

**Roane County Environmental Review Board (RCERB)
March 7, 2013 Meeting Minutes—Approved via email**

Members Present:

Mary Anne Koltowich, Chair
Frank Kornegay
Brian Niekerk
Gail Okulczyk, Recorder
R.L. Pope
Scott Stout, County Executive Designated Representative

Members Absent:

Carolyn Grainger
Dave Reichle, Vice Chair

Guests:

Invited guest speaker Kevin P. Hoyt PhD., CF, RF; UT Institute of Agriculture, Gas & Oil Drilling
Project Cumberland and Morgan Counties
James Smith, Citizen

Agenda: Attached.

Public Comments:

None.

Proceedings:

The meeting was called to order by Chair Koltowich at 6:05 p.m. The agenda was approved and RCERB's business was deferred until after the presentation by Dr. Hoyt.

Hydraulic Fracturing Presentation by Dr. Hoyt

Dr. Hoyt presented a Power Point overview of the proposed hydraulic fracturing project slated for University of Tennessee-owned property in Morgan and Scott counties. The property is documented to have reserves of natural gas and oil. Dr. Hoyt discussed the following:

- The project is a science-based investigation.
- Conflict of Interest Requirements will be published on the designated UT website (<https://ag.tennessee.edu/Pages/Gas-and-Oil.aspx>) if the project is approved to go forward.
- Revenues that are generated from the project will go back into research.
- The hydraulic fracturing research will focus on the impacts of natural gas and oil extraction on water and air quality, geology, and terrestrial ecosystems. Conclusions drawn from the studies will allow the development of Best Management Practices for gas/oil extraction.
- A Request for Proposal (RFP) to obtain an industry partner is in process for an approval to proceed that will include:
 - Mandate one year advance notice prior to sinking of a well;
 - Requirements must meet Tennessee Department of Environment and Conservation regulations;

- The actual well site(s) must be approved by the University of Tennessee to avoid disturbance or interference of other research sites;
 - Roads, well pad sites, and drilling operations must meet recognized standards and be approved by UT;
 - The industry partner must be able to demonstrate their ability to follow Best Management Practices and operations that implement continuous improvement.
- Proposed public meetings and tours of the site

The RCERB Chair and members thanked Dr. Hoyt for a very informative presentation and the opportunity to ask specific questions regarding the project. Overall, the RCERB members agreed the University's project should have no serious consequences and were hopeful the approvals to proceed would be secured.

Roundtable Discussion

- Chair Koltowich provided status regarding her discussion with Ms. Diane Ward, Roane State Community College Dean and Associate Professor of Education, and two Roane State students willing to work with Roane County schools on recycling. Recycling and litter go hand-in-hand and the strategy is to work with Stacey McElhaney, Roane County Representative "Keep Roane Litter Free" and Ralph Stewart, Solid Waste Manager, to put together a plan that will include schools.
- Chair Koltowich relayed a discussion with Ms. Diane Ward regarding "Lab in a Box" opportunities. She stated that seven (7) lab boxes have been deployed in Morgan County. Morgan County has tied the lab boxes to a teaching standard and have data linked to TCAPs.
- Chair Koltowich discussed an article in the February 9, 2013 edition of the Knoxville News Sentinel "Louden County choking on air pollution, task force says." The article comments on Loudon County's air quality task force group not being included in industry recruitment to provide elected officials information regarding environmental impacts. RCERB members discussed the need for up-front engagement by Roane County officials and issues associated with air quality non-attainment.

The meeting adjourned at 7:45 p.m.

Respectfully Submitted,
 Gail Okulczyk
 2013 Roane County ERB Recorder

Attachments:

March 7, 2013 Agenda

Summary of Notes from National Geographic issue March 2013, article on fracking in North Dakota
 RCERB

Proposed Questions for Dr. Hoyt

Article from Knoxville.com "Loudon County choking on air pollution, task force says"

Meeting Agenda for March 7, 2013; 6:00 P.M.
Roane County Environmental Review Board

- 6:00 Call to Order
- 6:01 Approval of Agenda
- 6:05 Program -Kevin P. Hoyt, Ph.D., CF, RF; UT Institute of Agriculture, Gas & Oil Drilling Project Cumberland and Morgan Counties
- 6:30 Public comment time
- 6:45 Approval of February 7, 2013 RCERB Meeting Minutes
- 6:50 Roundtable Discussions –
- A) Recycling Project with RC Schools
 - a. Memorandum Re: Shared Profits with Individual Schools from Ron Woody, County Executive, dated January 16, 2013
 - b. Student Memberships and Project – Roane State Community College
 - B) Air Quality – Potential concerns from Loudon County
 - C) Small Modular Reactor Project
 - D) Open Discussion
- 7:25 Next Meeting: April 4, 2013; Program - TBD
- 7:30 Adjourn

Documents Received:

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Attachments

Summary of Notes from National Geographic issue March 2013, article on fracking in North Dakota.

