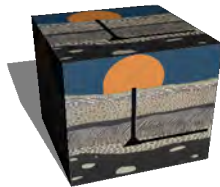


The Beginning of Hydraulic Fracturing Regulation in Illinois

Illinois State Bar Association
13th Annual Environmental Law Conference
IIT Chicago Kent College of Law
Chicago, Illinois
March 6, 2014



<http://www.dnr.illinois.gov>



<http://www.dnr.illinois.gov/OILANDGAS/Pages/Hydraulicfracturing.aspx>

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Outline

- Introduction – ex parte comm.s
- Status of HF Rulemaking
- Water – freshwater, groundwater
- Induced Seismicity ad rule
- Example(s)
- Discussion/Questions?

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HF Ad Rules = Env. Issues = Water

- Definitions – 245.110
- Permit Appl. Requirements – 245.210
- Water Quality Monitoring – 245.600s
- Chemical Disclosure/Trade Secrets – 245.700s
- HVHFH Prep. & Operations – 245.800s
- Plugging Requirements – 245.1000s
- Enforcement – 245.1100s

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Typical oil well with pumping unit

5



Typical tank battery

6

**Class II
UIC
Injection
Wellhead**



USEPA Website, Region 8
News Release, Fort Peck
Tribes, 10/27/08

INDUCED SEISMICITY

- Section 1-96 of HFRA: Seismicity
- Defines “induced seismicity”
- an earthquake event, that is felt, recorded by the USGS seismograph network, and attributable to a Class II injection well used for disposal of flow-back and produced water from HVHFF operations
- 225 ILCS 732/1-96(a)

8

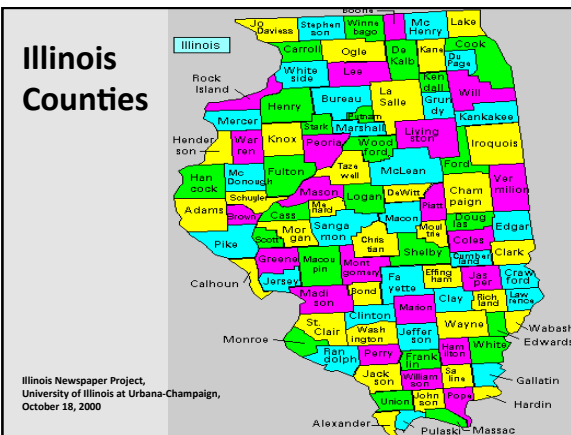
INDUCED SEISMICITY

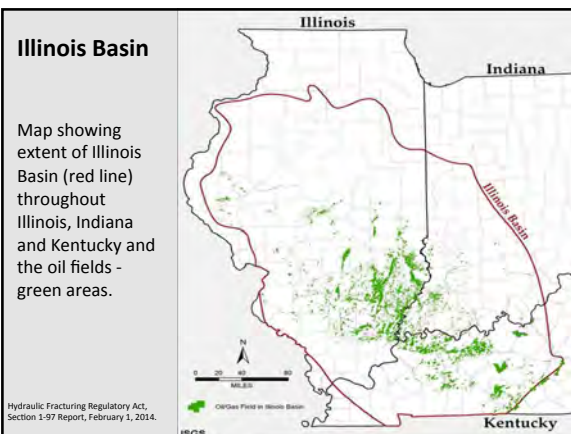
- IDNR & ISGS to adopt rules to control operational activity of Class II injection wells if induced seismicity – 1-96(b)
- Employ a “traffic light” system to include additional monitoring and mitigation requirements – 1-96(c)
- Allow for scaling back operations, or immediate cessation of injection considering public health & safety – 1-96(d)

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INDUCED SEISMICITY

- Class II injection wells/Oil & Gas Act
- 62 Ill. Adm. Code 240.796 – new proposed
- Applicability – only those Class II UIC disposal wells that inject Class II fluids & flowback from HVHF operations.
- Not all Class II UIC wells!
- What's all?
- 8022 Class II UIC Wells permitted in IL
- 1075 = Crawford Cty; 1048 Lawrence Cty ¹⁰





TRAFFIC LIGHT SYSTEM

- Green Light – less than 3.0 on mag. Scale
- Yellow Light – 3.0 but less than 5.0
- Red Light – 5.0 or greater
- If rule applies, well equipped w/ flow mtr.
- If Green Light Alert, no harm, no notice
- If Yellow Light Alert, all wells w/in 3 miles
- If Red Light Alert, all wells w/in 6 miles

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What is the Richter scale?

