Case Studies – Indiana, Illinois, Kentucky

INDIANA	ILLINOIS	KENTUCKY
REGULATORY AUTHORITY – WHO REGULATES WHAT		
OIL AND GAS		
▪ Indiana Department of Natural Resources (DNR) Division of Oil and Gas regulates the drilling, completion, monitoring, plugging and abandonment of Class II wells; injection for enhanced oil recovery; and underground storage.[1] ▪ USEPA Region 5 administers Class 1 and V wells. There are no Class III Wells in Indiana.[2] Although the state does not have primacy, the UIC rules for the Indiana Department of Environmental management are authorized by IC 14-37-3 found at 312 IAC16-1-1 et seq.	▪ Pollution Control Board in conjunction with Illinois Environmental Protection Agency (IEPA): UIC I, IV, V ▪ Department of Natural Resources, Office of Mines and Minerals, Oil and Gas Division: oil and gas, UIC II ▪ The Oil and Gas Division runs the Underground Injection Control Program to monitor the construction and operation of Class II injection wells in IL. ▪ Illinois Commerce Commission: pipeline siting and safety	EPA Underground Injection Control Program regulates Class II wells which are injection and/or disposal wells associated with the production of oil and natural gas. Division of Oil and Gas is responsible for ▪ Regulating the bonding, permitting, drilling, casing, operating and plugging of all wells. ▪ Protecting the correlative rights of mineral owners. ▪ Conserving and protecting the crude oil and natural gas reserves of Kentucky. ▪ Insuring fresh water aquifers and mineable coal seams are protected from unreasonable damage due to production of crude oil and natural gas. Department for Natural Resources ▪ The Division of Abandoned Mine Lands manages the state's coal mines to protect the public from health and safety problems, and operates the water supply replacement program, which extends waterlines into areas where coal mining contaminated drinking water.[3] ▪ The Division of Oil and Gas Conservation manages exploration and extraction of all mineral resources, minimizes surface loss and damages, and encourages the maximum recovery of oil and gas from all deposits.[4]
WATER		
Indiana Department of Natural Resources (DNR) Division of Water manages and regulates state surface and groundwater resources.[5] State water quality is monitored by the Indiana Department of Environmental Management, Office of Water Quality.[6]	Illinois Environmental Protection Agency (EPA), Bureau of Water[7] ▪ protect Illinois rivers, streams, lakes, and groundwater Illinois Department of Natural Resources, Office of Water Resources[8]	EPA Underground Injection Control Program is responsible for preventing contamination of groundwater supplies from underground injection or other activities. Division of Water is responsible for ▪ Preserving the water resources of Kentucky

	▪ regulates construction in floodways of waterways ▪ the lead agency for water resources planning Illinois Pollution Control Board[9] ▪ creates regulations regarding water pollution ▪ hears and decides environmental cases	▪ Prevention, abatement and control of all water pollution. ▪ Regulating water pollution from oil and gas facilities. Department for Environmental Protection, Division of Water[10] ▪ manages and protects water resources.
ENVIRONMENTAL		
Indiana Department of Environmental Management [11] Indiana Office of Environmental Adjudication[12] ▪ reviews the decisions of the Dept. of Environmental Management	Illinois Environmental Protection Agency (EPA)[13] ▪ safeguard environmental quality of the land, air and water Illinois Pollution Control Board[14] ▪ creates all regulations regarding pollution ▪ hears and decides environmental cases	Since 1967, Kentucky Department for Environmental Protection, Division of Air Quality has operated an air-quality monitoring network. There are 143 monitoring sites in 31 different counties. The monitoring sites are located near populous areas or polluted sites with U.S. EPA guidance.[15] The Division of Air Quality achieves and maintains air quality through operation of an air monitoring network, creating effective partnerships with air pollution sources and the public, and maintenance of a reasonable and effective compliance assurance program.[16] Division of Environmental Services ▪ KYDES is responsible for monitoring the environmental status of underground storage tanks, groundwater, and rivers/lakes/streams, as well as taking enforcement actions and ensuring permit compliance.[17] Division of Waste Management ▪ implements waste management program to protect human health and the environment.[18]
POWER		
The Indiana Utility Regulatory Commission (IURC) regulates power plants in their roles as utilities as well as pipelines.[19] The Indiana Department of Environmental Management (IDEM) regulates power plant air & water emissions. The Indiana Department of Natural Resources (DNR) monitors power plants' water use and impact.	Illinois Commerce Commission[20] ▪ regulates electric, natural gas, and water utilities as well as pipeline safety	Kentucky Public Service Commission[21] ▪ oversees the provision of electric, water, and natural gas service to the public

EXPERIENCE WITH CO_2 INJECTION - EXISTING PROJECTS, INSTITUTIONAL CAPACITY/RESOURCES TO REGULATE

HISTORICAL PROJECTS

Not Available

Field Name	*Project Type*	*Time-frame*	*Cumulative Net CO_2 Injected (Mcf)*
Forsythe	Single well huff and puff?	1990	One truckload
Decatur	Single well huff and puff	1997	20 tons
Mattoon	Immiscible: continuous injection and huff and puff	1993	

Not Available.

