

Illinois Hydraulic Fracturing

Illinois Set to Enact Toughest Regulations in the Nation

Environmental Information Sheet



Photo: American Institute of Chemical Engineers (AIChE)

The Illinois Hydraulic Fracturing Regulatory Act appears to be inching closer to adoption after the Illinois Department of Natural Resources (IDNR) posted the most recent edition of the act following the review of 30,000 comments (Revision 2). If approved in its current form, the act will represent the nation's strictest regulations for high-volume oil and gas drilling. The industry is expecting for the second notice of the rules to be adopted with minimal changes however not in time to begin fracking in 2014.

The act applies to high volume horizontal hydraulic fracturing for both new wells and existing wells. The regulations are inclusive of any operations that meet the criterion below:

- Water and nonwater-based fracking technologies.
- Any method that uses more than 80,000 gallons of liquid.
- Wells that have horizontal projection in the oil and gas formations that extend greater than 100 feet laterally.

Chemicals and Trade Secrets

A master list of hydraulic fracturing chemicals must be on file at the time or before applying for a permit; an up-to-date separate list of chemicals must be submitted no less than 21-days prior to any hydraulic fracturing.

- These lists will be published on the IDNR website within 14 calendar days after receipt.
- Should the chemicals and their functions be considered the claim of a trade secret, the company may submit redacted and un-redacted chemical lists.
- A trade secret must be justified with a sworn affidavit and documentation demonstrating the information is a bona fide trade secret.
- The IDNR can provide any trade secret information to a health professional treating patients in a non-emergency or emergency situation. Hydraulic fracturing companies must be available 24 hours a day, 7 days per week to divulge the trade secrets.

Setbacks

A well site must achieve compliance with a series of setback requirements. A well site is defined as the entire drilling operation pad and not just the specific well location. A well site cannot be within the following setbacks:

- Within 500 feet of any existing water well or developed spring used for human or domestic animal consumption.
- Within 300 feet from the center of a perennial stream or the ordinary high water mark of any water body.
- Within 1,500 feet of a surface water or groundwater intake of a public water supply.
- Within 750 feet of a nature preserve or a site listed on the Register of Land and Water Reserves.
- Documentation is required that demonstrates consultation with the IDNR concerning impacts on State endangered and threatened species.

In its current version, the IDNR has the discretion to impose larger setback distances than described above. The IDNR also reserves the right to define setbacks for other conditions that protect

the public health, public and safety, property, wildlife, aquatic life or the environment.

Geology and Groundwater

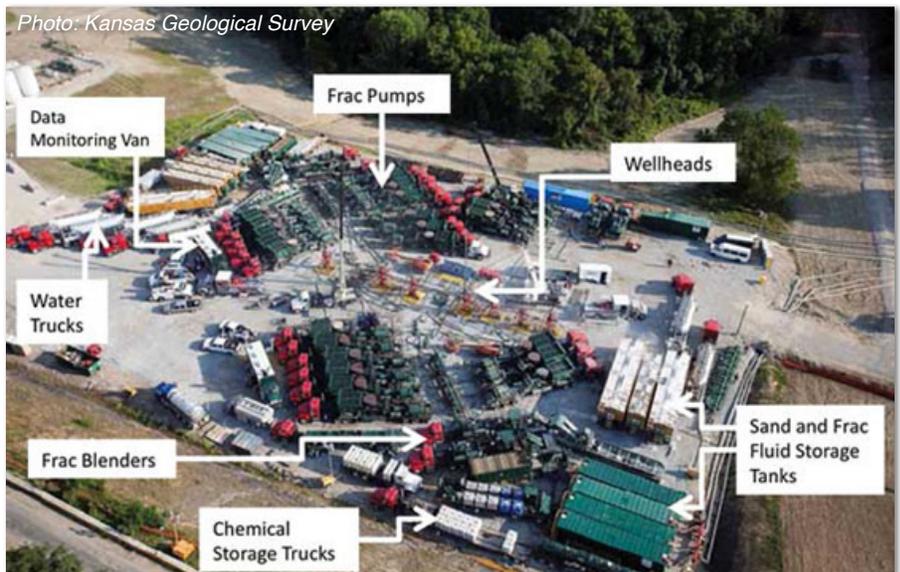
The applicant must provide detailed descriptions of the formations that will be stimulated by the fracturing process. This must include a description of the confining zones above and below the targeted geologic formations. The susceptibility of the confining zones to vertical propagation of fractures must be addressed to the satisfaction of the State.

- The hydrogeology and groundwater resources must be characterized beneath the drill site. This must include estimated depths and elevations to known groundwater resources. A statement must be provided that describes the lowest potential fresh water along the entire length of the proposed well.
- There are no requirements to drill monitoring wells or perform field investigation to further characterize the groundwater resources. It is acceptable for this characterization to be performed as a desk study through the review of most recent literature and publications.

Radioactivity

Low level radioactive waste is a standard by-product of oil & gas development as it naturally occurs in the formations.

- Drilling fluids, cuttings, and waste from hydraulic fracturing operations have to be tested for radioactivity and appropriately stored and disposed of. Materials that test positive for radioactive contamination cannot be stored in open pits.
- A radioactivity management plan is required by the IDNR.
- Sampling is required to determine the baseline (pre-fracking)



concentrations of radioactive materials in the soil, groundwater, private wells and surface water.