0-2.0	2.1-2.9	3.0-3.9	4.0-4.9	5.0-5.9	6.0-6.9	7.0-7.9	8.0-8.9	9.0-10
Not measured, not felt	Measured, but not felt	Sometimes felt, no damage caused	Light shaking of items, little damage, if any	Slight structural damage possible	Potential for destructive tremors	Serious damage over large areas	Devastating damage over huge areas	Extreme destruction

SOURCES: U.S. Geological Survey

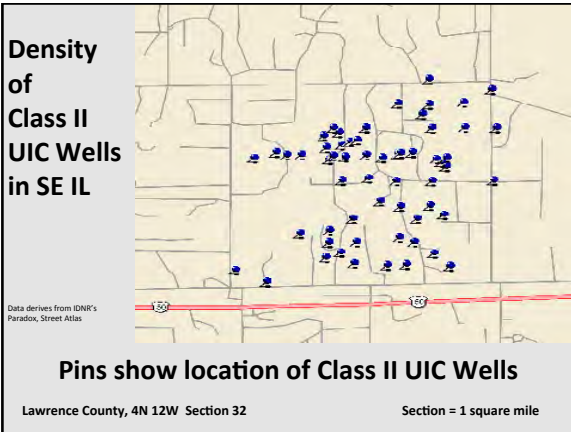
Higher magnitude, more ground movement, more damage.

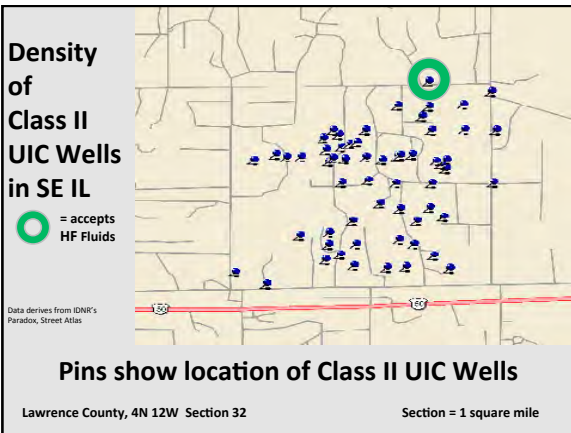
PIWorld.com, Lawrence Journal World, February 12, 2014

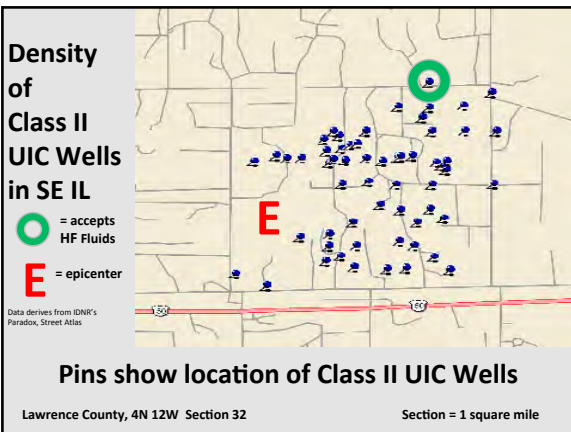
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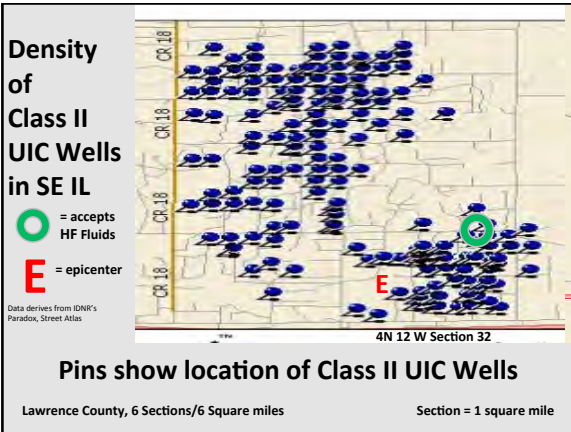
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- If Yellow Light Alert, all wells w/in 3 miles
- If Red Light Alert, all wells w/in 6 miles