BACKGROUND

- OOIP: 0.7 billion barrels
- Recovered: 0.2 billion barrels
- Remaining OIP: 0.5 billion barrels
- Amenable to CO_2 EOR: 190 million barrels[22]

- OOIP: 6.9 billion barrels
- Recovered: 2.7 billion barrels
- Remaining OIP: 4.2 billion barrels
- Amenable to CO_2 EOR: 2,630 million barrels[23]

- OOIP: 1.7 billion barrels
- Recovered: 0.4 billion barrels
- Remaining OIP: 1.3 billion barrels
- Amenable to CO_2 EOR: 170 million barrels[24]

SURFACE LIABILITY (DAMAGE TO AGRICULTURAL LANDS, RESIDENTIAL, PUBLIC SAFETY)		
SURFACE WATER RIGHTS		
Surface waters in Indiana must be put to beneficial uses to the fullest extent, and non-beneficial uses must be prevented.[25] Water is considered a natural resource, and the owner of the land on which non-public water falls, pools, or flows has the right to use the water.[26] The owner of land contiguous to public water is entitled to use the amount of water necessary for domestic purposes, which have priority over all other uses (i.e. a Riparian Rights structure).[27] Surface property owners may agree to integrate their land interests in order to develop drilling as a unit, or the commission may order such integration of interests for drilling as a unit if it would prevent waste or the drilling of unnecessary wells.[28] The Indiana Responsible Property Transfer Law discusses liability in the context of property transfers, including mention of environmental damage.[29]	The reasonable use doctrine applies to surface waters in Illinois.[30] The reasonable use doctrine requires that a riparian owner use water in such a way so as to do as little injury to other owners below while still providing a valuable benefit.[31]	The water in any stream, lake, ground water, subterranean water or other body of water is considered public water.[32] Only diffuse surface water is not considered public water.[33] A permit is required for any party wishing to extract from public waters, with the exception of riparian owners.[34] The owner of riparian land has the right to use public water to satisfy domestic purpose needs, and such right is superior to other rights.[35]
LIABILITY ASSOCIATED WITH OIL AND GAS		
A person who plugs, replugs, or repairs a well does not assume liability for (1) future remedial action on the well, and (2) conditions subsequently arising with respect to the well; nor does that person admit liability for (1) the condition, or (2) the damages resulting therefrom.[36] The permit for an oil and gas well may be revoked for polluting the water or land of Indiana or failure to address an issued notice of a violation, among other things.[37] The commission may order an owner to plug, replug, or repair any well that is found to be causing environmental harm or waste,[38] or the commission may itself plug, replug, or repair the well.[39] The revocation of a permit does not absolve the owner of its plugging and abandonment obligations, and the cost of plugging or repair will be paid for by either the owner of the well	If a well is found to be abandoned or leaking, the Department will issue an order requiring that such well be properly plugged or repaired, and, upon further failure of the owner to do so, can enter onto the property and plug the well.[42] If an owner is in violation of the law and is endangering public health, the owner can be ordered to cease operations. Funds for any emergency plugging or restoration are provided by the Annual Well Fee portion of the Plugging and Restoration fund, and owners must later reimburse this fund for the full costs of the plugging or repairs.[43] Penalties for violations can consist of civil penalties not to exceed $1000 a day for each day of the violation, permanent modifications to the permit, and/or revocation of the permit.[44] The Department may also bring a civil action through the Attorney General for the violations, with penalties or $1,000 per documented event within the last two	Operators must obtain permits for the discharge of water or other waste from oil and gas wells. There are specific requirements for the location of disposal for certain types of waste. Operators are also required to develop Spill Prevention Control and Countermeasure (SPCC) plans. The operator is liable for any pollution caused by such discharges from well operations. [47]

or taken out of the well bond.[40] In addition to revocation of the permit for and/or plugging of the well, the commission may asses a civil penalty not to exceed $10,000 for each day the violation occurs.[41]	years, requiring the submission of a bond or other security, and/or denial of new drilling / operating permits.[45] The owner of a well that was properly plugged is still responsible for replugging the well if the well subsequently begins to leak.[46]	

