

Monday, June 26,2017

This is it! We just talked with Mike Mankowski, Director of Oil and Gas at the Illinois Department of Natural Resources. IDNR will accept all comments on the Woolsey High Volume Fracking permit application that come in during the current comment period (which ends tomorrow, 6/27/2017) AND they plan on extending the comment period until July 28. But let's not wait.

Submit your comments NOW. TODAY. It's as easy as 1, 2, 3.

- 1. Introduce your comment(s) with one or more talking points below.**
- 2. Write your comment OR cut and paste any or all of the specific comments below.**
- 3. E-mail your comments to DNR.HFPublicComments@illinois.gov making sure to include the Review Number (HVHHF-000001) in both the subject line and in the text of your e-mail.**

NOTE: All comments must include the review number (HVHHF-000001).

For those of you who missed our e-mails over the weekend, Woolsey—an out-of-state fracking company—has applied for a high volume fracking permit in Illinois. If approved, it will include an almost mile-long horizontal leg that will go directly under a private residence. Last week, Woolsey acknowledged that they had provided “incorrect footages for the location” of the well. Essentially, what this means is Woolsey submitted an application with the wrong location! Let me say that again. This fracking company couldn't even get the location of their well right in the application! How could we ever hope they will be able to frack safely? We can't.

A special thanks to NRDC for providing most of the information provided for in the specific comments below.

Talking Points

1. In general, the Woolsey application is woefully lacking in data and information required by the General Assembly and the IDNR to protect public health and the environment.
2. From the information that IS provided, a number of concerns arise, including but not limited to:
 - Exceptionally large water withdrawals from groundwater resources are proposed that are very susceptible to depletion, and failure to recycle water or otherwise minimize water consumption.
 - Significant underestimation of flowback volumes, and inadequate containment facilities for even that amount of flowback and other chemicals/wastes that the application does estimate.
 - Concealment of information on hazardous fracking chemicals without attempting to demonstrate entitlement to trade secret protection.
 - Inadequate insurance, with insurance that excludes the very types of damages to private landowners' property that should be protected
 - Failure to preserve topsoil and an inadequate storm water management plan
 - Deficient surface and groundwater sampling
3. The Compendium of Scientific, Medical and Media Findings Demonstrating the Risks and Harms of Fracking, 4th Edition, now contains 924 citations on the risks and harms of fracking. 692 of those findings have been published since the passage of the Illinois Hydraulic Fracturing Regulatory Act on 6/17/13. The Woolsey application fails to address the new findings and, on that basis alone, it should not be granted a fracking permit in the state of Illinois.

SPECIFIC COMMENTS

Directional Drilling Plan- Document 3

1. **Directional Drilling Plan-** The drilling lengths and depths submitted in the Plan do not match the depth in the scaled cross-section. There is also a discrepancy in angle of the non-vertical portion of the wellbore. If Woolsey cannot provide accurate information in their application, how can we trust them to drill in our state?

Underground Freshwater Information- Document 4

2. **Inadequate Determination of Underground Freshwater - No Geological Survey Data submitted-** Section 245.210(a)(5) requires reference to the Illinois State Geological Survey with regard to its proposed drilling. This is critical to insure that freshwater will not be contaminated. Woolsey has failed to provide this information.
3. **Inadequate Evidence to Establish the Lowest Potential Fresh Water -** Again, Woolsey has failed to provide this information. As such a clear potential exists that fresh water could exist below the drilling depth in a lower formation.

