

RESOLUTION ON SAFE DRILLING AND MINING FOR ENERGY RESOURCES

A RESOLUTION IN SUPPORT OF SAFE DRILLING AND MINING FOR ENERGY RESOURCES

Whereas “The League of Women Voters of the United States believes that natural resources should be managed as interrelated parts of life-supporting ecosystems. Resources should be conserved and protected to assure their future availability. Pollution of these resources should be controlled in order to preserve the physical, chemical and biological integrity of ecosystems and to protect public health.” (Statement on Natural Resources, as Affirmed by the 1986 Convention);

Whereas the LWWVUS supports “full disclosure of pollution data”;

Whereas the LWWVUS supports “management of land as a finite resource not as a commodity”;

Whereas the LWWVUS supports “identification and regulation of areas of critical concern ...” including “ ... rare or valuable ecosystems; significant wildlife habitats; unique scenic or historic areas; wetlands ... “ and “renewable resource lands, where development could result in the loss of productivity (such as watersheds, aquifers, and aquifer-recharge areas, significant agricultural and grazing lands, forest lands)”;

Whereas the LWWVUS supports “policies to ensure safe treatment, transportation, storage and disposal of solid and hazardous wastes in order to protect public health and air, water and land resources”;

Whereas current practices of and disposal of waste from drilling and mining for energy resources have caused serious and permanent damage to the environment and public health;

Whereas new drilling and mining technologies are being developed and used for the extraction of energy resources, which techniques have the potential to cause additional damage to the environment and public health, as has already been experienced in a number of states;

Whereas legislation and regulations regarding the protection of water, air and other environmental resources do not now adequately cover the problems caused by drilling and mining for energy resources and most have explicit exemptions for various forms of drilling and mining;

Whereas the orientation, mission and policies of the EPA and other federal regulatory agencies vary with the presidential administration in power, so that legislation is needed to ensure continuity across administrations;

Whereas enforcement of existing legislation and regulations has been severely inadequate;

Whereas current pressure for energy independence is encouraging the hasty development of energy resources, necessitating early action for strong protective legislation; and

Whereas gaps in federal legislation and oversight have left much of the responsibility to the individual states, with the consequence that each state must develop its own studies and regulations while possibly also causing pollution to the water and air of neighboring states;

Be it therefore resolved that we, representatives at the 2010 National Convention of the League of Women Voters, call upon the Board to use the resources of the League to support and lobby for significant strengthening of appropriate regulation, oversight, inspection, and penalties associated with the development of fossil fuel resources. This strengthening should include elimination from national and state legislation of the exemptions for drilling and mining, as well as additional legislation requiring the federal and state agencies to regulate drilling and mining in a manner consistent with the preservation of a healthy environment.

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RATIONALE FOR USING A RESOLUTION AS THE FORM OF UNDERSTANDING AND AGREEMENT

The LWV of Tompkins County, New York, has chosen to use the form of a Resolution as the most effective way to press for immediate action by the League to address the urgent and specific problem of inadequate regulation of the drilling and mining industries. The requested action is fully supported by existing positions of the League and requires neither a Study nor a Concurrence for implementation.

INTRODUCTION

Coal, oil and gas fuels will be with us for the near future, whatever our long-term solution for renewable energy sources turns out to be. Much of the discussion surrounding the use of these energy resources has focused on the pollution produced when they are burned. But the pollution and damage to the environment caused by the extraction processes can also be a serious problem. Consider the following questions. Are the current regulations concerning extraction of coal, oil, and gas sufficient to prevent irreparable damage to the environment? Do they adequately protect the public health? As new technologies (e.g. Mountain Top Removal Mining for coal and Slick-water Horizontal Hydraulic Fracturing for gas) develop, are the current regulations sufficient even though they are based on older technologies? Are those regulations that do exist adequately enforced? The answer to all of these questions is “No”.

We believe that there is an urgent need for the LWVUS to focus on the environmental damage being caused by drilling and mining for energy resources and to lobby our legislative bodies and regulating agencies to significantly improve the safety of these processes. Current pressure for energy independence plus the desire to stimulate the economy makes the problems caused by the extraction of energy supplies particularly critical at this time.

In response to our concerns about drilling and mining, the LWV of Tompkins County, New York, is submitting the above resolution to the National Convention. This resolution, supported by current League positions, puts a spotlight on specific activities that are causing permanent damage to our environment and our health and calls for lobbying efforts to improve the regulation and oversight of these activities. Passage of the resolution would provide a clear statement by the League that drilling and mining for energy resources must proceed in ways that are environmentally sound and would issue a call for lobbying efforts aimed at these concerns.