- An assessment of no radiological impact must be verified by the Illinois Emergency Management Agency (IEMA) and IDNR following the fracking procedures.

Seismic Risks

If the well site or any part of the well is in a USGS seismic risk zone, the drilling companies are required to demonstrate measures to protect the components against an earthquake of M 4.5 or greater. Further, the insurance policy must provide coverage against loss or claims resulting from an earthquake of M 4.5 or greater.

Water Use

The hydraulic fracturing applicant must comply with relevant regional water supply plans and the Water Use Act of 1983. Any water use from surface water or groundwater sources must be accurately monitored.

- The water use plan must be submitted to the applicable Soil & Water Conservation District (SWCD) office and any community water supply within 20-miles of the proposed water source.

- If a stream is used as a water supply, the drilling company must perform a hydrologic low flow study at the point of withdrawal. Water cannot be withdrawn when the stream is at or below this designated flow. Withdrawal cannot cause the stream to fall to or below this designated flow. Stream flow and water use must be monitored to demonstrate compliance.

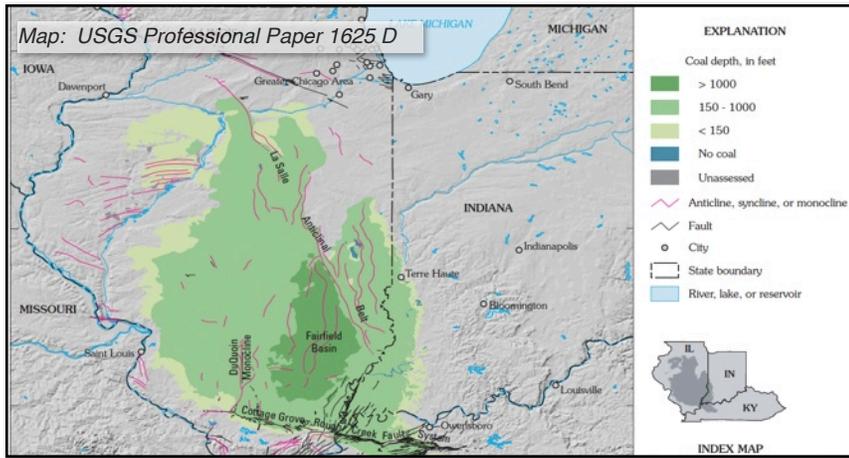
- Surface water intakes must include a plan that minimizes adverse impacts to aquatic life and impacts from invasive species.

Water Monitoring

A water quality monitoring work plan is required and must be reviewed, certified and sampling overseen by a professional engineer or professional geologist.

Sampling is required by an independent third party to determine the baseline (pre-fracking) water quality of all water sources within 1,500 feet of the well site.

- If an aquifer to be sampled is not available with an existing well within 1,500 feet, well sampling of the specific aquifer(s) shall be performed at the closest well that the permittee is allowed to access.



- The installation of groundwater monitoring well(s) is not a requirement.
- The water sources and well(s) need to be sampled 6 months, 18 months and 30 months after operations.

General Permitting Timelines

The IDNR has 60-days to approve or reject a permit for hydraulic fracturing.

The IDNR must post the permit online within 5-days and submit to the following entities for review:

- Illinois Environmental Protection Agency, Office of the State Fire Marshall, Illinois State Water Survey, Illinois State Geological Survey, Local Public Health Department

Public Hearing

A public hearing may be requested in writing by any person, government agency or county board with an interest that is or may be adversely affected by the granting of a permit.

Hearing can also be initiated by any other person that demonstrates a real property interest in or uses resources of economic, recreational or environmental value that may be adversely affected by the granting of a permit.

The public hearing must be held in the county where the well site is located, or a venue determined by the IDNR. A hearing cannot be located more than

30-miles outside the county where the proposed well site is to be located.

Permitting Approval

The IDNR will make final permitting decisions based on the following:

- any input received during the permitting process from local, regional, or state governments, or members of the environmental community;
- any input received during the permitting process from local, regional, or state public health agencies, officials, or representatives, or members of the public health community;
- any relevant baseline knowledge of ecosystems in the area likely to be impacted by the operations;
- any specific facts or opinions received bearing on environmental or ecological impacts of the proposed

permit, including but not limited to information on habitat, food supply, migration, breeding or nesting, invasive species, noise, viewshed, light, and hunting or angling opportunities;

- any relevant baseline knowledge of public health in the population area likely to be impacted by the operations;
- any specific facts or opinions received bearing on public health impacts of the proposed permit, including but not limited to information on air quality, water quality, public safety, traffic and transportation, recreation, and ecosystems;
- the incremental environmental impact of the operations that would be allowed by the permit when added to other past and present operations and reasonably foreseeable future operations in the vicinity or county, and the cumulative effect of all such operations; and
- whether allowance of the permit would have a positive, negative, neutral, or undetermined effect on public health, public safety, property, wildlife, aquatic life, or the environment.

For more information, the entire second notice can be found at: www.dnr.illinois.gov/OilandGas

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