Is the Oil & Gas Industry Exempt from Major Environmental Laws and What About that “Fracking” Loophole?

Center of the American West
FrackingSENSE 2.0

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Federal Role in Oil and Gas Regulation

- What federal environmental laws apply to O&G?
- What are the exemptions?
- Where are federal regulations headed?
- Where do state laws fit in?

“Oil and gas industry exempt from many major environmental laws”
“Everyone is entitled to his own opinion, but not his own facts.”

_U.S.Senator Daniel P. Moynihan, (d. 2003, D.Mass)_

Our factual foundation: The U.S. is a nation of laws

Statutes, regulations, enforcement, citizen suits and lawyers.

Permitting process – based on studies/surveys to demonstrate compliance

Law is not static
Roadmap: Federal Role in Oil and Gas Regulation

- Federalism: Relationship of federal government to states
  - Constitution
- Federal role in oil and gas regulation
  - All lands – environmental laws
  - Federal Lands – land use planning/leasing
- State role in implementing major environmental laws
Federalism and Oil and Gas Regulation

- **U.S. Constitution:** Limited government
- **Tenth Amendment:** “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.”
Federalism and Oil and Gas Regulation

U.S. Constitution: Federal supremacy over federal lands

- **Supremacy Clause**: “This Constitution, and the Laws of the United States . . . shall be the supreme Law of the Land . . . any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.”

- **Property Clause**: “The Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States . . .”
Federalism and Oil and Gas Regulation

Cooperative Federalism

- Overlapping, interdependent regulation
- Federal standards and oversight, but state primacy in environmental regulation
- Ideally: cooperation among state, local, federal governments
- Reality: public confusion and agency turf battles
Federal Role in Oil and Gas Regulation

All Lands: Federal environmental standards

**Land Managers:**
- U.S. Department of the Interior, BLM
- U.S. Department of Agriculture, U.S. Forest Service

**Regulatory Agencies:**
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- Advisory Council on Historic Preservation
- U.S. Fish and Wildlife Service
Federal Regulation of Fracking

- **Historic:** Not much federal regulation
  - States exercise authority over O&G operations
    - State Oil and Gas Conservation Commissions
    - Fracking/well stimulations, not specifically regulated
- **Current:** Expanding federal and state regulation
Safe Drinking Water Act “Fracking Loophole” Issue

SDWA: Protect the quality of drinking water

- Endangerment standard
- Underground Injection Control (“UIC”) Program
  - No underground injections without UIC permit
  - Six classes of UIC wells
    - Class II – oil & gas disposal/enhanced recovery wells
- UIC Program may be delegated by EPA to state
- Frack issue – 1995 EPA: SDWA does not regulate “temporary” frack injections for coalbed methane (“CBM”) development
Leaders in Environmental Action for the Future ("LEAF") litigation challenged EPA in Alabama

- Court (11th Cir. 1997): EPA lost. SDWA plain language: fracking is "underground injection" SDWA §1422 (UIC)
- Alabama/EPA resisted: fracking is not covered in SDWA §1422
- Second challenge: EPA won. Approved EPA’s secondary recovery interpretation SDWA §1421 (11th Cir. 2001)
Safe Drinking Water Act Litigation

- EPA study of CBM fracking (2004): “little to no threat;” diesel a concern

- **EPACT 2005**: SDWA amended to exclude “the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations” (aka “Fracking Loophole”)

- 2014: EPA released Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels
Safe Drinking Water Act

- Disposal of O&G produced/flowback water by injection wells regulated by SDWA
  - UIC permit required
  - Must not threaten drinking water aquifers
    - Demonstration of adequacy of cement/casing
    - Pass an integrity test – initially and every 5 years
  - Monitoring

- EPA retains SDWA “imminent and substantial endangerment” enforcement authority
Clean Water Act ("CWA")

- CWA prohibits "point source . . . discharge . . . of pollutants [into] waters of U.S."
- "Pollutants" includes discharge of *unaltered* groundwater into surface water by CBM operators. (9th Cir. 2009)

- National Pollutant Discharge Elimination System ("NPDES") permits
  - States (CO) with primacy implement CWA
  - EPA industry-specific Effluent Limitation Guidelines ("ELG") to prevent/treat discharges
Clean Water Act

- Existing EPA ELGs for O&G
  - No produced water direct discharge – injection
  - Western U.S. – produced water discharge for use by wildlife/agriculture if CWA standards are met

