

Chapter 6

Legal Issues in Underground Gas Storage

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§6.01. Background and History of Underground Storage.

[1] — Introduction.

Underground storage is the process which effectively balances a variable demand market with a nearly constant supply of energy provided by a pipeline system. Natural gas production in the United States does not vary much on a day to day or season by season basis. Demand for natural gas, however, varies by season. During the warm spring and summer months, supply exceeds demand. During the winter heating months, demand often exceeds supply. If unlimited gas reserves were available near the areas of largest consumption, fulfilling customers' needs would not be a problem. Instead, some of the most populous areas of the United States—the Northeast, the lower Great Lakes area, and the West Coast—consume more gas than they can produce. The natural gas must, therefore, be transported through pipelines from the largest gas producing areas of the United States, such as the Permian Basin and the Gulf Coast, to the areas of the country that have the greatest need.

The cost of building pipelines to all areas that experience seasonal spikes in gas demand would be prohibitive. Even beyond the cost, it would be impractical to build pipelines that would barely be used during certain times of the year, only to receive full capacity during the peak demand winter months. To resolve the demand versus supply issue, gas must be stored in areas where it will be needed.

Storage reservoirs have been developed to permit pipelines to operate near their design capacity regardless of seasonal fluctuations in demand. During the summer months, the transported natural gas exceeding demand is injected into the reservoirs. In winter, gas is withdrawn from the storage fields to supplement the throughput from pipelines.

The gas supply and transportation market has changed over the years and so has the use of storage fields. Traditionally, local distribution centers entered into firm, long-term gas supply or transportation contracts. Now, most of them rely on a combination of long-term and short-term contracts

to purchase, transport and store natural gas.¹ In addition to the typical use of underground storage fields for the injection of gas during the summer months to be withdrawn to meet winter heating demands, storage fields are now also being used to meet daily, or even hourly, demand for gas-fired electrical generation plants. Storage is also now used for price risk management. When the price of gas falls, gas is injected into storage and then withdrawn when prices rise.

[2] — Storage Capacity.

Natural gas was first successfully stored in 1915 in Welland County, Ontario. In 1916, the first successful gas storage project in the United States was completed in the Zoar field near Buffalo, New York.² From this first storage facility completed ninety years ago, the total maximum natural gas storage capacity in the United States is now estimated to be more than 8 trillion standard cubic feet.³ This estimated capacity includes both cushion gas and working gas.⁴ During 2005, the largest working gas capacity held in storage in the United States during any month was approximately 3,200 billion cubic feet.⁵

¹ The Federal Energy Regulatory Commission found “a short-term gas market that is robust, functioning, efficient and effective” in its *Regulation of Short-Term Natural Gas Transportation Services and Regulation of Interstate Natural Gas Transportation Services*, Order No. 637, 65 Fed. Reg. 10156-1, (Feb. 25, 2000), *order on reh’g*, Order No. 637-A, 65 Fed. Reg. 35706, (Jun. 5, 2000) *reh’g denied*, Order No. 637-B, 92 FERC ¶ 61,062 (2000), *aff’d in part and denied in part*, Interstate Natural Gas Ass’n of Am. v. FERC, 285 F.3d 18 (D.C. Cir. 2002)[hereinafter cited as *Regulation of Short-Term Natural Gas Transportation Services*].

² FERC Staff Report, *Current State of and Issues Concerning Underground Natural Gas Storage*, Docket No. AD04-11-000 at 4 (Sept. 30, 2004)[hereinafter cited as FERC Staff Report].

³ Energy Information Administration, *Natural Gas Monthly*, Feb. 2006, at 19, available at http://www.eia.doe.gov/pub/oil_gas/natural_gas/data_publications/natural_gas_monthly/historical/2006/2006_02/ngm_2006_02.html [hereinafter cited as *Natural Gas Monthly*](*last visited December 9, 2006*).

⁴ “Cushion” or “base” gas is gas that is injected into storage to act as a “cushion” and to provide sufficient pressure in the reservoir so that the working gas can be withdrawn. “Working” gas is the gas that is injected into storage for subsequent withdrawal.

⁵ See *Natural Gas Monthly*, *supra* note 3 at 19.

As of 2004 (the latest data available), there were 393 underground gas storage facilities in the United States.⁶ The largest number of the facilities in the United States are concentrated in the upper Ohio Valley, Michigan, Illinois, and the Gulf Coast. The distribution is based on convenient geology, historic natural gas usage patterns, and the locations of depleted reservoirs. Location is important in determining whether a depleted reservoir should be used for underground storage because the site must be accessible to transportation pipeline infrastructure, gas production sources, and the markets needing the supply of gas.

[3] — Types of Underground Storage Capacity.

Inventory in a storage reservoir is made up of two parts: base or cushion gas, and working gas. The base gas remains in the storage horizon to provide the pressure necessary to withdraw the working gas. The working gas is the natural gas that is withdrawn and sold to markets. Storage fields come in three basic types: salt caverns, depleted gas or oil reservoirs, and aquifers.⁷

[a] — Salt Caverns.

Salt caverns are storage facilities that have been leached or mined out of underground salt deposits. A salt cavern's capacity is typically 20 to 30 percent cushion gas, with the remaining capacity being working gas. The working gas in a salt cavern can generally be recycled 10 to 12 times a year. Salt caverns are characterized by high deliverability and injection capabilities and are mainly used for short peak-day deliverability purposes.