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INDUCED SEISMICITY

- Class II injection wells/Oil & Gas Act
- 62 Ill. Adm. Code 240.796 – new proposed
- **Applicability** – only those Class II UIC wells that inject fluids from HVVHF operations.
- Not all Class II UIC wells subject to rule!
- “This section does not apply to Class II UIC wells used for enhanced oil recovery operations.” - last sentence on applicability, 62 Ill. Adm. Code 240.796(a)
- > 86 % class. = enhanced oil recovery ops²⁰

Conclusions

- Middle of Rulemaking Process
- Beginning of HVVHF Regulation in IL
- H₂O – freshwater/groundwater not HVVHF
- Induced Seismicity – tip of water issues
- Induced Seismicity Ad Rule – one example of difficult process for Department
- General Questions?

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Conclusion

Hydraulic Fracturing Regulation in . . .

CONTACT INFORMATION

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DEPARTMENT OF NATURAL RESOURCES

NOTICE OF PROPOSED AMENDMENT

- 1) Heading of the Part: The Illinois Oil and Gas Act
- 2) Code Citation: 62 Ill. Adm. Code 240
- 3) Section Numbers: 240.796 Proposed Action: New
- 4) Statutory Authority: Implementing and authorized by the Illinois Oil and Gas Act [225 ILCS 725].
- 5) A Complete Description of the Subjects and Issues Involved: Implementing administrative rules to regulate the monitoring of Class II UIC wells receiving any Class II Fluids or hydraulic fracturing flowback from wells where high volume horizontal hydraulic fracturing operation were conducted for the purpose of determining whether such Class II UIC wells are contributing to seismic activity. The administrative rules will also regulate when the Department will notify Class II UIC well permittees of induced seismic activity in the area and how to mitigate the operations of Class II UIC wells to reduce future induced seismicity events.
- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: None
- 7) Will this rulemaking replace any emergency rulemaking currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? No
- 10) Are there any other proposed rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: This rulemaking does not affect units of local government.
- 12) Time, Place and Manner in which interested persons may comment on this proposed rulemaking:

Public hearings have been scheduled on the following dates at the following locations:

Tuesday, November 26, 2013
6:30pm-8:30pm

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DEPARTMENT OF NATURAL RESOURCES

NOTICE OF PROPOSED AMENDMENT

240.1910	Contents of Application for Permit to Drill or Convert to a Service Well
240.1920	Authority of Person Signing Application
240.1930	Issuance of Permit
240.1940	When Wells Shall Be Plugged and Department Notification
240.1950	Plugging and Restoration Requirements
240.1960	Converting to Water Well

AUTHORITY: Implementing and authorized by the Illinois Oil and Gas Act [225 ILCS 725].

SOURCE: Adopted November 7, 1951; emergency amendment at 6 Ill. Reg. 903, effective January 15, 1982, for a maximum of 150 days; amended at 6 Ill. Reg. 5542, effective April 19, 1982; codified at 8 Ill. Reg. 2475; amended at 11 Ill. Reg. 2818, effective January 27, 1987; amended at 14 Ill. Reg. 2317, effective January 25, 1990; recodified at 14 Ill. Reg. 3053; amended at 14 Ill. Reg. 13620, effective August 8, 1990; amended at 14 Ill. Reg. 20427, effective January 1, 1991; amended at 15 Ill. Reg. 2706, effective January 31, 1991; recodified at 15 Ill. Reg. 8566; recodified at 15 Ill. Reg. 11641; emergency amendment at 15 Ill. Reg. 14679, effective September 30, 1991, for a maximum of 150 days; amended at 15 Ill. Reg. 15493, effective October 10, 1991; amended at 16 Ill. Reg. 2576, effective February 3, 1992; amended at 16 Ill. Reg. 15513, effective September 29, 1992; expedited correction at 16 Ill. Reg. 18859, effective September 29, 1992; emergency amendment at 17 Ill. Reg. 1195, effective January 12, 1993, for a maximum of 150 days; amended at 17 Ill. Reg. 2217, effective February 8, 1993; amended at 17 Ill. Reg. 14097, effective August 24, 1993; amended at 17 Ill. Reg. 19923, effective November 8, 1993; amended at 18 Ill. Reg. 8061, effective May 13, 1994; emergency amendment at 18 Ill. Reg. 10380, effective June 21, 1994, for a maximum of 150 days; amended at 18 Ill. Reg. 16361, effective November 18, 1994; amended at 19 Ill. Reg. 10981, effective July 14, 1995; amended at 21 Ill. Reg. 7164, effective June 3, 1997; emergency amendment at 22 Ill. Reg. 988, effective December 22, 1997, for a maximum of 150 days; amended at 22 Ill. Reg. 8422, effective April 28, 1998; amended at 22 Ill. Reg. 8845, effective April 28, 1998; amended at 22 Ill. Reg. 22314, effective December 14, 1998; amended at 25 Ill. Reg. 9045, effective July 9, 2001; amended at 35 Ill. Reg. 13281, effective July 26, 2011; amended at 38 Ill. Reg. _____, effective _____.