- Oil and Gas ELG underway
  - Shale flowback pretreatment standards (2014)
    - Draft: April 2014
    - Final: December 2015
Clean Water Act

- **Stormwater Exemption:** 1987 O&G generally exempt from EPA stormwater regulation
  - NPDES permit required for contaminated stormwater
  - 2005 EPACT expanded exemption to cover O&G construction sites
  - States enact stormwater regulation

- **Spill Prevention Control and Countermeasure ("SPCC") Rule:**
  - Prevent/report spills near water bodies
  - EPA directly implements SPCC

- **CWA § 404 “wetlands”**
  - EPA/U.S. Army Corps of Engineers
  - Permit to impact wetlands
  - Avoidance, mitigation
Clean Air Act ("CAA")

- Regulates air pollution from mobile (cars/trucks) and stationary sources
- EPA sets National Ambient Air Quality Standards ("NAAQS") for 6 criteria air pollutants
  - States develop State Implementation Plans ("SIP") to meet standards in permitting/policy decisions
- EPA regulates Hazardous Air Pollutants ("HAP")
- EPA requires reporting of Greenhouse Gases ("GHG")
Clean Air Act

- **2008 EPA O&G diesel engine rule**
  - Reduce NOx 95%/reduce particulates 90%
- **2012 EPA rule to regulate emissions during gas well completions**
  - New Source Performance Standards/National Emission Standards for Hazardous Air Pollutants ("NSPS/NESHAP") for O&G Industry
  - Focus: natural gas wells and reduction of VOCs
    - Green completions
    - Processing Plant Compressor Controls
    - Dehydrator controls
Clean Air Act
Fracking and Methane

Issue: How much methane is leaked during development?

- EPA → 3% of production/accounts for 5% of GHG emissions

Methane measurement argument:

- University of Texas, industry and EDF Study says 97% lower than EPA emission estimates
- EPA acknowledged inventory overestimated methane discharges
- Recent NAS study says 50% higher than EPA annual inventory

2011 GHG reporting; O&G reporting to get more precise (2/2014)
Clean Air Act
Fracking and Methane

- NSPS/NESHAP Rules – co-benefit of 25% methane reduction
- Colorado – first government to directly regulate O&G methane emissions (2/2014)
- Future federal methane regulation: BLM Onshore Order 9 (8/2014); DOE; EPA (oil)?
O&G and Hazardous Waste

- **RCRA** – “cradle to grave” EPA/state regulation of “hazardous and solid waste”
  - 1980 Bensten (D-TX) amendment *excluded* O&G drilling fluids, produced water and other E&P wastes from RCRA subtitle C (hazardous)
    - EPA study (1988) not necessary – adequate state/federal regulation
    - EPA guidance (2002) – unused frack fluids may be subject if hazardous
  - 2010 NRDC petition to EPA to reconsider 1988 study and exemption. Under EPA review
  - E & P waste subject to state waste management law/SDWA

- **CERCLA (Superfund)** – cleanup hazardous waste sites
  - “Hazardous substances” – O&G must report release of “hazardous” substances but petroleum products are excluded
    - Frac fluid with non-petroleum hazardous substances subject to CERCLA
EPA Fracking and Drinking Water Study

- 2009 Congress – EPA to study fracking/drinking water
- EPA broad approach
  - ✔ Water withdrawal for fracking
  - ✔ Discharge of frack fluid/flowback
  - ✔ Frack injections
  - ✔ Disposal and treatment of frack fluid
- Stakeholder/peer-reviewed process
- Interim status of research projects (12/2012)
- Completed EPA study (expected late 2014)
- EPA OIG (2/2014) – study of EPA/States authority to regulate fracking water impacts
Emergency Planning and Community Right-to-Know Act ("EPCRA") and Toxic Substances Control Act ("TSCA")

**EPCRA:** individuals/communities have access to information on storage/release of hazardous chemicals

**O&G requirements/exemptions:**
- Release notification – spill reporting to state/local committees
- Storage reporting – annual inventory to state and local
- O&G E&P sites exempt from Toxic Release Inventory reporting
  - November 2012 Petition to EPA to add oil & gas facilities to TRI industry groups

**TSCA:** EPA regulates manufacture, processing, use, distribution and disposal of toxic chemical substances

- **2011:** EarthJustice petition to EPA to issue TSCA testing/reporting rules for oil and gas.
- **2013:** EPA issues rational for response:
  - No to testing under TSCA §4
  - Yes to data gathering, aggregate

