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**Pennsylvania-League of Women Voters of Pennsylvania
Oral Testimony on Chapter 78 Oil and Gas Well Regulation**

Delivered to the

Environmental Quality Board

~~Pennsylvania Independent Regulatory Review Committee~~

Pittsburgh, Pennsylvania

July 26, 2010

I am ~~Suzanne~~ Broughton, immediate past president of the Greater Pittsburgh-League of Women Voters of Greater Pittsburgh speaking on behalf of the League of Women Voters of Pennsylvania.

What is F-R-A-C? It's a four-letter word. Frac has your attention as members of the Independent Environmental Regulatory Review Commission (IRRC) Quality Board, and it has our attention as the League of Women Voters of Pennsylvania. LEAGUE OF WOMEN VOTERS OF PENNSYLVANIA.

The League supports the proposals of the Department of Environment Protection (DEP) that strengthen Oil and Gas Well Regulation in our Commonwealth. These revisions provide substance to our position that promotes the maximum protection of public health and environment in all aspects of Marcellus Shale production. Delegates to our recent national convention unanimously adopted a resolution to support safe drilling and mining practices. These industries must not be exempt from federal legislation and must be subject to significantly stronger regulation, oversight, inspection and penalties.

To strengthen further Chapter 78 Oil and Gas Regulations, we have several suggestions.

- First, extend the definition of fresh groundwater water to include fresh and useable water. This will provide protection to water that may be needed in the future but is not technically deemed "fresh" today.
- Second, change the timeline for notification by the well operator of the pollution or diminution of water supplies. The ~~Department of Environmental Protection~~ DEP needs immediate notification to be effective. The current stipulation for reporting within 10 calendar days of receiving notice of such water degradation is insufficient.
- Third, consider further restrictions on excess gas ~~in terms of~~ reducing quantities, managing emissions, and monitoring output within clear parameters. ~~These restrictions is~~ are essential to minimize air quality hazards and promote public health and safety.
- Fourth, ~~strengthen standards for in recognizing the importance of casing and cementing procedures, strengthen standards and~~ treat all wells the same. Special considerations are

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subject to interpretation and lead to noncompliance. Any case-by-case exceptions need ~~to~~must be considered under the regulations as alternative methods.

- Fifth, develop cement standards for tensile strength as well as compressive strength. Given the any potential for earthquakes in the Commonwealth, it is imperative that the susceptibility of the cement to seismic activity be assessed.

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- Sixth, include the scientific name of each hydraulic fracturing chemical and the amount used in each well as part of the well reporting stimulation record. The right to know this information is imperative for testing, treatment, ~~and~~ public health and the safety of first responders in an emergency.

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- Finally, establish noise standards for all stages of Marcellus Shale production. Special consideration must be given to noise in close proximity to such places as homes, schools, and hospitals.

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We have provided further details concerning these seven proposals in the written testimony we are submitting today.

Given our commitment to public participation in governmental processes, the League commends the Environmental Quality Board~~HRRC~~ for providing multiple opportunities throughout the State for input ~~to~~in these proposed revisions. We are further encouraged that such public input is also required prior to the approval of alternative methods as specified in Chapter 78, subsection 78.75a.

In maintaining objectivity, it is essential that the DEP verify the inspection of equipment and procedures at critical points and conduct ~~on-going basis~~ field visits on an on-going basis at each site during various phases of the drilling process. Of particular importance are those readings and assessments required with the surface casing and the fracturing process. Frequent, periodic DEP inspections are also required for operational and maintenance issues that evolve with time.

The League recognizes the importance of collaborative and cooperative relationships between government agencies and private operators. However, DEP's role in protecting the public health and environment cannot be left to those with vested interests. If the Commonwealth is to be a leader in the production of natural gas, we must also afford to ~~also~~ become the leader in drilling ~~right correctly~~ – mandating best practices, safeguarding our environment, and protecting our landowners, communities and future prosperity.

In closing, we need to be reminded both as citizens and as those who serve on our behalf through election, appointment and employment, of the Pennsylvania Constitution, Article 1, Section 27:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."