SUBPART G: WELL CONSTRUCTION, OPERATING
AND REPORTING REQUIREMENTS FOR CLASS II UIC WELLS

**Section 240.796 Operating and Reporting Requirements, Hydraulic Fracturing
Operations, Seismicity**

- a) Applicability
This Section applies to all Class II UIC disposal wells that inject any Class II

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DEPARTMENT OF NATURAL RESOURCES

NOTICE OF PROPOSED AMENDMENT

fluids or hydraulic fracturing flowback from a high volume horizontal hydraulic fracturing operation permitted by the Department under the Hydraulic Fracturing Regulatory Act [225 ILCS 732]. This Section does not apply to Class II UIC wells used for enhanced oil recovery operations.

b) Definitions

For purposes of this Section, the terms defined in 62 Ill. Adm. Code 245.110 have the same meanings when used in this Section. Additionally, the following terms have the meanings ascribed in this subsection:

"Green Light Alert" means the Department received notice from either USGS or ISGS that there was an earthquake in Illinois with a magnitude less than 3.0.

"Induced Seismicity" means an earthquake event that is felt, recorded by the national seismic network, and attributable to a Class II UIC well used for disposal of flowback and produced fluid from high volume horizontal hydraulic fracturing operations. (Section 1-96(a) of the Hydraulic Fracturing Regulatory Act)

"ISGS" means Illinois State Geological Survey.

"Red Light Alert" means the Department received notice from either USGS or ISGS that there was an earthquake in Illinois or a bordering state with a magnitude of 5.0 or greater.

"USGS" means United States Geological Survey.

"Yellow Light Alert" means the Department received notice from either USGS or ISGS that there was an earthquake in Illinois or a bordering state with a magnitude of at least 3.0, but less than 5.0.

c) Class II UIC Well Operations

1) All Class II UIC wells regulated by this Section shall be equipped with a flow meter capable of monitoring the rate of flow of fluids injected down into the well on a per day basis consistent with the Class II UIC permit issued by the Department.

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NOTICE OF PROPOSED AMENDMENT

2) All permittees shall record and maintain pressure and flow data for each Class II UIC well on a monthly basis. The report shall include the average and maximum monthly injection rates and pressures. The records shall be submitted to the Department in accordance with Section 240.780(e). The records shall be maintained for at least 5 years and shall be available to the Department for inspection upon request.

d) Induced Seismicity Reporting

1) The Department will report any Yellow Light Alert to all Class II UIC well permittees with wells located within a 3 mile radius of the earthquake event's epicenter measured from the surface above the hypocenter. After receiving a Yellow Light Alert, a Class II UIC well permittee has the discretion to operate the permitted well according to the terms of the permit, adjust the operation of the permitted well reducing the volume of fluids injected into the well, and consult with the Department and ISGS about the implications of the Yellow Light Alert as it relates to the operation of the well.