[b] — Depleted Oil or Gas Reservoirs.

Depleted natural oil or gas reservoirs are the most common underground gas storage facilities. A natural oil or gas reservoir is used as a storage field

⁶ Energy Information Administration, *Underground Natural Gas Storage Capacity*, http://tonto.eia.doe.gov/dnav/ng/ng_stor_cap_dcu_nus_a.htm (last visited December 9, 2006).

⁷ The descriptions of the types of underground storage fields presented in this chapter are from the website of the Natural Gas Supply Association, *Storage of Natural Gas*, <http://www.naturalgas.org/naturalgas/storage.asp> (last visited December 9, 2006); and the FERC Staff Report at 4 – 5.

once the reservoir's native hydrocarbons have been depleted to the point that further drilling is no longer economically feasible. The reservoir is a permeable underground rock formation that is confined by rock or water barriers and is identified by a single natural formation pressure. The gas capacity of a depleted reservoir has already been determined by virtue of its prior containment of native gas. Using an already developed reservoir for storage purposes has the added advantage of allowing the use of the extraction and distribution equipment remaining from when the field was productive. A depleted gas reservoir typically has a working gas capacity of 50 percent. Depleted gas reservoirs are typically used to inject gas during the summer months for withdrawal in the winter-heating months. On average, depleted reservoirs are the cheapest and easiest type of underground storage to develop, operate, and maintain.

[c] — Aquifers.

The third type of reservoir is an aquifer reservoir. Aquifer reservoirs are bound partly or completely by water-bearing rocks called "aquifers." Cushion gas requirements are typically high for aquifer facilities. The cushion gas requirements for an aquifer reservoir range between 50 to 80 percent. Aquifer facilities are typically used for seasonal storage. The injection period usually occurs during the months of April through October, while the gas is withdrawn during the months of November through March.

Certain legal issues have arisen with respect to natural gas underground storage. Two of the primary issues deal with ownership of the injected gas and the rights in the storage area. The first issue is who owns imported gas once it is injected into a storage facility. The second issue is who, as between a surface owner and a mineral owner, has the right to grant to a gas storage company the right to use a reservoir for the storage of natural gas.

§6.02. Ownership of Imported Gas.**[1] — *Hammonds v. Central Kentucky Natural Gas Co. and the Ferae Naturae Doctrine.***

One of the earliest cases to review the question of determining ownership of imported gas is *Hammonds v. Central Kentucky Natural Gas Co.*⁸ The Central Kentucky Natural Gas Company (“Central Kentucky”) had exhausted the gas from a field of about 15,000 acres, most of which Central Kentucky had under lease. After exhaustion of the native gas, Central Kentucky imported gas from other fields into the vacated underground reservoir. Ms. Hammonds owned 54 acres in the area being used as an underground storage facility, but Central Kentucky had not leased Ms. Hammonds’ acreage. Ms. Hammonds sued Central Kentucky for trespass.

The court analogized natural gas to that of animals *ferae naturae*. Under the *ferae naturae* doctrine, wild animals are public property. Exclusive property in a wild animal becomes vested in any person that captures it, but if the animal is returned to nature, dominion over the animal is ended and the animal once again becomes public property. The *Hammonds* court held that Central Kentucky had lost its exclusive rights to the imported gas because by injecting the gas into a reservoir, the gas had again become “mineral *ferae naturae*.”⁹ As a result, Central Kentucky was not liable to Ms. Hammonds for the use of her property.

The *Hammonds* holding had far reaching consequences. By holding that the imported gas had been returned to its original, free state, the gas once again was subject to the rule of capture;¹⁰ therefore, Ms. Hammonds had the right to produce the imported gas.

⁸ *Hammonds v. Central Kentucky Natural Gas Co.*, 75 S.W.2d 204 (Ky. 1934).

⁹ *Hammonds*, 75 S.W.2d at 206.

¹⁰ The rule of capture appears to be applicable in all states. The rule of capture has been described as follows: “The owner of a tract of land acquires title to the oil and gas which he produces from wells drilled thereon, though it may be proved that part of such oil or gas migrated from adjoining lands.” Robert E. Hardwicke, “The Rule of Capture and Its Implications as Applied to Oil and Gas,” 13 *Tex. L. Rev.* 391, 393 (1935).

[2] — Rejection of the *Ferae Naturae* Doctrine.**[a] — *White v. New York State Natural Gas Corporation.***

The *Hammonds* decision has been maligned by other courts over the years. The first case to reject the doctrine cited in *Hammonds* was *White v. New York State Natural Gas Corp.*¹¹ The New York State Natural Gas Corporation (New York Gas) and the Tennessee Gas Transmission Company (Tennessee Gas) had curtailed production from certain wells because the native gas had been exhausted. The wells were producing storage gas that had migrated from an adjoining underground storage pool. Harry White owned a partial interest in the gas being produced from the wells and sued to restrain the restriction of production. White argued that based on an application of the *ferae naturae* doctrine, a storage company loses title to stored gas by virtue of its injection into an underground reservoir.