HVHF Operations Plan - Document 5

4. **Failure to Clearly Identify Formation to be Stimulated -** The permit fails to clearly identify the formation that will be stimulated or fracked by the operation other than to state that the “drilling objective” is the New Albany Shale but later refers to the “objective” being the “Grassy Creek” shale and, later still, describes the “reservoir zone”, and the Semier Shale as the “frac barrier.” These terms are not synonymous and therefore both confusing and inadequate.
5. **Failure to Clearly Identify the Confining Zone -** Section 245.210(a)(6) requires the Applicant to specifically identify and describe the formation or formations that constitute the “confining zone” for the proposed well. The application fails to meet this requirement. In fact, it fails to use this term at all in its application.
6. **Missing Data -** There is no information, data, or calculations supplied on either a micro-seismic study or the “historic” use to support whether the identification of the “frac barriers” is technically sound. The application contains no information on which a reliable conclusion can be reliably drawn regarding a confining zone or “frac barrier” and the Application is therefore inadequate and must be denied.
7. **Confusing Data-** The Role of the Selmier Shale is listed as both a “drilling objective” and a “frac barrier” (confining zone?) in the application. It cannot serve two purposes. It is either a drilling objective or a confining zone.
8. **Inadequate Information-** Fracturing Pressure- The fracturing pressure of the “producing zone” is given as 2,875 psi. Yet three separate formations are mentioned as “drilling objectives.” The same psi for all three would not be used.
9. **Missing Data-** Surface Training Pressure Range- This information is entirely missing.
10. **No information on the Vertical Propagation of Fractures -** One of the most important safety features established in the Hydraulic Fracturing Regulatory Act is the requirement that the susceptibility for vertical propagation of fractures in the confining zone and the formations contributing to that zone, are accurately determined and stated in the application, Section 245.210(a)(6)(A). The Document completely fails to satisfy this safeguard. The singular sentence it does provide fails to articulate a conclusion that the well plans are adequate and effective. On this basis alone, the permit should be denied.

11. **Missing Data**-No information on extent, water or water source, is provided for any formation and no thickness information is provided for the three formations constituting the New Albany Shale.
12. **Data on Transmissive Faults Lacking** - The potential for transmissive faults contiguous to HVHWF wells is a major public health and safety concern and is therefore a specific requirement for analysis in Section 245.210(a)(6)(A). However, no specific information or reliable analysis on this important feature is provided in the Document. No information on the scope, lateral extent, depth or sophistication of this survey is provided.

Chemical Disclosure Report- Document 7

13. **Chemical Disclosure Plan** The Document explicitly states that no trade secrecy claim will be made in connection with the chemicals proposed for use in the Application. That assertion is untrue. The Chemical and Proppant List includes the Corrosion Inhibitor Cronox AK-50 and six of its constituent chemicals supplied by vendor Baker Hughes. However, Section 3 of the Safety Data Sheet for Cronox AK-50 on "Composition/Information on Ingredients" lists ten constituent chemicals. The four chemicals in Cronox AK-50 that Applicant fails to identify in its Chemical and Proppant List:

- 1) Oxyalkylated alkylphenol (10-20% of total mixture),
- 2) Fatty acids (5-10% of total mixture),
- 3) Complex alkylaryl polyo-ester (5-10% of total mixture) and
- 4) Acetylenic alcohol (1-5% of total mixture).

All four of these constituent chemicals have their Chemical Abstract Service Number concealed on the Safety Data Sheet for the stated reason of "Trade Secret."

Water Source Management Plan- Document 9

14. **Failure to Propose Methods to Minimize Water Withdrawals** One of the most important public safeguards of the Hydraulic Fracturing Regulatory Act is the mandate in Section 1-35(b)(10)(C) that an applicant must specify in the Application's Water Source Management Plan: "the methods to be used to minimize water withdrawals as much as feasible." This requirement is carried over directly into Section 245.210(a)(10)(A)(iv). To meet the literal wording of this statement requires that the Applicant consider a reasonable range of methods to reduce its water consumption and select those withdrawal minimization methods and alternatives that are appropriate to its proposed operation. Not only do the rules specifically require consideration of minimization alternatives, but an Application should also satisfy the "reasonable use" doctrine of groundwater use adopted in the Illinois Water Use Act of 1983 at 525 ILCS 45/6 ("The rule of "reasonable use" shall apply to groundwater withdrawals in the State.") that reasonable use does not include water used "wastefully," 525 ILCS 45/4.

The Applicant's Water Source Management Plan completely ignores these requirements. It fails to indicate a reasonable set of methods that it will employ to minimize groundwater withdrawals and, even worse, fails to indicate that the applicant undertook any effort at all to consider minimizing its water use in designing its operations.

