

Hydraulic Fracturing in Michigan Technical Reports

Technical Report Release Webinar

September 9, 2013

Attendee Questions & Comments

1. *Will comments be accepted in writing as well? I expect them to be voluminous...*

Comments via the online form (see below) are preferred as that will allow us to more easily share and organize them. However, if that presents a hardship, written comments can be sent to:

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Integrated Assessment Program
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Ann Arbor, MI 48104

2. *There are 20 currently in Michigan. (Note: this was referring to the number of high volume well completions)*

There are 19 since 2010. The commenter is correct that there are 20 high volume wells listed on the Michigan Department of Environmental Quality's website. They include an Antrim Well (the Soper) that was completed using high volumes in 2008. As understood by the author of the law/policy technical report Sara Gosman, the Soper was the first slickwater frac in Michigan, but since it was in the Antrim shale formation (where hydraulic fracturing is used to enhance gas production, but high-volume completions are not necessary) and prior to the Utica-Collingwood shale formation (which is currently being developed exclusively via high-volume hydraulic fracturing completions), it was not included.

3. *Have any of the researchers visited any of the high-volume deep horizontal wells or well sites, and talked with local neighbors?*

Several members of the technical report teams visited a vertical well site near Gaylord in late November 2012. The fracturing process was taking place during the visit. Project staff have made several inquiries for visiting a high-volume site but we were not able to schedule a visit due to limited activity in Michigan at present and necessary approvals. In preparing the technical reports the authors primarily worked with publicly available information. New data collection such as interviewing residents near sites was not done.

4. *Will researchers also provide information about the questions NOT addressed in the tech reports, so that legislators do not assume these omitted topics are NOT important? This is quite maddening, that several topics were left out and not considered.*

Suggestions for additional topics that should be considered as part of the analysis of policy options for the integrated assessment are welcome. Please submit via the comment form accompanying the technical reports (see below) by October 7 or use the general comment form after October 7 (see below).

5. *Nat gas price will likely increase as export facilities are brought online -- did the technology research take that into account?*

This is a larger topic of discussion that has implications for Michigan and many other states. It is not addressed in the reports. If there are recommended reports on this topic, please share that information via the comment forms.

6. *To what extent is climate change addressed in the Environment/Ecology report? In particular, methane emissions?*

There is substantial ongoing discussion about the benefits of cleaner burning natural gas and concerns about increased methane emissions. The Public Health report (page 17) provides a brief overview of Greenhouse Gases and hydraulic fracturing.

7. *There seems to be a large gap between "able to do it correctly" and actually doing it correctly. Does the report assess the degree to which that is true and what have been the remedies?*

The technical reports do provide information on problems that have occurred. The analysis identified in the question is beyond the scope of the recently released technical reports.

8. *The oil and gas lease contract is where some environmental protections begin. For example, the American Petroleum Institute has best practices for protecting groundwater, including baseline testing, but these are not offered private mineral owners in the "standard" oil and gas lease. It sounds like Sara mentioned the lease contract in her report, which I think is important.*

A review of the general state lease and a form lease used by producers in Michigan is presented on page 4 of the Policy/Law report.

9. *The DEQ solely makes regulatory assessments and has been involved in most, if not all, official studies -- including the 2003 State Review of Oil and Natural Gas. There are several protective bodies within the DEQ that have been outsourced or disbanded. As of about 6 months ago Hal Fitch said they were not reviewing what was happening in other states in regard to potentials of what could happen here. We have a very special and more fragile geology as well as the largest fresh surface water reservoir. Given the history of oil spills and lax clean-up regulatory requirements (including orphan wells), the limited staffing of the DEQ, and the method by which the DEQ is funded, does it seem reasonable for the DEQ to continue being the sole policy maker for oil and gas -- and more specifically HVHF?*

This type of assessment is beyond the scope of the recently released technical reports. If there is an idea or suggestion for considering this as part of the analysis of policy options for the integrated assessment, please submit that via one of the online forms below.

10. *Will you be exploring the potential of lost lease or resource value for those who are forced into a pool (compulsory pooled) before its time (the value of oil/gas resources recover)?*

This analysis was not completed as part of the recently released technical reports. If there is an idea or suggestion for considering this as part of the analysis of policy options for the integrated assessment, please submit that via one of the online forms below.

11. *Citizens of Michigan have only started becoming aware of HVHF, do you have plans to retake the "pulse" of where residents stand? Follow-up: have you spoken with rural residents specifically, or those who rely on their groundwater?*

We do not have plans for conducting public surveys as part of this assessment. The Public Perceptions report offers a comprehensive overview of such efforts to date in Michigan and elsewhere. There are other units at the University of Michigan such as The Center for Local, State, and Urban Policy which has conducted public opinion polls on the topic and has ongoing research projects on hydraulic fracturing; <http://closup.umich.edu/fracking/> As the Integrated Assessment moves forward we will be sure to draw on these resources.