The court in *White* noted that the gas had not been returned to its natural habitat because the storage gas differed materially in chemical and physical properties from the native gas underlying the storage field. The court held that the *ferae naturae* doctrine did not apply because the storage gas had not escaped from its owners and stated “[d]eferring to the analogy of animals *ferae naturae* under the circumstances of this case would no more divest a storage company of title to stored gas than a zookeeper in Pittsburgh of title to an escaped elephant.”¹² The court found that the gas was in the possession of the storage companies in a well defined storage field and was subject to the control of the storage companies through the same wells by which the gas originally had been injected into the storage pool.

[b] — Rejection of *Ferae Naturae* Doctrine Based on Properties of Oil and Gas.

In the early 1900s when *Hammonds* was decided, scientific knowledge of oil and gas characteristics was limited. Over the years, significant advances have been made in the understanding of the properties of oil and gas, in

¹¹ *White v. New York State Natural Gas Corp.*, 190 F. Supp. 342 (W.D. Pa. 1960).

¹² *Id.* at 348 (citing 2 *Am. Jur. Animals* § 13 (1995)).

particular that they do not wander on their own volition. This better understanding has led courts to reject the *Hammonds* doctrine. The first Texas case to deal with the ownership of natural gas stored in a reservoir rejected the *ferae naturae* doctrine because of the properties of oil and gas.

[i] — *Lone Star Natural Gas Co. v. Murchison.*

In *Lone Star Natural Gas Co. v. Murchison*,¹³ the Texas appellate court rejected the holding of *Hammonds*. In its opinion, the court stated that gas has no similarity to wild animals because “instead of running wild and roaming at large as animals do, [gas] is subject to be moved solely by pressure or mechanical means.”¹⁴ The court then held that an owner of natural gas does not lose title by injecting it into a well-defined underground reservoir.

[ii] — *Humble Oil & Refining Company v. West.*

In a subsequent Texas case determining the ownership of injected gas, the Texas Supreme Court held that once produced, gas is personal property and an injector does not lose its ownership rights therein upon injection into an underground storage field.¹⁵ In this subsequent case, the Wests had conveyed fee simple title to Humble Oil and Refining Company (“Humble”) in the West Clear Lake (Frio) gas field in Harris County, Texas. The conveyances provided that the Wests retained a royalty on oil, gas and other minerals produced from the conveyed lands. Thirty years after the conveyances, Humble decided that the reservoir was approaching depletion and that the injection of extraneous gas was necessary to preserve the reservoir. The Wests sued and sought an injunction against Humble using the reservoir for gas storage until all native gas had been produced, or, in the alternative, a judgment that if Humble used the reservoir for gas storage, the Wests would be entitled to their royalty in all gas produced regardless of whether the gas was native gas or stored gas. The Texas Supreme Court stated that given the unique

¹³ *Lone Star Natural Gas Co. v. Murchison*, 353 S.W.2d 870 (Tex. Civ. App. 1962).

¹⁴ *Murchison*, 353 S.W.2d at 879.

¹⁵ *Humble Oil & Ref. Co. v. West*, 508 S.W.2d 812 (Tex. 1974).

geologic and geographic characteristics of the reservoir, production of native gas to depletion would result in a total destruction of the storage capability of the reservoir. The court further found that the use of the reservoir as a gas storage reservoir was favorable for the public; and, therefore, denied the Wests' request for an injunction.

In deciding the issue of whether Humble was contractually obligated to pay royalties on the production of all gas from the reservoir, the court determined that Humble's ownership of the injected gas as personal property was not altered "either upon injection of the gas into the reservoir or upon later production of the gas."¹⁶ The court further held that the conveyances reserved a royalty interest only in the native gas in the reservoir. The Wests were, therefore, not entitled to a royalty interest in any of the gas that Humble injected into the reservoir.¹⁷

**[iii] — *Texas American Energy Corp.*
*v. Citizens Fidelity Bank & Trust Co.***

Citing advanced knowledge and scientific achievement in the oil and gas industry since the *Hammonds* decision, the Kentucky Supreme Court specifically overruled *Hammonds* in *Texas American Energy Corp. v. Citizens Fidelity Bank & Trust Co.*¹⁸ Texas American Energy Corporation ("Texas American") had obtained a loan from a syndicate of lenders that was secured by Texas American's surplus gas stored in underground storage fields. The issue posed in *Texas American Energy Corp.* was whether the imported gas would be classified as personal property, susceptible of encumbrance by a security agreement or whether the stored gas, once again became an interest in real estate upon injection, the encumbrance of which could be accomplished only by a real estate mortgage. The Kentucky Supreme Court adopted the opinion of the court of appeals, and held that it was time to

¹⁶ *Id.* at 817.

¹⁷ *Id.* at 819 (Humble did have the burden of establishing with reasonable certainty the volume of gas reserves upon which the West's would have been entitled, absent injection of extraneous gas).

¹⁸ *Texas American Energy Corp. v. Citizens Fidelity Bank & Trust Co.*, 736 S.W.2d 25 (Ky. 1987).

limit the *Hammonds* decision by holding that natural gas, once converted to personal property by extraction, remains personal property notwithstanding its subsequent storage in underground reservoirs.¹⁹ The court distinguished *Hammonds* on the basis that the lands owned by Ms. Hammonds had been part of the natural reservoir but had not been controlled by the storage companies; whereas, in *Texas American Energy Corp.*, the gas reservoir had total integrity, and the gas could not escape nor be extracted by anyone other than the storage company. The court then held that the imported gas constituted “goods” under the Uniform Commercial Code of Kentucky and the proper manner of encumbering an inventory of natural gas held in storage was governed by the Uniform Commercial Code.