SUBSURFACE LIABILITY (GEOPHYSICAL TRESPASS, HYDROCARBON DAMAGE, GROUNDWATER CONTAMINATION)		
MINERAL RIGHTS		
Minerals are not owned by the surface estate. This was upheld in Ohio Oil Co. v. Indiana in which the U.S. Supreme Court agreed with the Indiana Supreme Court that an Indiana oil and gas regulation did not amount to taking of private property because the surface owners did not own the subsurface oil and gas under Indiana law.[48] Indiana has a compulsory unitization statue; limits liability to adjacent landowners for migrating minerals (applicable to CO_2 injection).	The owner of the surface rights is also entitled to all that is below the surface, including minerals.[49] The subsurface rights, however, can be severed from the surface rights and either granted separately.[50] Oil and gas, because of their fugitive nature, are considered inseparable from the land until they are captured, and are owned by the owner of the surface rights.[51] Oil and gas are incapable of being owned separately from the land as long as they remain underground.[52]	Oil and natural gas, both fugitive in nature, belong to the owners of the surface rights prior to any part taking possession. The owner of the surface has the right to use without limitation the natural flow from his well, as long as such use has a legitimate purpose and is not wasteful.[53] Kentucky mineral rights set the framework for and are analogous to Kentucky groundwater rights.[54]
GROUNDWATER RIGHTS		
Groundwater is a public natural resource, to be conserved and put only to the most beneficial use.[55] Waste of groundwater includes permitting or causing the pollution of a fresh water strata by causing salt water, highly mineralized water, or otherwise contaminated water to enter the strata.[56] An operator of a well using secondary recovery techniques is liable to adjoining landowners for pollution or contamination of the subsurface, particularly groundwater of any adjacent landowners, and the landowner is entitled to damages for the injury.[57]	The traditional practice of following the English rule of absolute ownership of groundwater is no longer followed in Illinois. Instead, the law was modified to follow the reasonable use doctrine as is followed for surface water rights.[58] Reasonable use is the use of water to meet natural wants and a fair share for artificial wants, and does not include water used in a wasteful or malicious manner.[59]	Kentucky follows the reasonable use rule for groundwater rights.[60] The right of a landowner to use of percolating waters is limited to a reasonable and beneficial use of the water under his land, and, if injurious to another landowner, the water cannot be wasted.[61] The Division of Water requires that parties performing certain activities with the potential to pollute groundwater must create and implement a Groundwater Protection Plan in order to establish site-specific practices that will prevent groundwater pollution.[62]

Existing EOR / EGR		
PROJECTS		
There is no existing EOR, however, Indiana has 2 large fields currently undergoing water injection (this is secondary recovery, tertiary recovery with traditional practices will not be possible). However, potential exists for state-of the-art storage in 15 immiscible reservoirs.[63]	Illinois oil fields have had only brief experiences with CO_2 injection. A small pilot was initiated in the Forsyth field, utilizing CO_2 from the Archer-Daniels-Midland Ethanol Processing Facility in Decatur, IL. Few results from this project have been published. In the early 1990s, a single-well huff-and-puff CO_2 pilot project began in the Mattoon field. Drilled to a depth of 1,800' in the Cypress Reservoir, this project also utilized CO_2 trucked from ADM's ethanol plant in Decatur, IL. After several months of operation, the pilot was shutdown due to high CO_2 costs compared to oil recovery. Currently, there is considerable work underway at locating and characterizing reservoirs suitable for CO_2-EOR..[64]	Kentucky has the same projection as does Indiana.

EXISTING WELL ABANDONMENT REGULATIONS

REGULATIONS

The current Oil and Gas Act contains provisions addressing inactive wells and temporary abandonment status. Plugging and abandonment is required when the well (1) is completed as a nonproductive well; (2) ceases to produce oil or natural gas; or (3) is no longer operated for the purpose for which the well is permitted; unless authorized to delay.[65] Indiana has an Oil and Gas Environmental Fund for the purposes of supplementing the cost of well abandonment (for wells for which the permit was revoked), covering the costs of remedial plugging and/or repairing of wells after abandonment, and to cover the costs of environmental damage mitigation or public health and safety protection. Annual fees from oil and gas wells and civil penalties collected are deposited into the fund, and the fund is maintained at a balance between $500,000 – 1,500,000.[66] The Orphaned and Abandoned Well Program is responsible for the plugging of improperly abandoned oil and gas wells. As of July, 2006, there were 1,323 wells in the program.