Table 4: Key Federal Environmental and Public Health Requirements and State Requirements for Oil and Gas Production Wells

<table>
<thead>
<tr>
<th>Area of Regulation</th>
<th>EPA environmental and public health requirements</th>
<th>Requirements of six states reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siting and site preparation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identification or testing of water wells prior to drilling of production wells</td>
<td>No</td>
<td>1 of 6 (Wyoming) [identification alone] 2 of 6 (Colorado, Ohio) [identification and testing]</td>
</tr>
<tr>
<td>Required setbacks from water sources</td>
<td>No</td>
<td>5 of 6 (Colorado, North Dakota, Pennsylvania, Ohio, Wyoming)</td>
</tr>
<tr>
<td>Stormwater permitting</td>
<td>Effectively no</td>
<td>4 of 6 (Colorado, North Dakota Pennsylvania, Wyoming)</td>
</tr>
<tr>
<td>Drilling, casing, and cementing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements relating to cementing/casing plans</td>
<td>No</td>
<td>6 of 6</td>
</tr>
<tr>
<td>Prescribed placement of surface casing relative to groundwater zones</td>
<td>No</td>
<td>6 of 6</td>
</tr>
<tr>
<td>Hydraulic fracturing</td>
<td></td>
<td>6 of 6</td>
</tr>
<tr>
<td>Requirements to disclose information on fracturing fluids</td>
<td>No</td>
<td>6 of 6</td>
</tr>
<tr>
<td>Well plugging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements for notification, plugging plans or method, witnessing, and reporting</td>
<td>No</td>
<td>6 of 6</td>
</tr>
<tr>
<td>Programs to plug wells that are not properly plugged and have been abandoned</td>
<td>No</td>
<td>6 of 6</td>
</tr>
<tr>
<td>Site reclamation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements for backfilling, regrading, recontouring, and alleviating compaction of soil</td>
<td>No</td>
<td>6 of 6</td>
</tr>
<tr>
<td>Revegetation requirements</td>
<td>No</td>
<td>5 of 6 (Colorado, North Dakota, Ohio, Pennsylvania, Wyoming)</td>
</tr>
<tr>
<td>Waste management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pit lining requirements</td>
<td>No</td>
<td>5 of 6 (Colorado, North Dakota, Pennsylvania, Texas, Wyoming)</td>
</tr>
<tr>
<td>Options for waste disposal</td>
<td>Yes (SDWA)</td>
<td>5 states have their own requirements (Colorado, North Dakota, Ohio, Texas, Wyoming); EPA implements the program in Pennsylvania</td>
</tr>
<tr>
<td>Underground injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Discharge to surface water</td>
<td>Yes (CWA - certain discharges prohibited, others subject to conditions and permit)</td>
<td>Surface discharge are allowed in certain cases in 3 western states (Colorado, Texas, and Wyoming)</td>
</tr>
<tr>
<td>Requirements for discharge to POTWs or Centralized Waste Treatment (CWT)</td>
<td>Pretreatment standards for shale gas wastewater under development (CWA)</td>
<td>Disposal at POTWs is an option in two States (Ohio, Pennsylvania) Disposal at CWT facilities is an option in 3 States (Colorado, Pennsylvania, Wyoming)</td>
</tr>
<tr>
<td>Recycling or other reuse</td>
<td>Yes (CWA - certain produced water Discharges)</td>
<td>6 of 6 states allow recycling or other reuse</td>
</tr>
<tr>
<td>Solid waste disposal</td>
<td>Effectively no</td>
<td>Yes</td>
</tr>
<tr>
<td>Hazardous waste disposal</td>
<td>Effectively no</td>
<td>No</td>
</tr>
<tr>
<td>Managing air emissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements for criteria pollutants</td>
<td>Certain CAA provisions apply</td>
<td>5 of 6 states have permitting or registration programs (Colorado, North Dakota, Ohio, Texas, Wyoming)</td>
</tr>
<tr>
<td>Requirements for hazardous air pollutants</td>
<td>Certain CAA provisions apply</td>
<td>State permitting or registration programs may address hazardous air pollutants</td>
</tr>
<tr>
<td>Requirements related to hydrogen sulfide gas</td>
<td>No specific requirements but CAA general duty clause requires prevention of Accidental releases</td>
<td>6 of 6</td>
</tr>
<tr>
<td>Requirements related to flaring</td>
<td>Under new NSPS regulation, most hydraulically fractured gas wells must do green completions</td>
<td>6 of 6</td>
</tr>
</tbody>
</table>
Colorado Example