The *Texas American Energy Corp.* decision does not directly address the issue of whether or not a storage company loses title to injected gas that migrates from the storage reservoir. The court’s holding does, however, imply that a Kentucky court would find that injected gas that migrates from areas controlled by a storage company is subject to the rule of capture. The *Texas American Energy Corp.* decision is expressly based on the fact that the gas reservoir had total integrity and that, unlike *Hammonds*, the storage gas was not migrating to areas not under control of the storage company. Other jurisdictions have addressed the issue of title to stored gas that has migrated to areas outside of the recognized storage pool.

[3] — Ownership of Migrated Gas.

[a] — *Anderson v. Beech Aircraft Corporation.*

The Kansas Supreme Court addressed the issue in *Anderson v. Beech Aircraft Corp.*²⁰ Beech Aircraft Corporation (Beech Aircraft) was storing gas in an underground storage field for several years for its own use. Most of the storage facility was under Beech Aircraft’s control, but part of the injected gas was held under an adjoining landowner’s land. Beech Aircraft did not obtain the adjoining landowner’s consent to the use of his subterranean space for storage. The adjoining landowner then began producing

¹⁹ *Id.* at 28.

²⁰ *Anderson v. Beech Aircraft Corp.*, 699 P.2d 1023 (Kan. 1985).

the stored gas. Beech Aircraft sued alleging conversion by the producing landowner. The Kansas Supreme Court held that Beech Aircraft had lost title to the gas stored in the underground storage reservoir. Even though the Kansas Supreme Court discussed the *Hammonds* case in its decision, it did not state that it was following the doctrine set forth in *Hammonds*. The *Anderson* case can be distinguished from *Hammonds* because the *Anderson* decision is primarily based on the court's interpretation of a statute governing underground gas storage in Kansas.

The *Anderson* court pointed to the fact that Beech Aircraft had not obtained the landowner's consent or authorization to use his subsurface space for storage. The court further pointed to the fact that Beech Aircraft could not condemn the landowner's subsurface space because the Kansas statute authorizing condemnation for underground storage applies only to natural gas public utilities.²¹ Because Beech Aircraft was not a natural gas public utility²² but had attempted to create an underground storage reservoir without acquiring the right to do so, the *Anderson* court held that the law of capture applied to the imported gas. Thus, Beech Aircraft lost its ownership of the stored gas after injecting it into the reservoir, and the adjoining landowner was entitled to produce the gas.

[b] — *Union Gas System, Inc. v. Carnahan.*

In *Union Gas System, Inc. v. Carnahan*,²³ a public utility found itself subject to the *Anderson* holding because it failed to condemn property before a producer began producing the utility's stored gas. A subsurface geological reservoir known as the Squirrel formation was under land in Montgomery

²¹ *Id.* at 1030-31 [hereinafter cited as *Anderson*] (“Kan. Stat. Ann. § 55-1203 provides that any *natural gas public utility* may appropriate for its use for the underground storage of natural gas any subsurface stratum or formation in any land *which the commission shall have found to be suitable and in the public interest for the underground storage of natural gas*”).

²² Kan. Stat. Ann. § 55-1201(d)(2005) defines a “natural gas public utility” as any “person, firm, or corporation authorized to do business in [Kansas] and engaged in the business of transporting or distributing natural gas by means of pipelines into, within, or through [Kansas] for ultimate public use.” *Id.*

²³ *Union Gas System, Inc. v. Carnahan*, 774 P.2d 962 (1989).

County, Kansas. Union Gas System, Inc. (“Union”) acquired abandoned wells in the 1940s and obtained storage leases from area landowners and changed the Squirrel formation to a gas storage reservoir. Union did not know the boundaries of the Squirrel formation because of insufficient tests and control data. The DeTar farm was thought to be just north of the boundary of the reservoir.

For 13 years, Union attempted to obtain a storage lease on the DeTar land. The DeTars knew Union was concerned that some of the injected gas would migrate to the DeTar land and repressurize old wells on their land. The DeTars leased their land to a producer who drilled two wells on their land. It was clear that DeTars and the producer intended to tap the Squirrel formation in which Union’s gas was stored. The new wells produced significant quantities of gas. Chemical tests conducted on the produced gas indicated it was largely Union’s gas, mixed with some native gas.

Union sued, but the trial court refused a temporary injunction and held that Union had an adequate remedy at law through condemnation. Union then sought condemnation. The court held that Union could not recover for any of the produced gas because Union had not started condemnation proceedings prior to production, thus placing itself within the *Anderson* holding.²⁴ Once Union obtained a certificate of authority for condemnation, however, the title to Union’s captured gas remained in Union. Thus, Union did not forfeit any natural gas after the date it received its certificate of authority even though the condemnation was not completed until three months later.

**[c] — *Reese Exploration, Inc. v. Williams
Natural Gas Co.***

A Kansas case in which the injector did not lose title to its injected gas dealt with the vertical migration of gas between formations. In the case,²⁵

²⁴ *Id.* at 967 (citing *Anderson* for the proposition that “it is clear that under the legislative scheme, before an underground gas storage area may be established, a certificate must be obtained from the Kansas Corporation Commission containing the findings set forth in Kan. Stat. Ann. § 55-1204, after a public hearing with reasonable notice to interested parties”).