NOTE: Recap of RCERB Meetings

April 5, 2012 Quorum (5/6 members), prior to TVA Workshop
May 3, 2012 Quorum (4/6 members), prior to TVA Workshop, Minutes approved via email
June 7, 2012 No Quorum, prior to TVA Workshop
July 5, 2012 Cancelled due to Holiday
August 13, 2012 Quorum (4/5 members), short meeting prior to Commissioners Meeting
September 6, 2012 Quorum (3/5 members)
October 4, 2012 No Quorum (3/6 members)
November 8, 2012 Quorum (4/6 members), short meeting after TVA/EPA EE/CA Public Meeting
December 6, 2012 Quorum (5/6 members)
January 4, 2013 Quorum (7/7 members)
February 7, 2013 Quorum (5/7 members)

National Geographic, March 2013: Notes from article entitled "America Strikes Oil, The Promise and Risk of Fracking"

1. Glossary of Terms
 - a. Fracking – hydraulic fracturing, occurring when large amounts of fresh water combined with sand and other substances (some toxic), are driven under pressure down wells drilled into deep layers of shale, creating cracks through which bubbles of trapped oil and natural gas can escape into the well.
 - b. Plug and Perforation – a plug blocks off a section of pipe; "perf gun" blasts small holes in the sandstone. Fluid is pumped in at high pressure, releasing the oil.
 - c. Sliding Sleeve – plastic balls are forced down the pipe, which push open sliding sleeves to expose holes in the pipe. Fluid shoots out through the holes, fracturing the rock.
 - d. Proppant – a combination of natural quartz sand and man-made ceramics. It props open fractures in the rock to allow oil to flow more freely.
2. Many ranchers do not own the mineral rights for their own land, so there is no say where wells are placed (North Dakota).
3. Since 2010, tens of thousands of people have come to North Dakota in hopes of finding work (refugees from the great recession). Most are transients working to pay bills back home, not relocations.
4. Since early 2006, production from the Bakken formation has increased nearly 150-fold, to more than 600,000 barrels of oil/day. North Dakota is now in second place among domestic supplies, behind Texas and ahead of Alaska. Optimistic predictions that daily output could eventually reach close to 2 million barrels (equal to Texas).
5. Number of wells could increase from 8,000 operating today to between 40,000 to 50,000. Until more pipelines are built, transport of oil and water is by truck.
6. Lateral legs from the bottom of the well can be as long as two miles. A lateral leg can be split into 25 legs, each fracked separately. Wells are commonly two miles deep vertically.
7. Only ¼ of North Dakota's oil wells connect to pipelines. Most of the oil is trucked to pipelines or rail stations to be sent out of state. North Dakota has only one refinery, which can handle only 1/10 of the current output.
8. Causes for concern – Air quality, leaky ponds, faulty wells, spills. States regulate fracking, so procedures differ across the country. One main concern is that gas leaks worsen air quality. Long-term effects unknown.
9. Typical well fracturing fluid – 80.5% water; 19% proppant; 0.5% chemicals. Chemicals are additives used to inhibit bacterial growth, minimize friction, and increase viscosity.
10. 80% of the fluid used is disposed of, most being pumped into injection wells 2,500 feet below potable water. 20% of the fluid is recycled.
11. Products used in the lifetime of one well (typical) – 2 million gallons water, 4 million pounds proppant, 350+ barrels chemicals.
12. With so few gathering pipelines, 1/3 of the natural gas coming up with the crude oil is burned off, wasted.

13. The more we experiment with underground drilling, the more we discover that impermeable layers may be surprisingly permeable and fractures in rock can be interlinked in unexpected ways.
14. Passed during the Bush-Cheney administration, the so-called Halliburton loophole exempts the oil and gas industry from the requirements of the Safe Drinking Water Act. Manufacturers and operators are not required to disclose all ingredients, on the principle of keeping trade secrets.
15. A recent USGS study of decades-old wells in eastern Montana found plumes of salt water migrating into aquifers and private wells

RCERB Meeting March 7, 2013

Program: Dr. Kevin Hoyt, Fracking Research

Proposed Questions:

(1) The Knoxville News Sentinel reported that the current UT proposal is a revision of an earlier proposal previously turned down by the TN State legislature. Can you tell us what were the legislature's objections, and how have you addressed them?

