Stakeholder Group on Oil and Gas Management Recommendations from the July 11, 2013 Meeting

At the July 11, 2013 meeting of the Stakeholder Group on Oil and Gas Management, the following members of the stakeholder group were present:

- Tom Alexander, ANGA/Southwestern Energy, via phone
- Brandon Jones, N.C. Department of Transportation
- Terrell Jones, Lee County Health Director
- David Kelly, Environmental Defense Fund
- Benny Lee, Chatham County Landowner
- Star Hodge, State Energy Office
- John Monaghan, Piedmont Natural Gas
- Kevin O'Barr, N.C. Department of Labor
- Don O'Toole, City of Durham
- Trina Ozer, DENR
- James Robinson, RAFI-USA
- Paul Sherman, N.C. Farm Bureau
- Vann Stancil, Wildlife Resources Commission
- Hope Taylor, Clean Water for North Carolina
- Steve Townsend, retired oil and gas industry engineer
- Lynne Weaver, N.C. Department of Justice

The following staff of the Division of Energy, Mineral and Land Resources was available to answer questions about the proposal for rule components and the considerations that had gone into developing the rule components:

- Walt Haven, Energy Program Supervisor
- Katherine Marciniak, Senior Specialist

At the meeting, the stakeholder group discussed components of a proposed rule on wastewater management. As part of this discussion, the group made the following recommendations for the Water and Waste Management Committee of the N.C. Mining and Energy Commission to consider in the course of its deliberations.

1. There was confusion about what constitutes contaminated versus uncontaminated cuttings. The group recommended that "contamination" be clearly defined in the definitions section of the rule.

- The study group did not understand why there was a distinction made for "nondomestic exploration and production waste." They recommended that the word "nondomestic" be deleted in line 3 on page one.
- It was recommended that the term "drill cuttings" be included in the definition of "closed-loop system."
- 4. Under the definition of "pit", the group said that the second sentence, which describes what a pit is not, seems unnecessary. They recommended deleting this phrase: "Pit does not include steel, fiberglass, concrete, or other similar vessels which do not release their contents to surrounding soils." In addition, the study group recommended that this definition more properly described an "earthen pit," and they recommended using that title instead of "pit."
- 5. The stakeholders identified a potential loophole in the rules for structures called "corrals." Corrals are similar to modular aboveground swimming pools that are used in the same way as a pit or tank. Corrals eliminate the need to dig a hole in the ground but they function like a pit. They are not entirely constructed in a factory like a tank, but are put together on the well pad out of pieces, like a modular home. The rules are currently written to address requirements for the construction pits and tanks, whereas corrals are assembled differently than pits and tanks, which could lead to improper construction of corrals with no regulatory oversight. The stakeholder group recommended adding a definition for a corral. Staff should identify how corrals would be regulated.
- 6. The stakeholder group felt that in general, the requirements for a waste management plan were not specific enough and should be more prescriptive, like the requirements for a water management plan. For example, the group wondered how drill cuttings will be treated once they come to surface? What equipment would be used, where do they go from the well pad, and how will they be handled? They suggested more of a cradle to grave approach. The stakeholder group that a more prescriptive approach would save both DENR and operators time if the requirements are spelled out from the beginning.
- 7. The stakeholder group did not see the need for requiring that a registered professional engineer design the waste management plan. The group suggested discussing this question with the Division of Waste Management, the North Carolina Board of Examiners for Engineers and Surveyors, or operators that work in other states. They also suggested that the plan could be certified by a PE rather than designed by one, but they did not think even that step was necessary.