²⁵ *Reese Exploration, Inc. v. Williams Natural Gas Co.*, 983 F.2d 1514 (10th Cir. 1993).

Reese Exploration, Inc. (“Reese Exploration”) alleged that Williams Natural Gas Company (WNG) negligently permitted injected gas from its gas storage field in the Bartlesville formation to escape into the oil-producing zone in the Squirrel formation beneath Reese’s oil leases, precluding Reese from successfully recovering oil by waterflooding the leases. The appellate court held that WNG was not negligent, but affirmed the lower court’s holding that Reese Exploration was not entitled to storage gas captured during its operations. The appellate court found that based on the language of the leases granting WNG gas storage rights, WNG’s grant was not limited to the Bartlesville formation in which its storage reservoir was located.

The court further found that Reese’s rights were subject to WNG’s gas storage rights. The assignment to Reese had been expressly made subject to the gas storage rights previously granted to WNG. In determining whether Reese Exploration was entitled to title to the gas taken from the Squirrel sand, the appellate court distinguished the *Anderson* case because in this case, WNG had authorization to store gas in the Squirrel formation. The court stated that the *Anderson* case could be further distinguished because, unlike Beech Aircraft, WNG was a “natural gas public utility,” and that in *Anderson*, the gas had migrated horizontally through the same formation to different lands.

[d] — *Columbia Gas Transmission Corp. v. Exclusive Natural Gas Storage Easement.*

The District Court for the Northern District of Ohio, Eastern Division in *Columbia Gas Transmission Corp. v. Exclusive Natural Gas Storage Easement*,²⁶ held that a gas storage company did not lose title to gas injected into underground gas storage merely because the gas had migrated onto another’s property.²⁷ Pending the outcome of a condemnation, Columbia Gas Transmission Corporation (CGT) sought a preliminary injunction to shut in the

²⁶ *Columbia Gas Transmission Corp. v. Exclusive Natural Gas Storage Easement*, 688 F. Supp. 1245 (N.D. Ohio 1988).

²⁷ *See Columbia Gas Transmission Corp. v. Exclusive Gas Storage Easement*, 578 F. Supp. 930 (N.D. Ohio 1983), *aff’d*, 776 F. 2d 125 (6th Cir. 1985)[hereinafter collectively cited as *Parrott*].

Hostettler #1 well that had been drilled and was being operated by William Hill. Based on testimony of experts, the evidence showed that the Hostettler #1 well had abnormally high production and that the gas it was producing had a chemical gas content that was dissimilar to the content of the native gas, but similar to the content of CGT's storage gas. CGT shut down one of its storage fields, allegedly because of the Hostettler #1 well. The District Court found that there was a strong likelihood that the well was producing CGT's storage gas. Citing a "peculiarly vital public interest in ensuring adequate reserves of natural gas,"²⁸ the District Court granted CGT's motion for a preliminary injunction directing Hill to shut in the Hostettler #1 well. The court further held that if CGT did not reactivate the storage field after the Hostettler #1 was shut in, the court would entertain a motion by Hill to dissolve the preliminary injunction.

[4] — Statutes Regulating Ownership of Injected Natural Gas.

[a] — Overview of Statutes.

Several states have enacted statutes to regulate the ownership of injected natural gas in storage fields. These statutes vary widely in their provisions. The statutes enacted in Alabama,²⁹ Washington,³⁰ Georgia,³¹ Louisiana,³² Mississippi,³³ and Colorado³⁴ provide that imported gas remains the property of the injector, but preserve the rights of owners to drill through the underground reservoir. The statutes enacted in Missouri,³⁵ New York³⁶ and New Mexico³⁷ provide that the gas remains the property of the injector, but that the rule does not apply to any person whose land is not acquired. Such

²⁸ Columbia Gas Transmission Corp. v. Exclusive Natural Gas Storage Easement, 688 F. Supp 1245, 1251 (N.D. Ohio 1988).

²⁹ Ala. Code §§ 9-17-150 – 157 (2001).

³⁰ Wash. Rev. Code § 80.40.050 (West 2001).

³¹ Ga. Code Ann. §§ 46-4-50 – 58 (West 2003).

³² La. Rev. Stat. Ann. § 30:22 (2003).

³³ Miss. Code Ann. § 53-3-157 (West 1999).

³⁴ Colo. Rev. Stat. Ann. §§ 34-64-101 – 107 (West 2006).

³⁵ Mo. Ann. Stat. § 393.500 (West 1994).

³⁶ N.Y. [Envtl. Conserv.] Law § 23-1307 (McKinney 1997).

³⁷ N.M. Stat. Ann. §§ 70-6-8 (West 2005).

states have, therefore, apparently adopted the rule that imported gas becomes subject to the law of capture if it migrates from the contained area. Statutes enacted in Kansas and Oklahoma both allow the injector to conduct tests to determine whether gas under property adjoining storage facilities is actually imported gas that has migrated from the storage facility. The injector retains title if it can show that the gas is actually imported gas.³⁸

[b] — Kansas Statute.