EXAMPLES OF PROBLEMS CAUSED BY LACK OF REGULATION AND OVERSIGHT

Drilling and mining occur in the context of a lack of sufficient federal regulation and a failure to enforce those regulations that do exist. Much of the regulation is happening on a state by state basis, with each state often duplicating work done by others, and often only after significant environmental damage has been done. Here are a few illustrative examples of serious problems that have occurred, together with the legislation, regulations and agencies involved.

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Most of the information for the examples on Mountain Top Removal can be found in a Natural Resources Defense Council (NRDC) report, "Appalachian Heartbreak: Time to End Mountaintop Removal Coal Mining", <http://www.nrdc.org/land/appalachian/default.asp>, click on "Issue Paper (PDF, KB)". Most of the examples for Slick-water Horizontal Hydraulic Fracturing can be found in NRDC report, "Drilling Down", <http://www.nrdc.org/land/use/down/contents.asp>, click on "Adobe Acrobat file (1.9mb)" under FULL REPORT IN PDF.

At the end of this document is a series of links to a number of additional very informative websites, including a link to the excellent study of Hydraulic Fracturing done by the LWV of Pennsylvania.

Problem: Mountaintop Removal (MTR) mining of coal has buried well over a thousand miles of valley streams under tons of rubble, polluting drinking water and threatening public health and safety.

Regulatory Gap: The Bush administration defined the wastes from Mountain Top Removal (MTR) to be "fill material", effectively removing all limits imposed by the [Clean Drinking Water Act](#) on stream contamination by disposal of MTR wastes. ([The Appalachia Restoration Act, S. 696](#), and the [Clean Water Protection Act, H.R. 1310](#), introduced in 4 successive Congresses, if passed, would restore the possibility of regulation via the [Clean Drinking Water Act](#).)

Problem: The Environmental Protection Agency (EPA) estimates current deforestation from mountaintop removal to cover an area greater than that of the state of Delaware.

Regulatory Gap: The mining industry has keenly exploited a gaping statutory loophole to avoid the minimal reclamation requirements of the [Surface Mining Control and Reclamation Act](#).

Problem: Failure of the dam at an impoundment for coal slurry from MTR at a subsidiary of Massey Coal Co. killed virtually all aquatic life for a distance of 70 miles downstream from the spill.

Regulatory Gap: The Bush administration intervened to suppress the investigation by the [Mine Safety and Health Administration](#).

Problem: Slick-water Horizontal Hydraulic Fracturing (referred to as Fracking) is a suspect in impaired or polluted drinking water in many states, including AL, CO, NM, PA, VA, WV and WY, where residents have reported changes in water quality following fracturing of gas wells.

Regulatory Gap: The [2005 Energy Act](#) exempted oil and gas injection wells from regulation by the [Safe Drinking Water Act](#). ([The Frac Act \(HR2766, S1215\)](#), currently before Congress, if passed would remove this exemption of oil-and gas-drilling operations from the [Safe Drinking Water Act](#).)

Problem: One resident living in an area in which Fracking is occurring said she was nauseous and vomited clear liquid for several hours after exposure to a toxic cloud. Trade secrecy of chemical constituents prevents adequate medical response to such incidents.

Regulatory Gap: Although the [Emergency Planning and Community Right-to-Know Act](#) requires most industries to inform the public of such hazards, oil and gas exploration and production facilities are exempt. ([The Frac Act \(HR2766, S1215\)](#), currently stagnant in Congress, if passed would remove this exemption from the [Emergency Planning and Community Right-to-Know Act](#).)

Problem: A Colorado woman, after return to her home near gas well pads, found a cloud of gas outside her house. She passed out within 10 minutes of arriving home and has since suffered numerous medical problems.

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Regulatory Gap: Two exclusions, written into the [Clean Air Act](#), exempt the majority of gas and oil drilling operations from any regulation under the act.

Problem: A disposal pit for fluids from Fracking, at the end of the driveway of a Colorado resident, included an aeration system to mist the waste into the air. The resident soon reported numbness, swelling of his hands and feet, and body pain.

Regulatory Gap: Overruling staff recommendations, senior officials of the [EPA](#) exempted wastes generated by oil and gas exploration and production from provisions of the [Resource Conservation and Recovery Act](#).

Problem: A pit storing fluids from Fracking was breached and the leakage contaminated a spring that flows into a river in New Mexico. Testing of the pit and the spring in the fall of 2005 found benzene, ethylbenzene, toluene, and xylenes.