(2) Your proposal would have commercial companies pay a fee (royalty/permit/lease) to put in place wells and frack on UT-owned land. These fee(s) would then be used to support UT in measurement, oversight, and evaluation of the operations for potential environmental impact. Can you tell us how this removes the conflict of interest (both real and/or perceived) which caused concern at the Univ. of PA study?

(3) Tell us what fracking media will be allowed and why - both in terms of operational effectiveness and also possible environmental consequences?

Loudon County choking on air pollution, task force says

By Hugh G. Willett

Saturday, February 9, 2013

LOUDON — Loudon County has serious air quality issues and needs to rethink the process it uses to recruit new industries, according to members of the local air quality task force.

"I have some great concerns over the industrial recruitment process," Dr. James P. "Bud" Guider, a pediatrician and member of the Loudon County Air Quality Task Force, told the county commission Monday.

The county has experienced significant air quality issues over the past 10 years, including non-attainment of particulate matter goals. Over that time Guider said he has seen a 30 percent increase in children with asthma and respiratory problems such as bronchitis.

"In 2012 the Knoxville area was rated the worst in the nation for childhood asthma," he said.

There are about 20 pediatricians in the Knoxville area specializing in asthma, compared with about three or four such specialists in the Atlanta area, he said.

There are various reasons Loudon and East Tennessee in general have air quality issues, including locations of highways, geography, weather and the local industrial base, Guider said.

Addressing the problem of industrial emissions requires that local government work more closely with organizations such as the air quality task force before giving the green light to new industry, he said.

"It seems like the deal is done before the proper discussions on environmental impact," he said.

During the recruitment process, the Loudon County Economic Development Agency usually provides lots of data about the economic impact of the company involved. Elected officials are not given adequate information regarding environmental impact, he said.

Guider used the recently announced recruitment of Italian tile manufacturer Ceramica Del Conca as an example. The possibility that the company could bring 178 jobs to the county was well publicized, he said.

The county commission approved incentives for Ceramica Del Conca, including tax and infrastructure subsidies, based on the potential economic impact.

The air quality task force was never consulted on the possible impact of the new company, Guider said.

"I checked with county commissioners. They didn't have information on the environmental impact. I checked with (the) Tennessee Department of Environment and Conservation. TDEC said they have no information," he said.

TDEC's Division of Air Pollution Control has not yet evaluated the potential impact of Ceramica Del Conca because they have not received an application from the company, according to spokeswoman Meg Lockhart.

TDEC approval after the county has already made a deal with the new company is like putting the cart before the horse, Guider said. The approval of TDEC is not an assurance that a new industry will not contribute to the existing air problems, he said.

"There is a perception that if TDEC approves an industry, that means it must be safe," he said.

Guider told commissioners he is concerned that TDEC does not take into account the cumulative effect of other industries in the county. Loudon already has several significant sources of industrial emissions.

New companies that meet the emissions standards are approved regardless of other existing industries, Guider said.

State regulations on pollution permits are designed to be protective of public health and air quality, TDEC's Lockhart said. Proposed new air contaminant sources may have additional restrictions based upon them in areas already identified as non-attainment for a given pollutant, she said.

Certain larger sources may also be subject to various requirements under the Prevention of Significant Deterioration Construction, New Source Review and Title V permitting regulations which may limit the amount and types of pollutants the new sources are allowed to emit, she said.

Loudon County is in attainment with federal and state ozone level requirements, Lockhart said. The county is classified as in non-attainment for the 24-hour annual standards for particulate matter. The standard has recently been lowered, and it is not clear whether the new standards will impact Loudon or the Knoxville region, she said.

Task force member and county commissioner Don Miller agreed that the process of industrial recruitment needs to involve a front-end evaluation of potential environmental concerns.

"We need some way to get air quality information before the deal is signed off," Miller said.

Commissioner Bob Franke said he thought issues such as measuring cumulative effects should be addressed with legislators in Nashville where TDEC policy is created.

Newly appointed task-force chairman Lewis Garner said the group has invited representatives of the Loudon County Economic Development Agency to attend future meetings. Garner said he hopes the task force will be more involved in future recruitment and approval of new industry.

"There is a lot of secrecy in the recruitment process. We want to be brought into the loop. We need to know what types of materials and processes are going to be used," he said.

Loudon County Economic Development Agency president Pat Phillips could not be reached for comment.



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