- **SDWA frack exemption**: Colorado regulates (Rules 205, 317, 341, 608, 903, 904 and 906)
- **Fracking disclosure**: Colorado requires disclosure
- **No EPA drilling, casing & cementing requirement**: Colorado requires
- **RCRA Solid waste disposal exemption**: Colorado requires
- **CAA No federal regulation of methane**: Colorado regulation No. 7 (2/2014)
- **CWA Federal stormwater exemption**: Colorado stormwater permitting

http://cogcc.state.co.us – Hydraulic Fracturing Information
Federal Regulation: Federal Lands

- Federal government “extensive scheme” of O&G regulation
  - All federal environmental laws
  - Mineral Leasing Act of 1920 (MLA)
    - BLM manages all federal onshore minerals
      - U.S. Forest Service
      - Split estate lands
    - Why? Congress “sought to ensure that valuable subsurface resources would remain subject to disposition by the United States” and “did not wish to entrust the development of [minerals] to ranchers and farmers.” U.S. Supreme Court (1983)
- BLM/State – cooperative relationship
  - BLM CO – Memorandum of Understanding (“MOU”) on O&G regulatory roles
  - 2014 BLM to issue final fracking regulation (MLA)
Federal Lands

- Federal Land Policy and Management Act ("FLPMA")
- "Multiple use management"
- ‘‘Multiple use management’ is a deceptively simple term that describes the enormously complicated task of striking a balance among the many competing uses to which land may be put . . .” U.S. Supreme Court (2004)
- FLPMA: (1) inventory resources (2) planning
Federal Lands

Resource Management Plans ("RMP")

- RMPs – control future management actions
- RMPs must comply with:
  - Applicable pollution control laws (air, water, noise, wildlife)
  - Recognize state and local land use plans if not inconsistent
- RMPs establish areas for O&G: "open," "closed" and "open with stipulations"
  - Standard lease stipulation ("minimize adverse impacts to land, air, water, to cultural, biological, visual and other resources and to other land uses")
  - 1000 categories of added lease stipulations to protect wildlife and other resources
- All federal leases sold subject to RMP lease stipulations
- 2010 Leasing reform:
  - Lease Sale NEPA
  - Master Leasing Plans
Federal Lands

- U.S. Forest Service
  - Forest Service Organic Act/National Forest Management Act
  - “Multiple use management”
  - National Forest Plan required before leasing by BLM
  - Forest Service manages surface O&G impacts in Surface Use Plan of Operations ("SUPO")
    - No BLM drilling permit without approved U.S. Forest Service SUPO
Federal Lands

- **National Environmental Policy Act ("NEPA")**
  - “Hard look” at environmental/socioeconomic impacts of federal action or funding
  - Documented in: Environmental Impact Statement ("EIS"); Environmental Assessment ("EA"); or Categorical Exclusion ("CX")

- **Multi-stage NEPA compliance**
  - RMPs require EIS
  - O&G leasing requires EA
  - Drilling permit – site-specific EA
  - Plan of development – site-specific EA or EIS

- **Significant role for state and local government**
  - BLM EIS process allows for “cooperating agency” status.
Federal Lands
Two Key Requirements

Wildlife

- U.S. Fish and Wildlife Service ("FWS")
  - Endangered Species Act: Section 7 process
    - Sage-grouse RMP amendments
  - Migratory Bird Treaty Act
  - Bald and Golden Eagle Protection Act
- Interior Fish and Wildlife Policy
  - BLM/FWS to work cooperatively with State wildlife agencies
    - State manages wildlife
    - BLM federal lands, "management of the habitat is the responsibility of the Federal government"
  - BLM relies on State for wildlife data for lease stipulations
Historic/Cultural Resources

Advisory Council on Historic Preservation ("ACHP")
- National Historic Preservation Act ("NHPA")
  - Section 106 process: surveys, avoidance, mitigation
- Archeological Resources Protection Act ("ARPA")
- Native Graves Protection and Repatriation Act ("NGPRA")
- American Indian Religious Freedom Act ("AIRFA")
Federalism and Oil and Gas Regulation

- What is the role of local government?
  - Cooperating agency in federal land use planning/NEPA
  - EPCRA information
  - Work with state agencies
  - Local land use plan

- When do state, local plans and regulations go too far?
  - If it is “impossible to comply with both [local], state and federal laws . . . or where the [local] law stands as an obstacle to the . . . objectives of Congress.” U.S. Supreme Court (1984)
What is at Stake?
Fracking and the Role of Regulation

“If the social and environmental impacts are not addressed properly, there is a very real possibility that public opposition to drilling for shale gas . . . will halt the unconventional gas revolution in its tracks.”