Regulatory Gap: The oil and gas industries are exempt from critical provisions of the [Comprehensive Environmental Response, Compensation, and Liability Act \(Superfund Act\)](#) for cleaning up hazardous sites.

BACKGROUND DISCUSSION

The Tompkins County League began to focus on the issue of protecting the environment from drilling and mining activities because of the imminent threat of drilling for natural gas in the Marcellus Shale in NYS using the process of Slick-water Horizontal Hydraulic Fracturing, also known as "Fracking". Fracking is a new process (developed in the late 1990's) that is known to have serious environmental problems associated with it, as has been seen in Pennsylvania, Texas, Colorado and several other states in which the drilling has already been done. Although our local concern centers on the unconventional drilling for gas, other types of drilling and mining, such as mountain top removal for coal mining (MTR) and off-shore drilling for oil, also give rise to serious environmental issues.

In this section we explain some of the problems caused by drilling and mining by means of a discussion of two specific examples, Slick-water Horizontal Hydraulic Fracturing for Natural Gas (referred to as "Fracking" below) and Mountain Top Removal Mining for Coal (referred to as MTR below).

1. Drilling for Natural Gas Using "Slick-water" Horizontal Hydraulic Fracturing of Shale

Burning of natural gas is usually seen as "cleaner" than using other fossil fuels. It is therefore currently being proposed as a transition source of energy. However extraction of natural gas by means of Fracking shale carries with it serious environmental risks, including air pollution. In fact, although precise measurements have not been made, many scientists who have studied Fracking believe that if the extraction process is included in the measure of air pollution associated with burning gas it may be dirtier than burning oil and not much cleaner than burning coal.

The LWV of Pennsylvania has completed a year-long study of Fracking, which is already being done in their state. It is an excellent and very complete study. Many of the facts used below were drawn from that study. The website containing the study is given at the end of this document.

The environmental problems caused by Fracking include the following:

- water pollution, including contamination of aquifers, ground water and rivers;
- heavy use of water resources that are already quite limited in some areas;
- air pollution caused in part by diesel engine exhaust from trucks, pumps, and compressors, plus leaks of methane gas from the wells and pipes, which is a much more potent absorber of infra-red light than is carbon dioxide;

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- loss of carbon sinks and habitats arising from the cutting of forests and plowing of fields to build a network of roads and pipes in addition to the sites for the wells, holding tanks for waste water, and the compressors;
- damage to soil due to pollution and compression from trucks; and
- light and noise pollution that occurs around the clock for months while the drilling occurs and decades for the pumps and compressor stations.

Most people have not heard of Fracking and are unaware of the problems surrounding it. An excellent introduction to the subject can be had by viewing the segment of PBS's NOW in which Josh Fox, the producer of the documentary "Gasland", is interviewed. "Gasland" was selected to be shown at the Sundance Film Festival and will air on HBO sometime this June. The interview with Josh Fox can be viewed at <http://www.pbs.org/now/shows/613/index.html>.

Fracking is done by drilling down as much as 5,000 feet and then horizontally by several thousand feet. This is followed by the injection of fluids under high pressure, which fractures the shale and allows the trapped gas to migrate to the drilled shaft. Each time a well is drilled 2 to 10 million gallons of water are used and they contain 15,000 gallons of chemical, many of them highly toxic. About 30-70% of the water eventually returns to the surface. This water is referred to as "flowback water". The chemicals used in the original slurry are generally kept secret since they are considered proprietary information. The flowback water contains the original chemicals plus additional matter from the ground, including heavy metals and naturally occurring radioactive materials.

The number of wells in an area is likely to be quite large. For example, in upstate New York, the gas companies hope to drill 2,000 to 5,000 wells in most of the counties over the Marcellus Shale. Each well pad takes up at least 4-6 acres. Forests are cut and fields plowed under to make room for the wells, gravel connecting roads, interconnecting pipelines, ponds filled with flowback water, and compressors. During the drilling process each well requires several hundred trips by large trucks filled with Fracking fluid, and several hundred more to get rid of the flowback water.

Air pollution caused by hydraulic fracturing has been overshadowed by the risks to water supplies, but it is also a serious problem. Much of the air pollution produced during the drilling process comes from the diesel fuel and gasoline used in the trucks, pumps, and drilling rigs. Evaporation from the flowback pits adds additional contamination. After drilling is completed the compressors may run for decades, again emitting diesel exhaust. The town of Dish, Texas (see link below) has been suffering from the pollution caused by large compressors associated with the drilling for gas.