- 8. More specificity regarding floodplains is suggested. The group recommended that the 100-year floodplain be used. Others recommended that in addition to streams, creeks, lakes, floodplains and other water bodes pits and tanks be prohibited in wetlands. The stakeholders recommended that pits and tanks might be allowed in floodplains and wetlands if mitigatory steps were taken, such as using equipment built to withstand flooding or buying credits from a mitigation bank. Requirements could be developed that allow one to operate in a floodplain, as long as they are going above and beyond the standards designed for pits and tanks outside floodplains and wetlands. It was mentioned that pits are allowed in floodplains and wetlands in Mississippi, and one stakeholder suggested that there is a need to research the extent of floodplains. It is possible that in the North Carolina Piedmont, keeping pits out of the 100-year floodplain. It is poslible that in the North Carolina Piedmont, keeping pits out of the 100-year floodplains and wetlands would not be problematic for operators.
- The stakeholder group said that the title for 15A NCAC 05H .XXX4 should be "Requirements for pits and tanks," because that is a better fit for the content of this section.
- 10. The stakeholder group recommended including documentation within the waste management plan that describes the design of the pits, showing that there is sufficient capacity. This should include a diagram of the pad and the layout and capacity of each pit and tank and link it to the drilling pad.
- 11. At least one member of the stakeholder group felt that only closed-loop systems should be allowed, whereas other members of the stakeholder group felt that there were good reasons for using and allowing pits. David Kelly said that Environmental Defense supports the development of rules that require the right tool for the right job. He said that if a tank ruptures, you lose it all. If a pit overtops, you can fix it more easily. Other stakeholders recommended that the MEC consider all the pros and cons of both options and try to make a decision about what's the best decision for North Carolina. Requirements can vary based on the situation. For example, one person recommended that if a pit or tank is required close to homes, it may be better to require tanks rather than pits. Another option would be to allow pits only for storing only fresh water. The group recommended that the Committee set conditions under which we want to see this type of technology versus another. The group also recommended including requirements for corrals.
- 12. The stakeholder group said that requiring a pit to be designed by a registered professional engineer makes sense, but not a tank, because tanks are bought off the

shelf and are built to an ASME or API standard. The rules could reference that tanks be built to those standards.

- 13. The stakeholder group said that it is more usual to see thickness of a flexible liner expressed in mils rather than coefficient of permeability.
- 14. On page 5, under item 8, the group asked if we have a specific casing seat in mind? Staff offered to check into which casing string this was.
- 15. The stakeholder group recommended moving the section on secondary containment (currently in 15A NCAC 05H .XX11) into section 15A NCAC 05H .XXX4. Staff said that they were planning to move this already. The stakeholder group said that based on the language, it's not clear that secondary containment is actually required. The group also asked how spill control and countermeasures would be incorporated and how rainwater would be dealt with. They suggested referencing SPCC regulations.
- 16. The group recommended that staff and the Water and Waste Management Committee make sure that the rule set accounts for the interconnection of tanks. They suggested referring to SPCC regulations for interconnected tanks, and treating the failure of one tank as the failure of the whole system of interconnected tanks. Instead of requiring that containment hold the volume of largest single tank, the requirement should be that containment is large enough to contain the largest volume of a tank system, including pipes. It can be smaller if you have valves to break up that interconnection.
- 17. The group recommended deleting the phrase "unlined pits" on line 16 of page 7.
- 18. The group asked what "rapidly" means on line 11 of page 6.
- 19. Regarding the requirement on lines 25 and 26 of page 6, for the operator to provide a berm around a pit to prevent stormwater flow from entering the pit, the stakeholder group wondered how a hurricane would affect the berm requirement. The group felt that the MEC should give consideration to whether or not these requirements would be sufficient in the case of a flood or hurricane, and if not, what are the plans for dealing with extreme weather events, particularly if you're in an area that is at a high risk of floods? What would happen in the case of a 500 year storm?
- 20. The stakeholder group questioned whether land application was the appropriate way to dispose of wastewater.

- 21. The stakeholder group did not see the need for 15A NCAC 05H .XXX5, regarding existing ponds and pits. This is particularly not needed for North Carolina, as there is no existing oil and gas development here. They recommended deleting this rule.
- 22. The stakeholder group recommended changing the title on line 20, p. 8, to a title that is more reflective of the content of that rule.
- 23. On page 8, line 25, delete the word "appropriate". In the next line, change "wastewater treatment plant to "publicly owned treatment works."
- 24. On page 8, line 23, in addition to permitted, say "designed and permitted."
- 25. The stakeholders had differing opinions about the treatment of wastewater generated by oil and gas operations. Some stakeholders felt that treatment methods for such wastewater have not yet proven completely effective and seems to be falling out of favor in other states. Deep well injection is a better alternative, but presents its own set of challenges and may prove unworkable given geologic conditions in North Carolina. North Carolina should prioritize recycling and reuse of oil and gas wastewater whenever possible. Others stakeholders felt that effective treatment is possible and is working in some states. The stakeholder group recommended that the Water and Waste Management Committee hear more information from Environmental Defense about the cons to treatment facilities, as well as more information from Southwestern Energy about their treatment facilities.
- 26. The stakeholder group recommended that the rule set should more clearly prioritize reuse by making it the first option in the list of three options, and perhaps requiring that the possibility of recycling be explored before the other two options are used.
- 27. Under option c on line 27 of page 8, delete the words "treated for." The stakeholder group advised that often, fracking fluid is not treated before it is reused.
- 28. The stakeholder group recommended adding rules to address what should happen with residual waste after the fracking wastewater has been treated.
- 29. The stakeholder group felt that there should be a requirement for a closure plan for earthen pit equipment, as there is currently for a closed-loop system (addressed on lines 22 and 23 of page 7: "The plan shall include operating and maintenance procedures and a closure plan.")