The Kansas statute was enacted in 1993 and provides that a gas injector does not lose title to natural gas that has been reduced to possession and then subsequently injected into underground storage fields.³⁹ The statute also provides that an injector does not lose title to storage gas that has migrated to adjoining property, so long as the injector can prove that the gas was originally imported into its underground storage.⁴⁰ Pursuant to the statute, an owner of the surface of the land and the mineral rights under which a storage field lies has no right to capture or otherwise exercise control over injected gas.⁴¹ Under the statute, an injector has the right to conduct well tests on property adjoining a storage facility to determine ownership of the gas. If imported gas migrates, the owner of the stratum in which the gas has migrated and the owner of the surface under which such stratum lies are each entitled to compensation from the gas storage company for use of their property and for any damages to the surface or substratum.⁴² When there is litigation over the ownership of gas and it is determined that the gas belongs to the injector, then the property owner can assert a claim of trespass on the basis of that finding and be entitled to attorneys' fees and expenses.⁴³

³⁸ Kan. Stat. Ann. § 55-1210 (2005)(this statute does not appear to be limited to natural gas public utilities, but it was enacted after the *Anderson* decision); Okla. Stat. Ann. tit. 52, § 36.6 (West 2000).

³⁹ Kan. Stat. Ann. § 55-1210(a)(2005).

⁴⁰ *Id.* at § 55-1210(c)(2); see *Williams Natural Gas Co. v. Supra Energy, Inc.*, 931 P.2d 7 (Kan. 1997)(holding that the provisions of the statute granting gas inspectors the right to test adjoining wells and to obtain injunctive relief are constitutional).

⁴¹ Kan. Stat. Ann. § 55-1210(b)(2005).

⁴² *Id.* at § 55-1210(c)(3).

⁴³ See *Beck v. N. Natural Gas Co.*, 170 F. 3d 1018 (10th Cir. 1999).

[c] — Oklahoma Statute.

Similarly, Oklahoma's statute⁴⁴ provides that natural gas that has been reduced to possession and is subsequently injected into underground storage fields shall be deemed the property of the injector. As to gas that migrates to areas not under control of the injector, the injector does not lose title if the injector can prove by a "preponderance of the evidence" that the gas was originally injected into the underground storage area.⁴⁵ The injector has the right to conduct such tests, at the injector's sole risk and expense, as are reasonable to determine ownership of the gas.⁴⁶

§ 6.03. Grant of Right to Use Underground Reservoir.**[1] — Introduction.**

One of the other legal issues that has developed in the underground storage of natural gas concerns the acquisition of the necessary stratum and surface rights for a storage reservoir. If title to injected gas can be lost, then the injector must ensure that it is the only party who can extract the gas. Even if title to injected gas is not lost, an injector must protect itself against possible claims of subterranean trespass. Thus, it is necessary that an injector acquire all of the property interests in the proposed storage formation.

If the fee ownership of the land, both minerals and surface, is owned in its entirety by one person, then the issue is simple. The injector must obtain storage rights from the fee owner. Often, however, mineral and surface rights have been severed. When mineral and surface rights have been severed, the issue becomes, as between the owner of the minerals and the owner of the surface, who can grant storage rights. A few courts have explored this issue.

[2] — English Rule Versus American Viewpoint.

In *Central Kentucky Natural Gas Co. v. Smallwood*,⁴⁷ the heirs of J.H. Hardwick had conveyed 500 acres of land to E.C. Smallwood. The convey-

⁴⁴ Okla. Stat. Ann. tit. 52, § 36.6 (West 2000).

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ *Central Kentucky Natural Gas Co. v. Smallwood*, 252 S.W.2d 866 (Ky. 1952).

ance provided that the grantors reserved one-half of the minerals. E.C. Smallwood and his wife subsequently executed an oil and gas production and storage lease to Central Kentucky Natural Gas Company (“Central Kentucky”). The lease provided that Central Kentucky was to pay an annual rental payment for the right to store gas. Smallwood contended that the entire amount of the gas storage rentals should be paid to the surface owner (Smallwood) rather than the mineral owners (Smallwood and the heirs of Hardwick). The court held that unless precluded by the terms of a lease, a mineral owner has the exclusive right to explore for and produce both native gas and storage gas. The court further stated that a lease from a mere surface owner would not confer rights on the lessee to produce gas, either native or stored, because the surface owner would have no rights to confer.⁴⁸ The *Smallwood* court, therefore, concluded that the mineral owners, rather than the surface owner, were entitled to the rentals accruing under the gas storage lease.

The *Smallwood* court states that the rule in England is that in the case of a grant of the minerals under land, the grantee has the exclusive right of possession of the whole space occupied by the layer containing the minerals and is entitled to the exclusive use of the space once all the minerals are extracted.⁴⁹ Canadian courts have followed the English rule.⁵⁰ The *Smallwood* court followed the English rule, but the *Smallwood* decision appears to be a minority position in the United States. The majority of American courts have held that after extraction of underground minerals, the remaining cavern is owned by the surface owner.⁵¹

[3] — Severance Documents Are Key.

Even though most American courts hold that surface owners own the cavern remaining after extraction of underground minerals, a surface owner

⁴⁸ *Id.* at 868.