This is a special concern in this Application where the Applicant proposes to utilize its own water wells and does not have the disincentive of paying on a per-gallon basis or having transportation costs to limit over-consumption. Further supporting this concern is the fact that the Applicant's proposed operations appear to be especially wasteful in its proposed water use. The Water Source Management Plan proposes to use a total of 7,500,000 gallons of local groundwater in its

treatment operations. This quantity is a full 50% greater than what the Department itself considers to be the “most commonly reliable figure” for a HVHWF of from “4.4 to 5 million gallons per well.”

No justification is given by the Applicant for this exceptionally large water use or why it should not be deemed wasteful in violation of Illinois’ reasonable use doctrine for groundwater withdrawals. Such exceptionally large water consumption is particularly significant in White County, as this water will be removed from three (3) groundwater wells located in fairly shallow sand and gravel aquifers that can be rapidly depleted. Illinois has already had two significant droughts in the last 10 years. The Woolsey application indicates it plans on withdrawing the bulk of its water in the summer months when drought conditions and aquifer depletion are at their highest.

The Applicant’s failure to address its minimization duty is further compounded by its apparent failure to consider use of recycled water for its operation. Its only consideration of recycled water use is a single sentence in its Water Source Management Plan that “Backflow will not commence until injection in all frac stages has been completed, thus there will be no opportunity for use of recycled water in the hydraulic fracture completion.” Concern about the inadequacy of Applicant’s efforts to minimize water use is further reinforced by plan’s only stated “method” for avoiding the wasting of water, i.e., that it will limit the potential for leakage on-site through the use of piping rather than trucking and keeping the piping limited in length. This claim is far too insubstantial to meet the General Assembly’s intention for an effective effort at water minimization; this is a basic design consideration that is only being puffed up to masquerade as genuine water conservation efforts. Indeed, if leak management was seriously intended, there would be a leak prevention and management plan put in place. There is none.

The only way that the Applicant can satisfy its duty of “reasonable use” of the state’s groundwater and the regulatory requirement to “minimize water withdrawals as much as feasible” is to undertake a review of alternatives and to use the one that utilizes the least water, provided there is no adequately supported business reason to use a more wasteful alternative. Nothing in the Document indicates that such an effort has been undertaken. The Application therefore cannot be approved because the Applicant has not shown that its efforts at minimizing water use are adequate and effective.

Because of the failure to address any methods or alternatives to minimize its water usage, the application must be denied for the failure to meet the requirements for Water Source Management Plans. If the Plan would be approved on this basis, the practical result would be to write the minimization requirement of Section 1-35(b)(10)(C) of the Act out of the state’s statutes and to lose all its intended benefits for the people of Illinois, especially the farmers of White County.

15. Will there be a Fourth Well Drilled by the Applicant on Site- The Applicant’s Water Source Management Plan explicitly provides that it will involve three water wells to supply 7,500,000 gallons of water for the base fluid of the hydraulic fracturing operation. However, the Applicant’s Water Quality Monitoring Plan (Document 21) contains the following statement on page 7:

The water sources included under this plan include both underground aquifers (one existing and 3 proposed HVHWF water supply wells) and a surface water body (a stock

pond). A fourth potentially required water supply well may be drilled, and, if completed, will be included in this monitoring program. (emphasis added)

Apparently, Woolsey does not intend to be bound by its Water Source Management Plan and reserves discretion to modify it for its own undisclosed purposes in a manner that might increase its already high levels of water consumption. However, the clear intent of the Hydraulic Fracturing Regulatory Act is to make these plans binding. Accordingly, the Department should require that the reference highlighted above to a possible fourth well be deleted from the Water Quality Monitoring Plan and the Applicant expressly limited to the three wells proposed in the Water Source Management Plan, provided a valid consideration of minimization methods and alternatives does not reduce that number even further (see previous comment).