- 30. On line 22 of page 9, the group recommended revising the line to read, "the operator shall take measures to ensure that fluids are characterized and transported to a waste facility that can accept it." They felt this line was unclear as currently drafted.
- 31. On line 28 of page 9, the stakeholder group thought more specifics should be included about the samples, specifically, where the samples should come from.
- 32. The stakeholder group did not understand the requirement on lines 13 and 14 of page 10, regarding the oil and grease content of material. They wondered how three percent was arrived at. Staff offered to look into this issue further.
- 33. In section h on page 10, the group recommended that we be more specific about the type of vegetation that is required, and that these requirements be tied into the reclamation plan.
- 34. Also in section h on page 10, the group suggested that we should find a way to prevent people from saying that their last well hasn't been dug as a way to avoid performing reclamation work. They suggested deleting the loophole for multiple wells at a well site, as they felt it wasn't necessary. They also recommended doing the same thing for paragraph j.
- 35. The stakeholder group recommended adding closure requirements for oil-based drilling fluids.
- 36. The group suggested that the reference on page 11, line 11, to 15A NCAC 13B, may need to be broadened to other North Carolina regulations as well.
- 37. One member of the stakeholder group felt that it was unnecessary to report on a spill or release if it had not left the well pad. He said this could result in reporting of very minor spills, and a lot of work for staff to review the reports. He recommended not requiring reporting on spills and releases that are contained within lined and unlined berms. Others like the way the regulation was currently written.
- 38. The stakeholders pointed out that although the rule set requires the operator to report on spills and releases, there is no explicit requirement to clean up spills and releases. They suggested making this clearer, and to explain how the spills and releases should be cleaned up. There could be a reference to SPCC requirements. The rules could also address what type of spill prevention plan would be required and mitigation requirements.

- 39. On page 13, line 6, the stakeholders wondered how "downstream intake owners" is defined, and how far downstream do you go? Staff offered to look into this issue further. At least one stakeholder recommended that surface owners and downstream intake owners should be notified within two hours, rather than 24 hours, as required by item (c)(4) on page 12 for notification to DENR and county officials.
- 40. On page 14, under items 1, the stakeholder group recommended adding a requirement to show the time as well as the date of transport. Under item 6, the stakeholder group recommended adding the date and time of the signature.
- 41. The stakeholder group suggested renaming 15A NCAC 05H .XX13 to "Safety and Security at Pits and Tanks."
- 42. On line 16 of page 15, the stakeholder group recommended deleting the word "permanent" in front of both "pit" and "open tank," as it should be required whether or not the pit, tank or corral is permanent. They also recommended adding corral requirements.
- 43. The stakeholder group recommended looking into whether or not screens are really necessary for pits.
- 44. The stakeholder group suggested reducing the amount of detail around fencing requirements, and perhaps simply referring to the fencing requirements being developed by other committees of the MEC.
- 45. The stakeholder group suggested that further requirements may be necessary to keep deer out of pits and tanks. Vann Stancil with the N.C. Wildlife Resources Commission offered to look into potential alternatives for this.
- 46. The stakeholder group felt that the Water and Waste Management Committee should reconsider whether monitoring wells are necessary given the double liner with detection equipment requirements.
- 47. The stakeholder group felt that the requirement for an annual waste management report was not described clearly enough, and should perhaps refer back to the more detailed waste management plan, once that is developed.