12. *Please comment on the well known issue that occurred in Kalkaska MI this past summer, which exhausted water wells (drilled to frack) and resulted in using municipal water. Doesn't this indicate the WWAT (water withdrawal assessment tool) does not work?*

Several of the reports mention the withdrawals related to high volume completions in the Kalkaska area. We are not aware of water wells being exhausted as a result of this activity. If there are reports on this topic, please send a note via one of the comment forms below. The Environment/Ecology report does provide an overview of and questions regarding the WWAT.

13. *Re public perception, given the known confusion re the word 'fracking' it appears evident the public needs broad education/clarification on HVHF, in order to appropriately understand the issue. This would be best provided on television, perhaps provided by U-M, yet paid for by the State.*

Providing better and more accessible information can be helpful to individuals who are not familiar with hydraulic fracturing. However, efforts to clarify what "fracking" means in technical terms are unlikely to resolve existing concerns that the public has. As the Public Perceptions report discusses, controversial issues such as HVHF are better addressed through more involved forms of public participation, where members of the public have an opportunity to discuss concerns.

If there are additional ideas or suggestions for consideration in the analysis of policy options for the integrated assessment, please submit them via one of the online forms below.

14. *My problem is that with the Energy Policy Act of 2005 exempting this process from the Clean Water Act, the Safe Drinking Water Act and the Clean Air Act. How will the Law and Policy Report address this?*

The Policy/Law report provides information on the Clean Water Act (page 7), the Safe Drinking Water Act (page 8), and EPA rules under the Clean Air Act (page 9). In addition, the report provides citations for bills which have been introduced in the U.S. Congress to repeal the Safe Drinking Water Act exemption and the Clean Water Act stormwater exemption but notes that the prospects for enactment are unclear.

15. *I guess basically to Sara Gosman, as to why that exemption to the Energy Policy Act was necessary?*

Why the exemption was necessary is not covered in the Policy/Law report but the author notes that there is ongoing debate about whether that is the correct policy decision.

16. *Has the USGS addressed any problems in MI or earth movement to the surface?*

The topic of seismic activity is covered on page 18 of the Geology/Hydrogeology report.

17. Are you going to share this ppt with attendees?

Yes, a recording of the presentation and a PDF version of the presentation have been posted to the following website; <http://graham.umich.edu/knowledge/ia/hydraulic-fracturing/technical-reports>. Registrants were sent this information via email.

Other Questions

Since the release of the technical reports and webinar on September 9th, we have received a few questions regarding the role of the steering committee – in particular the influence of the committee to determine content included in the technical reports. Below are several points drawn from publicly available resources on the project webpage (<http://graham.umich.edu/knowledge/ia/hydraulic-fracturing>) and the recently released technical reports. These points clarify the role of the steering committee for this project and the conflict of interest process used to date.

Role of the Steering Committee

The role of the steering committee is to provide broad stakeholder input and guidance to the overall IA process and to ensure the scope of study is relevant to key decision makers. Committee members may also provide data and input to research teams throughout the process, but decisions regarding content of project analyses and reports are determined by the researchers.

Ban Fracking Michigan has claimed that at the behest of the steering committee the Policy/Law technical report does not mention the Committee to Ban Fracking in Michigan's ballot initiative. That allegation is patently false. No such request was ever made of the lead author, Sara Gosman, nor would it have been honored had it been requested. The primary focus of the report is on describing existing law and identifying policy trends across the country.

Conflict of Interest Process Used

All researchers (faculty leads for the technical reports) completed conflict of interest forms (adapted from National Academy of Sciences materials) indicating no conflict of financial or other interests related to the reports they are preparing. Also, a review process involving subject area experts was followed to improve the quality and the presentation of the analyses and to identify any misleading or unsupported conclusions. These reviewers also completed conflict of interest forms. As steering committee members were expected to represent the views of their constituencies/groups they were not asked to complete conflict of interest forms.

Correct Description of the Technical Reports

The reports were informed by comments from (but do not necessarily reflect the views of) the Integrated Assessment Steering Committee, expert peer reviewers, and numerous public comments. Upon completion of the peer review process, final decisions regarding the content of the reports were determined by the faculty authors in consultation with the peer review editor.

Project Funding

The project is expected to cost at least \$600,000 with support coming from the University of Michigan's Graham Institute, Energy Institute, and Risk Science Center. Funding sources are limited to the U-M general fund and gift funds, all of which are governed solely by the University of Michigan. Information on the U-M general fund can be found at <http://www.vpcomm.umich.edu/budget/understanding.html>.

U-M policy regarding gift acceptance and control of funds can be found at <http://spg.umich.edu/policy/602.02>.

Online Forms

Questions, ideas, and suggestions for the focus of the Integrated Assessment, which will be completed during the next phase of the project, can be submitted by October 7, 2013 at: <http://graham.umich.edu/knowledge/ia/hydraulic-fracturing/technical-reports>

Other comments can be submitted anytime during the project at: <http://graham.umich.edu/knowledge/ia/hydraulic-fracturing>

Updated October 2013