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**Pennsylvania League of Women Voters of Pennsylvania
Summary of Oral Testimony on Chapter 78 Oil and Gas Well Regulation
Presented to the Delivered to the Environmental Quality Board**

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Pennsylvania Independent Regulatory Review Committee
Pittsburgh, Pennsylvania
July 26, 2010

I am Suzannean Broughton, immediate past president of the Greater Pittsburgh League of Women Voters of Greater Pittsburgh speaking on behalf of the League of Women Voters of Pennsylvania.

What is F-R-A-C? It's a four letter word. Frac has your attention as the Independent Regulatory Review Commission (IRRC) and it has our attention as the LEAGUE OF WOMEN VOTERS OF PENNSYLVANIA.

The League of Women Voters of Pennsylvania supports the proposals of the Department of Environment Protection (DEP) that strengthen Oil and Gas Well Regulation in our Commonwealth. These revisions provide substance to our position that promotes the maximum protection of public health and environment in all aspects of Marcellus Shale production. Delegates to our recent national convention unanimously adopted a resolution to support safe drilling and mining practices. These industries must not be exempt from federal legislation and must be subject to significantly stronger regulation, oversight, inspection and penalties.

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- Second, change the timeline for notification by the well operator of the pollution or diminution of water supplies. The Department of Environmental Protection DEP needs immediate notification to be effective. The current stipulation for reporting within 10 calendar days of receiving notice of such water degradation is insufficient.
- Third, consider further restrictions on excess gas in terms of reducing quantities, managing emissions, and monitoring output within clear parameters. These restrictions is are essential to minimize air quality hazards and promote public health and safety.

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• Fifth, develop cement standards for tensile strength as well as compressive strength. Given the any potential for earthquakes in the Commonwealth, it is imperative that the susceptibility of the cement to seismic activity be assessed:

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• Sixth, include the scientific name of each hydraulic fracturing chemical, its concentration, and the amount used in each well as part of the well reporting stimulation record. The right to know this information is imperative for testing, treatment, and public health, and the safety of first-of-emergency responders. responders in an emergency.

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We have provided further details concerning these seven proposals in the written testimony we are submitting today.

Given our commitment to public participation in governmental processes, the League commends the IRRRC for providing multiple opportunities throughout the State for input to these proposed revisions. We are further encouraged that such public input is also required prior to the approval of alternative methods as specified in Chapter 78, subsection 78.75a.

In maintaining objectivity, it is essential that the DEP verify the inspection of equipment and procedures at critical points and conduct on-going field visits on an on-going basis at each site, during various phases of the drilling process. Of particular importance are those readings and assessments required with the surface casing and the fracturing process. Frequent, periodic DEP inspections are also required for operational and maintenance issues that evolve with time.

The League recognizes the importance of collaborative and cooperative relationships between government agencies and private operators. However, DEP's role in protecting the public health and environment cannot be left to those with vested interests. If the Commonwealth is to be a leader in the production of natural gas, we must also afford to also become the leader in drilling right correctly – mandating best practices, safeguarding our environment, and protecting our landowners, communities, and future prosperity.

In closing, we need to be reminded both as citizens and as those who serve on our behalf through election, appointment and employment, of the Pennsylvania Constitution, Article I, Section 27:

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**League of Women Voters of Pennsylvania
Testimony on Chapter 78 Oil and Gas Well Regulation**
Delivered to the
Environmental Quality Board
Pittsburgh, Pennsylvania
July 26, 2010

The League of Women Voters of Pennsylvania (LWVPA) supports the proposals of the Department of Environment Protection (DEP) that strengthen Oil and Gas Well Regulation in our Commonwealth. These revisions provide substance to our position, based on our statewide, yearlong study of natural gas extraction from Marcellus Shale. The League supports:

the maximum protection of public health and the environment by requiring the use of best practices and promoting comprehensive regulation, communication, and adequate staffing across government agencies in all aspects of Marcellus Shale natural gas production, site restoration, and delivery to the customer.

Given our long-standing national position on natural resources, we further endorse the unanimously adopted resolution by the delegates at the 2010 National Conference of the League of Women Voters advocating safe drilling and mining practices. This action calls “for significant strengthening of appropriate regulation, oversight, inspection, and penalties associated with the development of fossil fuel resources.”

To further strengthen the proposed regulations, consideration should be given to several recommendations. First, there is the need for clarification.