Another cause of air pollution which occurs during the production stage comes from the natural gas that escapes during compressor engine venting, leaking condensation tanks, and other sources of leaks during both drilling and transport of the gas. This unburned methane traps over 20 times as much heat as does an equal amount of carbon dioxide, making this a serious source of greenhouses gases.

2. Mountain Top Removal Coal Mining

Although the damage produced by Mountain Top Removal Mining in the central Appalachian region is better known to the public than is that produced by Fracking, the industry is not yet sufficiently regulated and regulations are often not adequately enforced. There are many who question whether this type of mining should occur at all.

Excellent sources of information on mountain top coal mining can be found at the web site for Earth Justice (given below) and in the article "Mountain Mining Consequences", written by 12 scientists and appearing in the January 8, 2010 issue of Science Magazine (vol 327 no. 5962, pp. 148-149). The article in Science has been carefully researched and contains many technical details, but its content is still accessible to the non-scientist. We have used both of these sources for many of the details below.

Mountain Top Removal Mining is often referred to as "strip mining on steroids". It produces widespread damage to the environment, including destruction of the landscape and water supplies. This type of

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mining uses explosives to blast up to 800 - 1,000 vertical feet off the top of mountains in order to expose the coal seams underneath. The millions of tons of rock and dirt removed from the mountain is then dumped into surrounding valleys, often burying miles of streams and destroying headwaters.

According to Earth Justice, over the past few decades over 2,000 miles of streams and headwaters have been permanently destroyed and an area the size of Delaware has been flattened. Flooding of communities is a frequent problem and natural habitats have disappeared.

The environmental problems associated with Mountain Top Coal Mining include, as described in Science Magazine include:

- filling of upper reaches of nearby streams by surface mining debris damages the ecosystem for wildlife and vegetation, and degrades local domestic water sources;
- water emerging from valley fills formed by mining debris often contains chemical pollutants damaging to wild life and natural plants, while nearby domestic supply wells show high levels of toxins such as selenium and several metallic ions;
- mitigation of the effects of the mining on the hilltop landscape have typically included resurfacing of the surface-mined areas, but the fills used seldom replicate the texture and organic content of the previously removed soil, often crippling the recovery of indigenous plant life; and
- cleaning of the MTR mined coal requires washing with a residue, coal sludge, which is held in impoundments to allow settling of the insolubles. The earthen dams confining these holding ponds have occasionally failed, with catastrophic consequences, including deaths, downstream.

The EPA, on April 1 of 2010, issued a new set of water quality guidelines under the Clean Water Act (CWA), that govern the issuing of permits for MTR mining. These new regulations are effective immediately on an interim basis and will be made permanent after a period for public comment, review and possible modification. The new regulations impose quantitative limits on stream pollution. These limits, applicable only to new permit applications, are unlikely to be met without substantial changes in the practices of the mining industry and may seriously limit the number of sites that can be mined. Unfortunately these interim regulations, however welcome they may be, reflect the interpretation of the CWA by the EPA under the current administration, and are not written into the law itself.

It is good that the EPA is now looking carefully at the damage produced by MTR, but it is likely that careful scientific studies will need to be done before the best techniques for mitigation can be determined. According to the article in Science Magazine, the current plans are inadequate and "... permits should not be granted unless new methods can be subjected to rigorous peer review and shown to remedy these problems. Regulators should no longer ignore science."

ARGUMENTS AGAINST THE RESOLUTION AND REBUTTALS

The following section contains some of the arguments that might be given against further regulation and oversight of the drilling and mining industries or against the passage of a resolution asking the League to lobby for appropriate legislation, regulation and oversight.

Argument: The United States needs to achieve energy independence and therefore needs to increase domestic supplies of fossil fuels.

Rebuttal: Drilling and mining for energy resources can be done with careful regard for the environment and the public health. Such regard will cost the companies involved (often multinational corporations) more money and new techniques may need to be developed, but there is time to do these activities in the best possible ways. In addition, present and future environmental costs should be reflected in the cost of the energy supplies.

Argument: Developing these resources will produce jobs.

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Rebuttal: For some forms of drilling and mining most of the jobs for local workers will be only short term. In the case of Fracking, workers from other areas are brought in to fill as much as 50% of the jobs. These transient workers cost local municipalities money for health, police, fire and emergency agencies and result in long term disruption of local communities. The issue is more complicated for communities that have depended on drilling and mining activities for decades or even generations. But as we look to the future, better (and hopefully safer) sources of jobs will be needed in all of these communities. A more constructive plan is to develop long-term jobs in the areas of reduction of energy usage and production of renewable energy resources such as biofuels (from such things as switch grass) and solar panels.