⁴⁹ *Id.*

⁵⁰ *Ellis v. Arkansas Louisiana Gas Co.*, 450 F. Supp. 412, 421 (E.D. Okla. 1978), *aff'd* 609 F.2d 436 (10th Cir. 1979).

⁵¹ *See, e.g., id.*; *see also* *Dep't of Transp. v. Goike*, 560 N.W.2d 365 (Mich. Ct. App. 1996)(holding that once the fluid minerals and gas have been extracted from a property, the storage space belongs to the surface owner).

can convey his ownership rights in the cavern to the owners of the mineral rights. Several of the cases addressing mineral and surface owners' rights to storage reservoirs are based on the courts' interpretations of the instruments that severed the minerals and surface estates.

[a] — *Tate v. United Fuel Gas Company.*

In *Tate v. United Fuel Gas Co.*,⁵² Virgil C. Tate sought to enjoin United Fuel Gas Company (“United Fuel”) from using his land and the strata and formations thereunder for gas storage. Tate had acquired the land pursuant to a conveyance that excluded oil, gas and brine, and all minerals, except coal, from the conveyance. The conveyance provided that the term “minerals” did not include “clay, sand, stone or surface minerals except such as may be necessary for the operation for the oil and gas and other minerals reserved and excepted herein.”⁵³

The owners of the mineral rights leased the tract to United Fuel for the exploration, drilling, and exploration of oil and gas. The mineral owners also executed a gas storage agreement that gave United Fuel the right to import, store, and remove gas from the Big Lime stratum. United Fuel then drilled and completed a well to the Big Lime stratum for the purpose of storing gas.

The West Virginia Supreme Court held that under the terms of the conveyance, the mineral interest owners had not retained title to the Big Lime stratum. The court's interpretation of the conveyance was based on the fact that there were no recoverable minerals in the Big Lime stratum and that the exception in the conveyance was limited to the purpose of mining the land for the production of minerals.⁵⁴ In the court's opinion, the exception could not be extended to the storage of gas that had been produced elsewhere. Thus, only Tate, as the surface owner, could grant United Fuel the right to use the Big Lime stratum for storage of gas.

⁵² *Tate v. United Fuel Gas Co.*, 71 S.E.2d 65 (W. Va. 1952).

⁵³ *Id.* at 68.

⁵⁴ *Id.* at 71 (stating that an unqualified exception of the right to all minerals, in and under the land would have included solid minerals as well as the oil and gas).

[b] — *Miles v. Home Gas Co.*

Another decision that was based on the instruments in which the mineral and surface estates were severed is *Miles v. Home Gas Co.*⁵⁵ In 1943, the Federal Land Bank conveyed by quitclaim deed to Harvey Crandell: “All of the oil, gas and minerals located on the following premises, together with the right at all times to enter upon said premises and to bore wells, make excavations, lay pipes and remove all oil, gas and minerals found thereon.”⁵⁶ Crandell then conveyed the production rights and “gas storage rights” to Home Gas Company. The issue presented in the case was whether or not Home Gas Company had the right to store natural gas imported from other fields in a storage area under the premises that were owned by the Federal Land Bank. The court held that the Federal Land Bank had not conveyed storage rights to Crandell. Crandell had received only rights relating to the production and transmission of gas from the property, thus, only the Federal Land Bank had the right to grant storage rights.

[c] — *Pomposini v. T.W. Phillips Gas & Oil Co.*

In *Pomposini v. T.W. Phillips Gas & Oil Co.*,⁵⁷ Pomposini acquired title to 175 acres of land encumbered by an existing lease granted for “the sole and only purpose of drilling and operating for oil and gas.”⁵⁸ The lease required quarterly rental payments until operations were commenced and thereafter, payments determined according to a sliding scale based on gas pressure readings. The lessee established a gas well and used it for production purposes for 62½ days in 1954. Thereafter, the well was used primarily as a reservoir into which gas was injected and stored. From 1954 until October 1979, Pomposini accepted rental payments thinking that they were payments for the production of gas. When he learned that the well was being used for storage purposes, he filed suit alleging unauthorized and fraudulent use of the well for storage of gas.

⁵⁵ *Miles v. Home Gas Co.*, 35 A.D.2d 1042 (N.Y. App. Div. 1970).

⁵⁶ *Id.*

⁵⁷ *Pomposini v. T.W. Phillips Gas & Oil Co.*, 580 A.2d 776 (Pa. Super. 1990).

⁵⁸ *Id.*

Because the lease did not expressly authorize storage, the court stated that storage could be permitted only if the parties had intended storage to be included in the grant of authority for the lessee to operate for oil and gas. The court pointed out that under the terms of the lease, payment of royalties was based on gas pressure at any well “from which gas is marketed.”⁵⁹ The lease did not establish means to determine rent for use of the premises for gas storage. The court held that, absent an express agreement, the lessee’s right to extract gas did not include a right to use the cavernous storage area for the storage of gas. The lessee was, therefore, liable for the unauthorized storage of gas on Pomposini’s land.

The court held that Pomposini was entitled to the fair rental value of the underground space plus royalties for gas produced and sold. Because the lessee had used the well for storage purposes, both native and foreign gas were commingled. The court determined that the amount of gas injected into the well could not be separated with certainty from the amount of native gas. Under these circumstances, Pomposini was entitled to royalties based on the pressure exerted by the gas without regard to whether the gas was native or imported gas.

