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*Physicians, Scientists, and Engineers for Sustainable and Healthy Energy*

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**Prof. Ingraffea's 9-Point Letter from the Marcellus Shale Industry:**

*The Letter I Wish Had Been Written*

July 1, 2007

To: The Citizens of States Over the Marcellus  
From: The Natural Gas Industry

We are writing to ask your permission to develop shale gas in your states using high-volume, slickwater, hydraulic fracturing from long horizontal well legs (HVSHF).

Although you have allowed us to produce oil and gas from thousands of wells over many years, we recognize that we are now asking you to allow us to do much more intense development than ever before, using a technology never before used in your area. We acknowledge our development plan for your states might eventually involve over 400,000 Marcellus wells alone, with thousands more in other shales, and be valued in the trillions of dollars, over decades to come.

We have seen how such intense development with this technology has caused problems where we are using it already in gas shales. We have listened closely to your concerns about these problems, and others on the horizon, so we are writing you now to make a compact with you. We understand that you are granting us a privilege, that, collectively, all of you have to give us the right to develop your gas, because, quite honestly, our plans will significantly affect all of you, not just landowners with whom we might have a business relationship.

Therefore, if you give us the permission we seek, here are our promises to you:

1. Since we will not be developing in your area for another 2-3 years, we have time to help you prepare for our arrival:

- \* We will immediately fund appropriate training programs in your community colleges to produce homegrown workers for our industry. We will subsidize tuition for the students who commit to work in our industry. Those workers will get right-of-first-refusal on our job openings.
- \* We will immediately fund appropriate training programs for your emergency response teams--fire, police, medical, and spill hazards--and we will equip them at our expense.
- \* We recognize that our heavy equipment will damage many of your roads and bridges. We will start now to pay to upgrade these so that they all remain usable not just by our equipment, but by you, too, throughout the development process. This will be a "stimulus" to help your unemployment situation now. When development is complete in an area, we will pay for final repairs necessary to leave all impacted roads and bridges in state-of-the-art condition. This will be a legacy gift to you from our industry.
- \* We will fund the construction or upgrading of regional industrial waste treatment and disposal facilities with adequate capacity to process safely all of the solid and liquid wastes we produce. We will not truck your wastes to other states.

2. We will be transparent about our entire plan for development:

- \* We will tell you as soon as practicable, but no later than 1 year before start of activity, where and when we will drill, and what pipelines and compressor stations will be needed where and by when.
- \* We will publish gas and waste production figures from every well, accurately, and on-time.
- \* We will tell you where your gas is going to market. We will not sell your gas to a foreign market.
- \* We will disclose, completely, all chemicals and other substances we use.

3. We will accept, without debate, all new regulations that might be proposed by your regulatory agencies: your existing regulations are inadequate to cover the new technologies and cumulative impact of HVSHF. We will offer your agencies suggestions for continuous evolution of the regulations as a result of lessons we are learning.

4. With respect to your natural environment legacy:

- \* For every tree we uproot, we will plant at least 1 replacement. We will reforest all access roads as quickly as we can, and minimize the width of all forest cuts.
- \* We will pay a fair price for the water we extract from your lakes and rivers, which will average several million gallons per gas well.
- \* Whatever we break, despoil, or pollute, we will repair, replace, or remediate, at our expense.

5. We will safely dispose of all liquid and solid wastes from our development:

- \* We will never store any flowback fluids or produced water in open pits. All such fluids will be recycled to the highest extent possible by existing technologies, regardless of increase in cost to us.
- \* All liquid and solid wastes remaining from recycling will be treated at the above-mentioned industrial waste treatment plants.
- \* We will provide radiation monitoring equipment on every well pad: any materials, including drill cuttings, leaving a well pad that trigger an alarm will be sent to a licensed radioactive waste disposal facility.

6. We will not cause an increase in any tax levy on your citizens.

- \* We will agree to a substantial increase in permit fees to reflect the expected 4-fold increase in person-time we expect you to spend on review of permits for HVSHF.
- \* We will agree to a state severance tax, the level of which will be floating, according to an accurate accounting of all costs to the state and municipalities.

7. We will practice what we preach about clean fuels and emissions:

- \* Every truck, every generator, every pump, every compressor will run on natural gas--no diesel, no gasoline engines.
- \* We will not allow uncaptured gaseous emissions from any of our processes: no evaporation from open pits, no pressure releases from compressor stations or condensate tanks.

8. We will be sensitive to noise and light pollution, even if a community

does not have zoning restrictions in place to regulate such:

- \* All of our pads and compressor stations will have sound/light suppression measures in place before startup.
- \* Site drill pads, compressor stations, and pipelines in collaboration with the community.

9. We will not unduly stress any of your communities:

- \* We will never experiment with drilling many wells in a small area over a brief period of time.
- \* We will abide by all area and time restrictions on permitting.
- \* We will never contest loss of well water use by any citizen. If a well is lost, we will replace it with whatever type of supply is requested by its owner at our expense.
- \* We will never require a citizen harmed by our development to promise silence in return for remediation.

Finally, and humbly, we note that even our best plans and efforts will come up short, sometime, someplace, somehow. Therefore, in addition to all the contributions noted above, we also pledge to establish an escrow account which will receive 1% of the value of all gas produced from shale gas wells using HVSHF each year. This account will be administered by an independent 3rd party, advised by an independent panel you select, and will be used as an emergency fund to compensate those financially or physically harmed by our development in your state.

Thank you for your attention to our request.

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***The Letter I Hope Will Be Written***

July 1, 2011

To: The Natural Gas Industry  
From: The Citizens of States Over the Marcellus

We have observed, calculated, thought, done the science, and we have concluded that even “doing it right” is wrong.

No thanks.