78.1 Definitions –

Fresh groundwater

Under Pennsylvania Code, fresh groundwater is defined as “Water in that portion of the generally recognized hydrologic cycle which occupies the pore spaces and fractures of saturated subsurface materials.” The term “fresh groundwater” should be amended to include fresh and useable water that would encompass a larger water table. This would protect waters with low, but some specified salinity. Depending on the reference source, this concentration can range from 500 parts per million (ppm) of dissolved salts to 3000 ppm.¹ The Department of Environmental Protection needs to extend protection to water that may be needed in the future

¹ For example, the General Rules and Regulations for the Conservation of Crude Oil and Natural Gas of the State Corporation Commission of the State of Kansas specifies the term as follows: “Freshwater” means water containing not more than 1,000 milligrams of total dissolved solids per liter. This upper limit is approximately equivalent 1,000 parts of salt per million or 500 parts of chlorides per million.

but that is not technically termed “fresh” today.

Second, we have a concern regarding timeliness and consistency in notification of potential contamination in protecting our water supplies.

78.51 Protection of water supplies.

(h) A well operator who received notice from a landowner, water purveyor or affected person that a water supply has been affected by pollution or diminution, shall report receipt of notice to the Department within 10 calendar days of receiving this notice.

To insure maximum protection, a sense of urgency needs to be incorporated with notification to DEP. Under **78.89 Gas migration response**, when an owner or operator is notified or made aware of an incident, their obligation is for *immediate* notification to the DEP. We recommend substituting the term *immediately* for within 10 day calendar days of receiving this notice.

Third, we suggest further strengthening regulations to protect air quality and public health. Tons of smog forming emissions (Nitrogen Oxides and Volatile Organic Compounds) are released by gas production. Because flaring and diversion away from the well site do not diminish the quantity released or significantly reduce the potential impact of such emissions on public health, the following section needs to be changed:

78.73 General provisions for well construction and operation.

(e) Excess gas encountered during drilling, completion, or production shall be flared, captured or diverted away from the drilling rig in a manner that does not create a hazard to the public health or safety.

A revised, more protective regulation should read: Excess gas encountered during drilling, completion, or production shall primarily be captured to minimize hazards to public health and safety.

In addition to dealing with the excess gas, further regulations need to be added to reduce these emissions.² Monitoring and quantifying air quality are areas that we believe also require further consideration by DEP.³

² To reduce air emission, employ techniques and devices suggested by Armendariz (2008) and the United States Department of Energy Fact Sheet 2 (n.d.). These include use of low-bleed pneumatic devices that reduce methane emissions by nearly 90%; installation of flash tank separators (vapor recovery units) on condensate tanks that recover 90 – 99% of methane that would otherwise be flared or vented; and the use of portable equipment to process and direct the produced natural gas into tanks or pipelines rather than venting or flaring. These processes are referenced in our study guide “Marcellus Shale Natural Gas: Environmental Impact” available at palwv.org.

³ In reference to excess gas, *Drill-Right Texas, Best Oil and Gas Development Practices for Texas*, a 2010 document developed as part of the Texas Oil & Gas Accountability Project of Earthworks, (www.earthworkSACTION.org) refers to air quality. It recommends that immobile “equipment that emits nitrogen oxides (NOX), volatile organic compounds (VOCs) or other Hazardous Air Pollutants (HAPs), owned and/or operated by an individual operator, should be regulated as a single source and for its cumulative effect.” The publication further suggests “waste gas and flaring must be defined and managed as an “air emission” and meet a state emissions standard.”

Fourth, in recognizing the critical importance of casing and cementing procedures in preventing the degradation of our water, we encourage you to treat all wells the same with bottom to top cementing. In creating what could be perceived as case-by-case regulations of section 78.83, misinterpretation and noncompliance can result. Exceptions to the proposed regulations should be addressed through the process for “alternative methods” found in section 78.75.

Specific consideration should be given to strengthening the following section:

78.83 Surface and coal protective casing and cementing procedures

(b) . . . If the well is equipped with plain-end welded casing, the operator shall drill a hole so that the diameter is at least 1 inch greater than the outside diameter of the centralizer band.