IEA Special World Energy Outlook (May 2012)
What is at Stake?
Fracking and Economic Renewal

“The discovery and development of North American shale resources has the potential to be the most remarkable source of economic growth and prosperity that any of us are likely to encounter in our life times.”

John Surma, US Steel Testimony to Congress March 2012

“Natural gas will create 600,000 new jobs by the end of the decade.”

President Obama, 2012 State of the Union

Domestic job growth from fracking to grow over 30% by 2015 with $120 billion impact to economy
What is at Stake?
Fracking and U.S. Energy Security

First Half 2012
U.S. meets 83% of energy need

2017
U.S. will produce more oil than Saudi Arabia

2020
U.S. largest oil producer in the world

U.S. Energy Self-Sufficiency
“Dramatic reversal of trend seen in most energy-importing countries” IEA
What is at Stake?
Fracking’s Geopolitical Impact

Case Study: Russia’s natural gas weapon

- Crimea - “Moscow Raises Pressure on Kiev with Gas Threat,” Wall Street Journal (March 15, 2014)
- E.U. – “Putin is dealer, Germany is the Junkie,” The Local, German News (March 4, 2014)

Headlines:

- “Shale gas boom hands US potent geopolitical weapon” – Financial Times (March 7, 2014)
- “Natural Gas as a Diplomatic Tool” – The New York Times (March 7, 2014)
What is at Stake?
Fracking and Clean Energy/GHG

“... the 4% drop in carbon intensity of the electric power sector, the largest in recent times, reflects a large increase in the use of lower-carbon natural gas because of an almost 50% decline in its price.”

U.S. Energy Information Agency (2011)

“In the United States, GHG emissions have dropped off nearly 5 million tons in 5 years, more than any other country examined.”

International Energy Agency (2012)

2012 = lowest emissions of SO² and NOx in 20 years
2012 = lowest CO² emissions since 1994

Energy Information Agency (2013)
Obama 2014 State of the Union

- “Natural gas, if extracted safely, it’s the bridge fuel that can power our economy with less of the carbon pollution that causes climate change.”

- “My administration will keep working with the industry to sustain production and job growth while strengthening protection of our air, our water, and our communities.”
Conclusion

- Oil and gas exemptions from major environmental laws less than advertised
  - State law, particularly in Colorado, fills the gap
  - Environmental laws governing oil & gas are becoming more, not less stringent
- The President’s balancing act: “sustain production/jobs” and “strengthen” regulation
  - How “clean” do we go? What’s the health/environmental/economic trade-off?
Know the Issues

**GOVERNMENT**
* Colorado Oil and Gas Conservation Commission  
  www.cogcc.state.co.us/Announcements/Hot_Topics/Hydraulic_Fracturing/Hydra_Frac_topics.html  
* Environmental Protection Agency  
  www2.epa.gov/hydraulicfracturing  
* Interstate Oil & Gas Compact Commission  
  http://groundwork.iogcc.org/topics-index/hydraulic-fracturing

**UNIVERSITY**
* University of Colorado, Center of the American West - “FrackingSENSE: Air, Water, Gas” AND FrackingSENSE 2.0 (2013-2014 lectures/podcasts)  
  http://centerwest.org/events/airwatergas/

**INDUSTRY**
* Colorado Oil and Gas Association  
  www.coga.org/index.php/Hydraulic%20Fracturing_policy#sthash.AeU9FJ1w.dpbs  
* IPAA, Energy in Depth  
  www.energyindepth.org/tag/hydraulic-fracturing/

**NGO**
* Environmental Defense Fund  
  www.edf.org/climate/what-is-fracing  
* Resources for the Future – “Pathways to Dialogue: What the Experts Say about the Environmental Risks of Development  
  www.rff.org/centers/energy_economics_and_policy/Pages/Shale-Gas-Expert-Survey.aspx
Questions?

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