The permittee of a well is responsible for the plugging of a well upon abandonment.[67] Any production well that is idle and has not been in operation for 24 consecutive months is considered abandoned and must be plugged.[68] The Plugging and Restoration Fund Program authorized the Division of Oil & Gas to plug abandoned and leaking wells. A well that is determined to be an emergency or is found to be either an orphan or abandoned is eligible for the program. There are over 4,500 wells in Illinois covered by the PRF Program. The Division has funds to plug approximately 500 wells annually.[69]

A well permit requires the permittee to establish a well abandonment plan. There is also a default permit application abandonment plan provided, which the permittee can follow. The owner / operator of the well is required to plug the well once no longer in use, and, after EPA approval of the plugging, the bond required during permitting will be released back to the owner. The owner must cover the costs of plugging and abandonment, which the state estimates to be approximately $9700.

EXISTENCE OF INSURANCE/INDEMNITY BONDS/FEES FOR PLUGGING AND ABANDONMENT

A one time fee of $250 is required as a part of the permit application. For expedited review, there is a $750 permit fee. An annual of fee is assessed based on the number of permits:

- one permit - $150
- two to five permits - $300
- six to twenty-five permits - $750
- twenty-six to 100 permits - $1000
- for each additional permit over 100 - $15

Bonds are required for parties that have never been granted an oil and gas well permit, a party that has a demonstrated history of violating well permits within past 2 years, a party that failed to pay civil penalties or a party that failed to pay the annual fee for its well.[1]

A bond amounting to at least $2,500 for each well, or a blanket bond of $45,000 for any number of wells is required. Instead of a bond, the owner can submit cash

A bond is required as part of the permitting process for a well. A bond can be in the form of a surety bond or other security such as an irrevocable letter of credit or a certificate of deposit.[70]

The bond shall be:

- $1,500 for a well less than 2000 feet deep;
- $3,000 for a well 2,000 or more feet deep;
- $25,000 for up to 25 wells of a permittee;
- $50,000 for up to 50 wells of a permittee; or
- $100,000 for all wells of a permittee.[71]

The bond will be released if the well is not completed but is plugged or the well is completed and the permittee pays the required assessments for 2 consecutive years; any failure to appropriately plug the well is grounds for forfeiture.[72] A permit fee of $100 is also required.[73]

In order to obtain a permit, an operator must have enough money set aside to plug an injection well. The cost of plugging can be determined by acquiring bids (minimum of three) or by using the cost estimate above. The requirement for plugging costs can be accomplished using an Irrevocable Letter of Credit, a fully funded trust, a Surety Performance Bond, or a Financial Statement and Chief Financial Officer's Letter.

Blanket Bond Tiered Bonding Structure:

- 1 – 25 wells require a $10,000 bond
- 25 -100 wells require a $25,000 bond
- 101-500 wells require a $50,000 bond
- 501 wells or more require a $100,000 bond.

Estimated Cost to Depth Guidelines

	Cement Top Behind Casing**	
Well Depth*	At Surface	Below Surface

or a certificate of deposit. For noncommercial natural gas wells, the commission may require proof of financial ability to abandon the well. The bond is effective until the owner or operator appropriately plugs or abandons each well covered under the bond (including blanket bonds), or a substitute bond is accepted for each well.		< 500'	$2300	$3000
		501'-1000'	$3000	$3900
		1001'-1500'	$3700	$5000
		1500'-2000'	$4800	$6500*
		>2000'	$5800	$7400**
		*Refers to Plug Back Depth		
		**Production Casing String		

ACCOUNTING LINKAGES (EXISTING CO_2 REGULATIONS THAT MAY ADDRESS LIABILITY DIRECTLY OR INDIRECTLY)		
Indiana conducts a GHG inventory but not a registry, however; Mayors representing 5 cities in Indiana (Bloomington, Columbus, Fort Wayne, Gary, and Michigan City) signed the U.S. Mayors Climate Change Protection Agreement, which commits them to meet or beat the Kyoto target of 7 percent reduction from 1990 levels by 2012.	The City of Chicago is a member of the Chicago Climate Exchange, and Gov. Blagojevich has expressed his intent for the entire state of Illinois to join. Illinois also established the Illinois Climate Change Advisory Group to make recommendations on climate change policy, but no CO_2 regulations are currently in place. Potential Future Project: FutureGen US DOE coal gasification and carbon sequestration project. Mattoon, IL and Tuscola, IL two of the four remaining potential locations.[74]	None

