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# **CLEANING UP THE OIL AND GAS INDUSTRY EFFECTIVE REGULATION OF HYDRAULIC FRACTURING**

Concerns about the effects of oil and gas exploration and development on public health, air, water and land are increasing with the expanded use of new drilling technologies and the spread of development into new areas. The public is demanding full and effective regulation of all aspects of exploration and development, particularly the controversial practice of hydraulic fracturing.

Local residents, environmental organizations and public health advocates see the effects of fracturing throughout the lifecycle of oil and gas production, from well-site selection to waste management. In addition to better regulation of well construction and the act of fracturing, we see the need for regulatory reforms that begin before chemicals and fluids are ordered and continue after the trucks have hauled off the waste. Effective regulation must begin with well-resourced, unbiased regulatory agencies with a clear mandate to protect public health and the environment, and also relies on good information; an active, informed public; frequent inspections; clear enforcement authority; and a strong commitment to prevention and remediation of spills, leaks and other accidents.

As more state regulatory agencies and local governments across the country move forward with regulations that attempt to address the public outcry around hydraulic fracturing, it will be critical for affected citizens to engage in these processes, to ensure that new regulations do the job. This paper sets out a series of minimum criteria that can be used to evaluate existing and proposed policies to regulate hydraulic fracturing and oil and gas development.

## **OVERSIGHT AGENCIES AND COMMISSIONS**

Regulators must have a clear mission to protect public health and the environment as they permit oil and gas production, and the balanced membership (for commissions), legal authority, policies and personnel needed to carry out their mission.

## **PERMITTING PROCESS**

Permits must be required for all major activities, facilities and impacts; include comprehensive information about the proposed site, operations and likely impacts; be reviewed by personnel with appropriate expertise; and be open to public review. Regulators must have the authority to deny, delay or revoke permits that pose unacceptable risks to public health and the environment, and require bonds to ensure that all sites are plugged, abandoned, remediated and reclaimed.

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## **INSPECTIONS AND ENFORCEMENT**

Regulatory agencies must have the personnel, equipment and training needed to conduct sufficient inspections to ensure that all sites are in compliance with laws, regulations and permit conditions. The inspection program should be funded by an annual inspection fee.

## **MONITORING**

Sampling should be conducted both before operations begin and on an ongoing basis for surface water quality and quantity, groundwater level and quality, air quality and public health. All samples should be analyzed by a certified third party laboratory and paid for by the operator, with all results made available to regulators and the public.

## **PUBLIC DISCLOSURE AND REVIEW**

There should be a presumption that all data, permits and other information will be disclosed to the public on the regulatory agency's website, and provided directly to surface owners. All chemicals used in the drilling and treatment processes should be disclosed on a well-by-well basis, including sufficient information to test water resources and determine health effects. Any waivers for proprietary information should have a clear decision making process and standard of proof, and should provide for the release of as much information as possible (especially any information related to adverse health effects of the chemical) and the opportunity for appeal.

## **SITING**

Areas that are unsuitable for oil and gas development and hydraulic fracturing should be defined, and minimum setbacks for wells, pits and other operations and facilities should be established, especially for water supplies and residences.

## **WELL CONSTRUCTION**

Proper well drilling techniques and casing and cementing standards must be defined and required, including testing, reports and inspections.

## **TREATMENT, STIMULATION AND FRACTURING**

Proper practices must be defined and required, including circumstances under which a well should be shut down. In order to protect water resources and prevent exposure to toxic chemicals, only non-toxic chemicals with Chemical Abstract Service numbers should be used.

## **SURFACE MANAGEMENT OF CHEMICALS, FLUIDS AND WASTES**

Operating practices that pose high risk of contamination should be discontinued, including waste pits, on-site disposal and road application of fluids. If pits are allowed, construction, operation, inspection and closure practices must be designed to protect public health, safety and welfare, and the environment.

## **EMERGENCY AND REMEDIAL RESPONSE**

Local emergency response capacity should be evaluated and supplemented as necessary with training and equipment, so that local responders can be engaged in emergencies. Operations should be shut down immediately when there is any accident or unexpected activity that may jeopardize the safety and environmental protection of the site or surrounding area, and the operator should be required to conduct a post-spill review to identify specific steps to ensure a similar accident does not occur again.

## **WATER REPLACEMENT**

There should be a presumption that any contamination or diminution in the quantity or quality of water within one mile of an oil and gas well was caused by well operations, unless the operator has baseline monitoring data taken prior to operations that shows pre-operations presence of the contaminant in question, or water quantity levels. Permanent replacement of such water should be required, at the operator's expense.