Hydraulic Fracturing Fluids and Flowback Plan- Document 10

16. **Inadequate information on Fracturing Fluids-** The Applicant's Hydraulic Fracturing Fluids and Flowback Plan contains barely a full page of information and either completely neglects or is patently vague on numerous items of required information. Equally unacceptable, it contains no supporting information for the conclusory statements it does make. Specifically, none of the information required by paragraph (b) of the Department's form regarding fracturing fluid is provided as the only information stated in the Applicant's plan is on flowback. Accordingly, the Application is incomplete and must be returned to the Applicant to provide the paragraph (b) required information on "injection schedule, flow rate, reuse volume, storage, any treatment and total volume in detail."
17. **Unrealistic Rate of Flowback Recovery Proposed-** The application states an anticipated 4-5,000 barrels of flowback will be recovered but fails to give information on how this number was calculated. The number proposed in the application is 2.8% of the total estimated to be utilized. This is substantially less (5.4 to 7.1 times less) than the average amount of flowback highlighted by the Ohio DNR for fracking, which is 15-20% of the total volume used. If the Ohio numbers are correct, Woolsey will have dramatically underestimated its needs for storage capacity and transport. Woolsey must be required to quantify how it arrived at its numbers or be denied a permit on this basis.
18. **Inadequate Information on Storage Tanks-** The application states that the storage tanks will meet the qualities for the "purpose built." There is no identification as to the number of storage tanks, which will be critical in light of the above comment, nor is there information on the rate/frequency for emptying the tanks. These are all inadequate.
19. **No Testing Plan for Flowback Water-** This is required by law but missing in the application. This is such a critical feature that the permit application should be denied on this basis alone.
20. **Use of Earthen Containment Berms-** The plan states that the flowback storage tanks will be "enclosed by earthen containment berms which will be of sufficient size to contain all of the possible flow back fluid temporary storage volume." No information is provided regarding the engineering properties or layout of these earthen berms. Earthen berms are inadequate for site containment. And, as identified in previous comments, if the flowback calculation is closer to Ohio DNR's numbers, the storage proposed will be completely inadequate.

Wellsite Safety Plan- Document 11

21. **No Clarity for NORM Sampling to Undefined "Black Shale"-** Section 3.2.10 of the Wellsite Safety Plan addresses Naturally Occurring Radioactive Material ("NORM"). This section limits the drill cuttings to be tested for radioactivity to "black shale." Although this phrase is used in the regulations, it is not defined there or in the Safety Plan, nor at any other point in the

Application. Accordingly, what is considered the “black shale” subject to this testing requirement is unspecified. The Plan should therefore be amended to identify the specific geologic formations that the Applicant considers to be “black shale,” in the vicinity of its proposed well, including the formation depth, so the extent of sampling will be clear.

22. **Safety Considerations of the General Public-** There is virtually no consideration given to the safety of members of the general public that may be in the site’s vicinity. This is unacceptable and a permit should be denied on this basis.

Containment Plan- Document 12

23. **The Containment Plan is completely inadequate.** It fails to provide specific information on capacity and design. Please see previous comments on the inadequacy of the “earthen containment berms and the lack of specificity in the number of containment tanks especially in light of the (probably) underestimated amount of flowback.

Casing and Cementing Plan- Document 13

24. **Missing Information in the Casing and Cementing Plan-** The casing and cementing plan does not address the requirements labeled in Document 13 regarding the potential for earthquakes. The application is therefore incomplete and must either be amended by the applicant or denied by IDNR. Furthermore, the casing and cementing plan is completely inadequate to meet Illinois’ regulations. It does not include the detail required by the HFRA and cannot be approved without this critical information.

Traffic Management Plan- Document 14

25. **Traffic Avoidance of the Wabash River-** The application plan fails to address the need to avoid road traffic of hazardous materials in proximity to the Wabash River, a public water supply source.

Proof of Insurance- Document 18

26. **The Certificate of insurance is insufficient** to meet the requirements set by the HFRA and should be denied on that basis.

Failure to Specify Earthquake or Floodplain Hazard

27. **Specification of Earthquake area or floodplain missing or inadequate-** The Department’s form requires the applicant to identify whether the insured wellsite location is in a define earthquake area or a regulatory floodplain. The Application meets neither requirement.