Argument: Drilling and mining bring money into the local economies.

Rebuttal: These activities often produce short term financial benefits while having a long-term financial downside. Drilling and mining activities do damage to many local industries, including tourism and agriculture. In New York State, for example, many of the vineyard owners, organic farmers and dairy farmers believe their land and water will be irreparably damaged. The activities also cost local municipalities for road repair and other forms of infrastructure. We need to remember the League's long-standing position that the land is a finite resource, not a commodity to be exploited.

Argument: In the case of drilling for natural gas, the burning of gas is much cleaner than the burning of other fossil fuels. So it is important to make use of the gas contained in shale.

Rebuttal: As was explained above, although burning natural gas results in fewer greenhouse gases than do burning oil or coal, the process of extracting the gas from shale is not at all benign. There have been serious air pollution problems already experienced as a result of this activity in Texas and other states.

Argument: The LWVUS has strong positions on the preservation of the environment and public health. There is no need for a resolution and no need to spend resources lobbying at this point in time.

Rebuttal: Damage to the environment and public health are increasing dramatically due to the drilling and mining for fossil fuels. Major gaps in legislation exist and must be filled quickly if we are to even slow down the pace of permanent destruction. A recent Supreme Court ruling concerning the Clean Water Act has further tied the hands of the EPA when it comes to protecting our water from disposal of waste by industries, including those involved in drilling and mining. Current legislation in Congress (e.g. The Appalachian Restoration Act, The Clean Water Protection Act, and The FRAC Act) gives the League the opportunity to have some immediate influence.

SUMMARY

The discussions of Fracking and Mountain Top Coal Mining look at only two examples of the environmental damage caused by drilling and mining for energy resources. But these two alone are producing devastating and permanent damage to the environment, habitats, and the health of the residents. It is incumbent on the LWVUS to put this issue to the front and push for strong legislation and enforcement of these activities.

With this in mind, we call for the League to pass this resolution and immediately get to work on lobbying for the much needed legislation, regulation, and enforcement.

INFORMATIVE WEBSITES

The following are some of the many valuable websites that explain and study the problems caused by drilling and mining for energy resources.

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Information on several forms of drilling and mining plus relevant legislation can be found at the Earth Justice website. Some of the information can be found from the home page and one can search the site for other topics. The website is www.earthjustice.org.

The Pennsylvania LWV study of Fracking, including an economic as well as environmental analysis can be found by following the link for the Marcellus Shale at <http://palwv.org>

Other websites that focus on Fracking:

<http://www.pbs.org/now/shows/613/index.html> (This contains the interview with Josh Fox, the producer of "Gasland")

<http://www.osiny.org/custom/HancockAndTheMarcellusShale.pdf> (This site contains a very detailed explanation of Fracking, including diagrams and photographs)

<http://www.nrdc.org/land/use/down/contents.asp> - click on "Adobe Acrobat file (1.9mb)" under FULL REPORT IN PDF (This contains examples of problems from Slick-water Horizontal Hydraulic Fracturing in the NRDC report, "Drilling Down")

<http://www.shaleshock.org/> (Shaleshock Action Alliance, an upstate N.Y. group, developed this website which contains links to many useful sources of information.)

www.tcgasmap.org (This site was developed in Tompkins County, New York, and contains useful links to information on drilling plus a graphic map of the land already leased in one county, often to landowners who feel they were misled by the landmen.)

<http://www.catskillmountainkeeper.org> (This is a website developed by a group working to preserve the Catskill Mountain area.)

<http://splashdownpa.blogspot.com> (This site includes videos that show a well being drilled.)

<http://newyork.sierraclub.org/index.html> (This is the site for the Atlantic chapter of Sierra Club, which has been actively studying Fracking.)

<http://townofdish.com/> (This is a link to the home page for the town of Dish, Texas, which has done studies on the air pollution caused by the process of gas production by Fracking in the region.)

Websites that focus on Mountain Top Removal Coal Mining and the new EPA announcement:

<http://www.nrdc.org/land/appalachian/default.asp> click on "Issue Paper (PDF, KB)" (This contains the NRDC report on MTR.)

<http://blogs.wvgazette.com/coalatattoo/> (This site contains current news on both MTR and traditional deep coal mining.)

<http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/4145c96189a17239852576f8005867bd!OpenDocument> (This is an EPA site containing information on their recent decisions on MTR.)

Websites that focus on relevant legislation:

<http://www.earthworksaction.org>

<http://www.earthworksaction.org/pubs/PetroleumExemptions1c.pdf>