EXISTING MONITORING REGULATIONS		
The drilling, casing, operating, plugging and abandoning of wells is regulated by the commission to prevent (1) Waste, (2) Fresh water pollution, (3) Blowouts, (4) Cavings, (5) Seepages, (6) Fires, and (7) Unreasonably detrimental effects upon fish, wildlife, and botanical resources.[75] In determining the potential threat to public health and safety and/or the environment, and thus whether to plug a well, the commission takes into consideration whether the well is currently (or suspected to be) leaking oil, salt water, or natural gas into the environment; it's proximity to residential or commercial buildings or water supply wells; any immediate threats the well poses to the health or safety of the public, or to that of wildlife or livestock; the fluid levels in the well; whether the well is in an area subject to frequent flooding or close to streams or other environmentally sensitive areas; or whether the well currently poses a significant impediment to existing or proposed commercial or residential development, or to mineral extraction, agricultural, or industrial operations.[76] A State level, existing site characterization checklist for underground storage tanks, provides specific guidance for geologic characterization and number of monitoring wells.[77]	The permittee of each Class II UIC well shall file an Annual Well Status Report that includes the average and maximum monthly injection rates and pressures. The operator of an enhanced oil recovery project shall complete an annual project report.[78] A mechanical integrity test (a pressure test) is required prior to injection in a newly permitted well or re-injection into a temporarily abandoned well. A mechanical integrity test is also required at least every 5 years from the last successful test.[79]	EPA requires operators of Class II injection wells to submit an Annual Disposal/Injection Well Monitoring Report including the amount of fluid injected and the pressure at which the fluid is injected on a regular basis. For enhanced recovery wells, the average and maximum injection pressure, the total volume of fluid in barrels or MCF (thousand cubic feet), and the minimum and maximum casing pressure, should be measured and recorded on a monthly basis. For disposal wells, these measurements need to be taken and recorded on a weekly basis. Mechanical Integrity Tests (MITs) are also required before any new well or newly converted well is placed into service, after any workover that resets the packer, for any well where the packer becomes unseated, every 5 years for active standard injection wells (injection through tubing and packer), every 2 years for non-standard wells (old rule authorized wells that inject through production casing), every 2 years for idle or temporary abandoned wells, and every 2 years for abandoned wells with tubing and packer removed. Also, a well must pass an MIT prior to a conversion from injection to production.

NATURAL GAS STORAGE		
Indiana has 22 underground natural gas storage sites with a working gas capacity of 30 billion cubic feet.[80] 12 of those underground storage sites are in aquifers.[81]	In northern Illinois, the Cambrian Mt. Simon Sandstone is used for natural gas storage by utilities. There are a few specific sites utilized for natural gas storage: 1) Mt. Simon in the Manlove Gas Storage Field, Champaign County, Illinois, and 2) the Herscher Gas Storage Field in Kankakee County, Illinois.	KY has 23 underground natural gas storage sites with a total working gas capacity of 87 Bcf.[82]

[1] http://www.in.gov/dnr/dnroil/.
[2] 40 C.F.R. 144.6.
[3] http://www.aml.ky.gov/.
[4] http://www.dogc.ky.gov/.
[5] http://www.in.gov/dnr/water/about/index.html.
[6] http://www.in.gov/idem/programs/water/index.html.
[7] http://www.epa.state.il.us/water/.
[8] http://www.dnr.state.il.us/owr/aboutus.htm.
[9] 415 ILL. COMP. STAT. 5/1 *et seq.*
[10] *Id.*
[11] http://www.in.gov/idem.
[12] http://www.in.gov/oea.
[13] http://www.epa.state.il.us.
[14] 415 ILL. COMP. STAT. 5/1 *et seq.*
[15] http://www.air.ky.gov/.
[16] *Id.*
[17] http://www.dep.ky.gov/lab/.
[18] http://www.waste.ky.gov/.
[19] http://www.in.gov/oucc/publications/MerchantPlantFS.html.
[20] http://www.icc.illinois.gov/home.aspx
[21] http://psc.ppr.ky.gov.
[22] U.S. Dept. of Energy, Off. of Fossil Energy – Off. of Oil and Natural Gas, Basin Oriented Strategies for CO_2 Enhanced Oil Recovery: Illinois and Michigan Basins (DOE, February 2006).
[23] *Id.*
[24] *Id.*
[25] IN. CODE ANN. §14-25-1-1 (2006).
[26] *Id.* at § 14-25-1-2.
[27] *Id.* at § 14-25-1-3. *See also*, City of Elkhart v. Christiana Hydraulics, 59 N.E.2d 353 (Ind. 1945) (holding that an upper riparian owner cannot use water in such a way that will make it unavailable for a lower riparian owner).
[28] IN. CODE ANN. § 14-37-9-1 (2006).
[29] *Id.* at § 13-25-3, available at http://www.ai.org/legislative/ic/code/title13/ar25/ch3.html
[30] Evans v. Merriweather, 4 Ill. 492 (1842).
[31] Bridgman v. Sanitary Dist. of Decatur 164 Ill.App.3d 287, 292, (4 Dist.1987).
[32] KY. REV. STAT. § 151.120 (West 2006).

