolina. A number of items were presented to the Committee as points in need of consideration: Triassic Basin Capacity Use designation, lifetime of permit, the review process of a water use plan, and the application procedure.

Ms. Marciniak presented the critical components that should be included within a Water Management Plan to the Committee:

- a. Protection of riparian water rights;
- b. Water withdrawal registration requirements (100,000 gal/day or more, per DWR);
- c. Monitoring of water sources surrounding the oil and gas operation;
- d. Potentially using the permitting process to limit water withdrawals;

- e. The use of streams, ponds, or inactive quarries as water sources;
- f. The use of reclaimed water, but not wastewater;
- g. A suggested requirement for a 24- to 48-hour aquifer pumping test when groundwater is used as a water source;
- h. Hydrogeological reporting for field procedures, geological mapping, well logs, potentiometric surface mapping, etc. for groundwater use assessment;
- i. Sampling distances: 5,000 ft (the current distance for which there is a presumption of liability as required by S.L. 2012-143), 1,500 ft (the “standard” distance required by 15A NCAC 02L);
- j. Water storage: tanks, lined pits, inactive quarries, ponds, dammed storage, tanks, etc.;

Ms. Marciniak also suggested the need for initial and periodic reporting requirements. This reporting would include operator notifications to state and local officials, as well as affected land owners. She also suggested implementing data gathering requirements that might include the following:

- a. Metering logs recording water volumes received, used, and recycled;
- b. Post-fracturing reporting, as required under the draft disclosure rules (see the Environmental Standards Committee minutes from January 24, 2013);
- c. Baseline and periodic sampling needs;

Discussion topics posed to the Committee by staff included: water use limits of 20 percent of the 7Q10 stream flow versus maximum total withdrawals of 20 percent of 7Q10; tracking of total water usage along a reach; water sources (streams, rivers, groundwater, supply from cooling ponds); storage of water; and reporting/monitoring.

Subsequent Committee discussion revolved around dividing the Committee’s rule requirements into two “buckets” of “Water Access and Use” and “Discharge and Disposal.”

6. Wastewater Management from the DENR Shale Gas Report Deborah Gore-DWQ (see attached presentation).

Ms. Gore explained the variety of wastes that could be generated by oil and gas operations and the methods to possibly address these materials. She also addressed flowback and wastewater concerns related to potential salinity and high total dissolved solids (TDS) problems. Her suggested strategies to address involved the following:

- a. Onsite treatment systems (filter systems);
- b. Land application of bio-solids;
- c. Deep injection (not possible in North Carolina, but operators may be able to utilize this method in nearby states if cost effective); and
- d. Centralized treatment facilities.

Ms. Gore also explained that the water reclamation standards in North Carolina are aimed at beneficial reuse of water after treatment. Dr. Rao noted that there may be additional wastes to account for depending on the different water treatment methods that could be used, such as reverse osmosis, which would result in the creation of heavy brine.

Water use tracking related to golf courses was briefly discussed by the Committee. This discussion lead back to the question of a capacity use designation for the Triassic Basin areas. Additionally, the Committee noted that having these areas classified as capacity use would require all water uses and withdrawals to be permitted and tracked. The Committee asked whether the Department would support designating the Triassic Basin as a capacity use area. Ms. Ozer responded that that topic had not been discussed with DENR management, but that she could report back to the Committee on this issue at a later date.

The Committee briefly discussed how the treatment and disposal of water and wastes could result in alternative uses being investigated.

7. Discussion and Brainstorming – Chairman Rao

The two major task “buckets” were briefly discussed by the Committee. “Bucket 1” was designated as “Water Access and Use”, while “Bucket 2” was termed “Waste Management and Disposal.”

Overlap of rule assignments between committees was also discussed. For instance, rule assignment #3, “Prevention of pollution of water supplies...” and rule assignment #4, “Protection of the quality of the water, air soil...” were noted as having overlapping applications. Additionally, it was noted that the rule assignment groupings probably do not constitute an all-inclusive list. Thus, rule writing “gaps” in some areas should be examined and addressed as they come to light.

The Committee assigned the following task to DENR: draft a set of water use rules and begin working on a waste management plan outline. The draft set of rules is to be sent to the Committee Chairman for approval to distribute to the Committee prior to February 14. The next stakeholder meeting will also review these draft rules on February 21. Additionally, the Committee requested that staff analyze the cost to reuse water versus post-treatment water discharge. Dr. Taylor will provide the water quality results from prior Triassic Basin studies to staff.

8. Stakeholder involvement for Water Management Plans – Trina Ozer, DENR. Ms. Ozer reported to the Committee that a formal Stakeholder Group is available to review and comment on any rules or other topic areas.

9. Public Comment –

No one signed up for the public comment period.

10. Concluding Remarks

A motion was made by Dr. Taylor to approve minutes from December 2012 Committee meeting, second by Mr. Ivan “Tex” Gilmore. Minutes were approved by unanimous vote with no changes or revisions.

11. The Committee adjourned at 10:29 am.

DEMLR Staff Contact for this Committee: Trina Ozer, Policy Analyst - NCDENR.