Topsoil Preservation Plan- Document 19

28. **Topsoil Plan Inadequate-** The Department’s form requires that the Topsoil Preservation Plan must be provided with “detail.” (“Please detail the plan to stockpile, stabilize . . . any topsoil and subsoil ...”). No information is provided as to the amount of soil (top or sub) that will be stockpiled. The level of negligible detail that *IS* provided, seems more like an effort to expend the least possible effort and expense in handling the soil by just spreading it around the site. Accordingly, it does not appear to be a “preservation” plan at all given this lack of detail.

Water Quality Monitoring Plan

29. **Inadequate Water Quality Monitoring Plan-** The HFRA section governing Water Quality Monitoring is over six pages in length and is specific as to what is required in an approvable plan. The applicant plan is completely inadequate in addressing everything required for in the

HFRA. For example, the applicant's monitoring plan does not identify a single specific sampling point. Similarly the groundwater section is also generic. This is unacceptable and the application should be denied on this basis.

30. **Data Analysis Procedure Plan Inadequate-** The laboratory tests require an interpretation of the test results and for that purpose, the Applicant concludes its Water Quality Monitoring Plan with a section titled "Data Analysis Procedures." The Section is completely generic and does not actually provide such analytic procedures, thus rendering the Application incomplete. Instead of supplying an actual data analysis plan, the Applicant merely states that "the method to be used under this plan is based on (emphasis added) U.S. EPA methodology established for the assessment of contaminants in environmental samples, and is described in Chapter 9 of U.S. EPA publication 846. We plan to use a data analysis plan based on that methodology." Accordingly, no plan is proposed that can be evaluated during the public comment period and the Application is incomplete. There is no valid reason why such a plan cannot be presented for comment now. Without it, the application must be denied.
31. **Water Quality Monitoring Work Plan is not "independent"**- The "Water Quality Monitoring Work Plan" calls for an "independent third party" to collect and sample water to establish baseline measurements of water quality and quantity. The Water Quality Monitoring Work Plan also tasks an "independent third party" to collect and sample water for years into the future. The Water Quality Monitoring Work Plan application states Shawnee Professional Services will collect water samples to establish baseline measurements. The Water Quality Monitoring Work Plan application also states Shawnee Professional Services will collect water samples for years into the future. There can be no greater public interest than the monitoring of water quality & quantity. The public must depend on IDNR to protect its interests. Shawnee Professional Services has a conflict of interest. Mitch Garret owner of Shawnee Professional Services was a founder of a pro fracking group formed in Johnson County to fight the non - binding resolution "A Community Bill of Rights" in the spring of 2014. The pro fracking group felt so threatened by the non - binding "A Community Bill of Rights" resolution that one of its first acts was to "convince" The Vienna Times newspaper, three weeks prior to the vote, to refuse all anti fracking advertisement, articles and letters to the editor. To leave the ultimate "public interest" in the hands of a company owned by Mitch Garret is to not understand the meaning of independent third party.

Radioactive Materials Management- Document 25

32. **Lack of Clarification on "Black Shale" subject to sampling-** As stated in the previous comments under Document 11, the Wellsite Safety Plan, the phrase "black shale" is not defined in the regulations and the extent of sampling thereof is uncertain. Please confirm what geologic formations you consider to be in the "black shale" that will be tested pursuant to this requirement.
33. **Need to Clarify If Filters Will Be Used and Tested for Radioactivity.-** One of the most serious sources for radioactive contamination is from filters used at hydraulic fracturing sites and disposal sites. No mention is made of filters in the Application or of the specific type of equipment to be used on-site. The Applicant must state whether any filters will be utilized on-site and if so, how they will be managed.

Bond- Document 27

34. **Insufficient bond-** The bond amount identified in the application is in the amount of \$50,000 which is the amount for a single well, not a blanket bond. In the approximate center of the bond is a box captioned with: "ONLY COMPLETE IF BOND IS FOR INDIVIDUAL WELL OR PERMIT."

The information to be entered in this box for an individual well gives locational and identifying information for the well covered, but the Applicant fails to provide any of that information. The Applicant must either provide a new Bond with this information or provide an explanation for why the Bond is incomplete and does not identify the well addressed in the Application.