2) The Department will report any Red Light Alert to all Class II UIC well permittees with wells located within a 6 mile radius of the earthquake event's epicenter measured from the surface above the hypocenter.

e) Induced Seismicity Cessation Orders

The Department shall issue orders to permittees of Class II UIC wells for the immediate cessation of operations due to conditions that create imminent danger to the health and safety of the public, or significant damage to property, pursuant to Section 19.1 of the Oil and Gas Act and 62 Ill. Adm. Code 246.186, under any of the following conditions:

1) If a particular well regulated by this Section receives a third Yellow Light Alert and within the last year the same permittee received a Notice of Violation for the same well related to flow, pressure or mechanical integrity;

2) If a particular well regulated by this Section receives any number of Yellow Light Alerts and there is confirmed property damage to any building or structure as a result of the earthquake event with a magnitude greater than 4.5. The confirmation can be performed by personnel from the Department or personnel from any local, state or federal agency;

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- 3) If a particular well regulated by this Section receives a fifth Yellow Light Alert; or
 - 4) If a particular well regulated by this Section receives a Red Light Alert and is within 3 miles of the epicenter of the earthquake event measured from the surface above the hypocenter.
- f) The Department has discretion to issue cessation orders to permittees with wells regulated by this Section within 6 miles of any earthquake epicenter, when necessary, if, after consultation with ISGS, induced seismicity conditions warrant cessation.
- g) Induced Seismicity Mitigation Requirements
- 1) After receiving a cessation order, in addition to the requirements of the order, the permittee shall schedule a meeting with the Department and representatives of ISGS at the Department's Headquarters, One Natural Resources Way, Springfield, Illinois, to be held within 30 calendar days after issuance of the order and before the cessation order hearing. Once scheduled, the permittee shall confirm the meeting in writing to both the Department and ISGS and provide the last 6 months of well data required in subsection (c)(2) to help facilitate the meeting. The purpose of the meeting will be to determine possible ways to mitigate induced seismicity events near the permitted well.
 - 2) If the permittee and Department, in consultation with ISGS, reach agreement on how to test induced seismicity mitigation, the Department shall present the agreement as a settlement before the Hearing Officer for the cessation order hearing (see Section 240.186(d)).
- h) Enforcement
Penalties for administrative and operating violations are specified in Section 240.160(c). Violations under this Section are classified as administrative or operating, as follows:
- 1) Failure to comply with any portion of subsection (c)(2) related to records is an administrative violation.

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DEPARTMENT OF NATURAL RESOURCES

NOTICE OF PROPOSED AMENDMENT

- 2) Failure to schedule and attend a meeting within 30 days after the issuance of a cessation order is an administrative violation.
- 3) Failure to install a flow meter, or maintain a flow meter in operating condition, is an operating violation.
- 4) Failure to cease operations after a cessation order is issued by the Department is an operating violation.
- 5) Failure to comply with an induced seismicity mitigation agreement is an operating violation.

(Source: Added at 38 Ill. Reg. _____, effective _____)

THE TWELVE DAYS OF FRACKING

C Am G7 C
On the first day of Christmas, the Senate brought to me
C F C G7 C F C

1. A half-baked Safety Guarantee.

G Dm D7 G

2. 2,000 pages (after 5 gold rings, it goes "Two turtle doves.")

G Dm F

3. Three minutes to speak (after 5 gold rings, it goes "Three French hens.")

G Dm C

4. Four public hearings (after 5 gold rings, it goes "Four calling birds" thereafter.)

G D7 G

5. 596 toxic chemicals!

G Dm

6. 600 lousy leases

G Dm

7. Seven major blowouts

G Dm

8. 80,000 truck trips

G Dm

9. Nine rowdy man-camps

G Dm

10. 10,000 miles of pipeline

G Dm

11. Eleven lying lobbyists

G Dm

12. Twelve flaming faucets

FRACKING WONDERLAND

Fire bells ring, are you listening? In the lane, oil is glistening:
C Dm7 G7
G7 D7 G7

A terrible sight, the gas drills at night, walking in a fracked up
C G7
wonderland.

Gone away is the bluebird; they're all dead, ain't no new birds
C Dm7 G7
G7 D7 G7

The pipes that they laid sent the wildlife away, walking in a f-up
C
wonderland.

E B7 E
In the meadow, we can build a snowman

E B7 E
Till Halliburton comes and knocks it down.

G D7 G
They'll say, "Are you leasing?" We'll say, "No, man.

A7 D7 Dm7 G7
There ain't no frickin' frackin' in this town!"