This final sentence should be altered to read from 1 inch to 2 inches This would allow for a stronger 1-inch cement sheath around the casing rather than the ½-inch required by the hole currently specified in the current document to be 1 inch greater than the outside diameter of the centralizer band.

Fifth, given the geology of Pennsylvania and the potential for seismic activity, the inclusion of new language to **78.85 Cement standards** should be considered. In addition to assessing compressive strength, tests to access the susceptibility of cement to tensile forces should be required. Such protection may be figuratively and literally “ground-breaking” in the field.

Sixth, under **Subchapter E. Well Reporting**, there is a need to clarify and specify the both the names and quantities of hydraulic fracturing chemicals used.

78.122 Well record and completion report.

(6) *Stimulation record, including pump rates, pressure, total volume and list of hydraulic fracturing chemicals used, the volume of water used and identification of water sources used pursuant to the approved water management plan.*

Knowing the hydraulic fracturing chemicals used for each well is important. However, given the evolving nature of the industry, it is also important for them to be identified by their scientific name as well as a trade name. Further, the volume of each chemical used as well as the total volume of all the chemicals and total volume of water need to be specified. It is therefore suggested to change the words “total volume and list of hydraulic fracturing chemical used” to “list of hydraulic fracturing chemicals (by scientific and trade name), the concentration and quantity of each, and the total volume of hydraulic fracturing chemicals used.” The right to know this information is important for testing, treatment, and public health.

Finally, in terms of omission, the League would like to suggest inclusion of noise regulation in terms of drilling and mining operations. On the DEP website⁴ noise is listed as a hazard and problem of mining. It states:

Noise can also be a nuisance to nearby residents. There are several noise-reducing strategies that the operator can take advantage of to lessen the effect. Often noise complaints are brought up during public meetings. While the DEP does not have very specific regulations on noise, we cooperate in helping the operator satisfy the surrounding residents.

⁴ <http://www.portal.state.pa.us/portal/server.pt?open=514&objID=589170&mode=2>

Noise, created by natural gas production, is an issue. Statewide standards need to be developed and apply in all stages of the process from exploratory work to transportation. Special emphasis must be put on noise in close proximity of homes, businesses, schools, hospitals, nursing homes, and places of worship. Noise complaints, particularly those of low frequencies, need to be documented and mitigated.

The League, given our interest in transparency and advocacy for public participation in governmental processes, would like to commend the DEP's inclusion of an opportunity for public comment prior to the approval of these revised regulations. Such public comment is particularly laudable when specifically included in section **78.75a Area of alternative methods** as may be required to drill, operate or plug a well in a safe and environmentally protective manner.

In maintaining objectivity, it is essential that the DEP verify the inspection of equipment and procedures at critical points and conduct on-going basis field visits at each site during various phases of the drilling process. Of particular importance are those readings and assessments required with the surface casing and the fracturing process. Frequent, periodic DEP inspections are also required for operational and maintenance issues that evolve with time.

The League recognizes the importance of collaborative and cooperative relationships between government agencies and private operators. However, DEP's role in protecting the public health and environment cannot be left to those with vested interests. If the Commonwealth is to be a leader in the production of natural gas, we must afford to also be a leader in drilling right – mandating best practices, safeguarding our environment, and protecting our landowners, communities and future prosperity.

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From: Bonita Hoke [bchoke@palwv.org]
Sent: Monday, July 26, 2010 12:02 PM
To: EP, RegComments
Cc: 'Olivia Thorne'; 'Roberta L Winters'; lavin@steuber.com; sswl@comcast.net; 'Sylvia Stotler'; jhhorn162@netscape.net; 'Mary Larsen'; 'Christine Gotwols'; 'Nancy Posel'
Subject: League of Women Voters Comments-Oil & Gas Well Regulation
Attachments: 7_25 EQA Testimony .doc; 7-25 EQA Sum Summary-one page.doc; 7-26 EQB Drill Test.doc

Attached you will find the testimony on oil and gas well regulation presented by Sue Broughton as well as additional documents relative to the issue. If you need additional clarification, please contact me at the address below or respond to this e-mail.

If when you click on the attachments you see editing notes, go to the pull down menu and choose "view", then "print layout". Then in the upper left box that says "final showing markup" choose "final."

Bonita C. Hoke, Executive Director
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