[33] *Id.*
[34] *Id.* at § 151.140.
[35] *Id.* at § 151.210.
[36] IN. CODE ANN. § 14-37-8-14 (2006).
[37] *Id.* at § 14-37-13-1.
[38] *Id.* at § 14-37-8-12 9.
[39] *Id.* at § 14-37-13-2.
[40] *Id.*
[41] *Id.*
[42] 225 ILL. COMP. STAT. 725/19.1 (2006).
[43] 62 ILL. ADMIN. CODE §240.1630.
[44] 225 ILL. COMP. STAT. at 725/8.
[45] 62 ILL. ADMIN. CODE §240.155.
[46] 62 ILL. ADMIN. CODE §240.875.
[47] *See generally*, 401 KY. ADMIN. REGS. 5:090 (2006).
[48] 177 U.S. 190 (1900).
[49] Save Our Little Vermillion Environment, Inc. v. Illinois Cement Co., 725 N.E.2d 386 (3d Dist. 2000).
[50] Failoni v. Chicago & North Western Ry. Co., 30 Ill.2d 258, 195 N.E.2d 619 (1964).
[51] Pawnee Oil & Gas, Inc. v. County of Wayne, 751 N.E.2d 1268 (5th Dist. 2001).
[52] Murbarger v. Franklin, 18 Ill. 2d 344, 163 N.E.2d 818 (1960).
[53] United Carbon Company v. Campbellsville Gas Company, 230 Ky. 275, 18 S.W.2d 1110.
[54] *Id.*
[55] IN. CODE ANN. § 14-25-3-3 (2006).
[56] *Id.* at § 14-25-3-2.
[57] Mowrer v. Ashland Oil & Refining Co, 518 F.2d 659 (Ind. 1975).
[58] 525 ILL. COMP. STAT. 45/1*et seq.*
[59] 525 ILL. COMP. STAT. 45/4.
[60] Sycamore Coal Co. v. Stanley, 292 Ky. 168, 166 S.W.2d 293 (1942).
[61] *Id.*
[62] 401 KY. ADMIN. REGS. at 5:037.
[63] http://www.fossil.energy.gov/programs/oilgas/publications/eor_co2/Illinois_%26_Michigan_Basin_Document.pdf.
[64] U.S. Dept. of Energy, Off. of Fossil Energy – Off. of Oil and Natural Gas, Basin Oriented Strategies for CO_2 Enhanced Oil Recovery: Illinois and Michigan Basins (DOE, February 2006).
[65] IN. CODE ANN. § 14-37-8-1(a) (West 2006).
[66] IN. CODE ANN. § 14-37-10.
[67] 62 ILL. ADMIN. CODE 240.1115.
[68] 62 ILL. ADMIN. CODE 240.1130.
[69] http://www.dnr.state.il.us/mines/dog/program_prf.htm.
[70] 62 ILL. ADMIN. CODE § 240.1510.
[71] *Id.* at § 240.1500
[72] *Id.*
[73] *Id.* at § 240.210
[74] *See* http://www.fossil.energy.gov/programs/powersystems/futuregen/

[75] IN CODE ANN. § 14-37-3-5.
[76] *Id.*
[77] http://www.in.gov/idem/programs/land/lust/lustinitialsitecharact.html .
[78] 62 ILL. ADMIN. CODE 240.780.
[79] 62 ILL. ADMIN. CODE 240.760.
[80] Energy Information Administration, Office of Oil and Gas, U.S. Underground Natural Gas Storage Developments:1988-2005 3 Tbl.1 (October 2006), *available at* http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngstorage/ngstorage.pdf.
[81] *Id.*
[82] *Id.*