C Dm7 G7
Later on, we'll expire when our sink erupts in fire

G7 F Em7 Dm7 D7 G7
C
To fight unafraid the plans that they've made, living in a frak'd up
wonderland.

E B7 E
In the meadow, we can build a snowman

E B7 E
Till Halliburton comes and knocks it down.

G D7 G
They'll say, "Are you leasing?" We'll say, "No, man.

A7 D7 Dm7 G7
There ain't no frickin' frackin' in this town!"

C Dm7 G7
When they come and start drilling, 's not just us they are killing?
G7 F Em7 Dm7

We'll frolic and play when we run them away,

D7 G7 C A7

Walking in a fracked up wonderland

D7 G7 C A7 D7 G7

C G7 C

Walking in a fracked up wonderland. Walking in a win-ter won-der-
land.

DYING IN A FRACKING, WASTED LAND

Frack wells drill, are you listening? Toxic waste pits are spillin':
C Dm7 G7
G7 D7 G7

A horrible sight, we're cryin; tonight, dying in a fracked up
C G7
wonderland.

These regulations are a big turd; don't protect us, it's absurd
C Dm7 G7
G7 D7 G7

We're singing our song--no, we won't go along, dying in a fracking,
C
wasted land.

E B7 E
In the forest, they have built a frack well.

E B7 E
They pretend that it is safe and sound.

G D7 G
Don't ya worry; you'll get used to that smell.

A7 D7 Dm7 G7
And the poisons that they're spreading all around

C Dm7 G7
The situation is dire; industry is full of liars!
G7 F Em7 Dm7 D7 G7

C
It's time that we break the plans that they made, dying in a fracking,
wasted land.

E B7 E
In the forest, they have built a frack well.

E B7 E
They pretend that it is safe and sound.

G D7 G
Don't ya worry; you'll get used to that smell.

A7 D7 Dm7 G7
And the poisons that they're spreading all around

C Dm7 G7
When they come and start drilling, 's not just us they are killing?
G7 F Em7 Dm7

We'll frolic and play when we run them away,

D7 G7 C A7
Walking in a fracked up wonderland

D7 G7 C A7 D7 G7
Walking in a fracked up wonderland.

C G7 C

Walking in a fracked up wonderland. Walking in a fracked up wonderland.

FRACTIVISTS ARE COMING TO TOWN

A A7 D Dm
You better watch out, you better not try,
A A7 D Dm
Fracking our farmland; we're telling you why:
A Fm Bm E A Fm Bm E7
Fractivists are coming to town.

A A7 D Dm
We're making a list; checking it twice,
A A7 D Dm
And if you are naughty, we won't be nice!
A Fm Bm E A
Fractivists are coming to town.

A7 D A7 D
Don't take oil and gas money. You know that they're all crooks!
B7 E B7 E
E7
And if you do, then you'll look bad in our children's history books!

A A7 D Dm
You better watch out, you better not try,
A A7 D Dm
Fracking our farmland; we're telling you why:
A Fm Bm E A E A
Fractivists are coming to town.

DECK THE HOMES

DECK THE HOMES WITH SOLAR PANELS.
FALALALALA LA LA LA LA
KEEPING WARM WITH EXTRA FLANNELS.
FALALALALA LA LA LA LA
DON WE NOW OUR BEST INTENTIONS.
FALALA LALALA LA LA LA
PICKET ENERGY CONVENTIONS.
FALALALALA LA LA LA LA

SMELL THE BLAZING WELLS BEFORE US.
FALALALALA LA LA LA LA
GAS EXTRACTION THIS ABHORS US.
FALALA LALALA LA LA LA
COMP(A)NIES PROMISE TO PAY ROYALTIES.
FALALALALA LA LA LA LA
TO THE FOLKS WITH FAVORABLE LOYALTIES.
FALALALALA LA LA LA LA

FAST AWAY THE OLD GAS PASSES.
FALALALALA LA LA LA LA
HAIL THE WRECKAGE ON THE MASSES.
FALALA LALALA LA LA LA
IT'S MUCH NICER TO SING CAROLS.
FALALALALA LA LA LA LA
WHILE NOT FEARING FRACKING'S PERILS.
FALALALALA LA LA LA LA