[d] — Prescriptive Easement.

In one case, an Oklahoma court found that the storage operator had acquired rights in the subsurface storage area by virtue of a prescriptive easement. In *Ellis*,⁶⁰ severance of the surface and mineral estates on the property in issue had occurred through a series of conveyances, the last occurring in 1945. Based on the language in the deeds that effected the severance, the trial court held that storage rights were retained by the surface owners. The deeds had given to the mineral interest owner all of the oil, gas and other minerals “that may be produced” and provided that the mineral interest owner had the “right of ingress and egress at all times for the purpose of mining, drilling and exploring said lands.”⁶¹ All of the words used in the

⁵⁹ *Id.* at 778.

⁶⁰ *Ellis v. Arkansas Louisiana Gas Co.*, 450 F. Supp. 412 (E.D. Okla. 1978), *aff’d* 609 F.2d 436 (10th Cir. 1979).

⁶¹ *Id.* at 415.

conveyances denoted exploration, production, and development and nothing about injection or storage.

The trial court stated that under Oklahoma law, a grant of minerals simply gives the grantee the right to explore for, produce and reduce to possession the oil, gas, and other minerals.⁶² It does not convey the minerals in place or the stratum of rock containing the spaces within which the oil and gas may be found.

In the *Ellis* case, the strata had been continuously used for gas storage since 1949. All gas storage leases had been executed by the mineral interest owners. The surface owners had not executed any gas storage leases. Arkansas Louisiana Gas Company (“Arkla”) had leased the right to extract natural gas from the Ellises’ property, but had not leased the right to store gas underground from the Ellises. The Ellises had acquired their surface rights pursuant to transactions occurring in 1963 and 1972.

In April 1976, Arkla brought a condemnation action against several surface owners, including the Ellises. The trial court first held that the mineral fee owners did not own the strata or the right to lease it and, therefore, could not have given Arkla the right to storage use.⁶³ The court then held that Arkla had acquired an easement by prescription.

In determining that Arkla had acquired an easement by prescription,⁶⁴ the court looked to the fact that there were nine injection wells on the surface of the land and that one of the principal injection wells was located on Ellises’ land about 450 to 500 feet from their house. The well had been serviced once or twice a week by Arkla’s employees since 1945. The well and its tank, according to the Ellises, was highly visible, noisy, and smelly.⁶⁵

⁶² *Id.* at 421.

⁶³ *Id.* The court further supported its holding by stating that the underground storage of natural gas is highly desirable and, as a matter of public policy, should be encouraged. The court stated that if it had held that the mineral interest owner rather than the surface owner had the power to grant storage rights, “it would typically mean that hundreds of severed mineral interest owners would have to be contacted if those rights were to be obtained privately.” *Id.* at 422.

⁶⁴ A prescriptive easement is defined as “[a]n easement created from an open, adverse and continuous use over a statutory period.” *Black’s Law Dictionary* 550 (8th ed. 2004).

⁶⁵ *Ellis*, 450 F. Supp. at 424.

The court found that the evidence of knowledge on the part of Ellises and their predecessors in title of actual, adverse, open, notorious, exclusive, and hostile possession for more than 15 years was overwhelming and that Arkla had, therefore, obtained a prescriptive easement for the underground storage of natural gas.

[4] — Condemnation Statutes.

[a] — Overview of State Condemnation Statutes.

To avoid later issues, storage operators typically obtain rights from both the owners of the surface rights and the owners of the mineral rights. This task, however, may be daunting. A proposed storage project area typically covers several parcels of land. Thus, a storage operator is often faced with obtaining usage agreements from both multiple landowners and numerous owners of mineral rights. It is desirable to enter into contractual arrangements with all of the parties that hold rights in the surface and subsurface, but the storage operator may find it impossible to obtain agreement with all parties. If unanimous voluntary agreement becomes impossible, storage operators may be able to invoke the power of eminent domain. Several states⁶⁶ have enacted underground gas storage condemnation statutes. Although a detailed review of each state's condemnation statute is beyond the scope of this chapter, the following is a discussion of certain consistent elements found in the statutes.

Each statute prescribes the requisite rules and procedures that must be followed to acquire underground storage rights by eminent domain. The

⁶⁶ Ala. Code §§ 9-17-150 – 157 (2001); Ark. Code Ann. §§ 15-72-601 – 608 (West 1994); Colo. Rev. Stat. §§ 34-64-102 – 107 (2006); Ga. Code Ann. §§ 46-4-50 – 58 (2003); 220 Ill. Comp. Stat. Ann. 15/0.01 – 8 (West 2005); Ind. Code Ann. §§ 32-24-5-1 – 5 (West 1995); Iowa Code Ann. § 479.24 (West 1999); Kan. Stat. Ann. §§ 55-1201 – 1210 (2005); Ky. Rev. Stat. Ann. § 278.502 (LexisNexis 2003); La. Rev. Stat. Ann. § 30:22 (1989); Md. Ann. Code Ann. [Envir.] §§ 14-201 – 208 (West 1996); Miss. Code Ann. §§ 53-3-151 – 165 (West 1999); Mo. Ann. Stat. §§ 393.410-.510 (West 1994); Neb. Rev. Stat. § 57:601-8 (2004); N.M. Stat. Ann. §§ 70-6-2 – 8 (West 2005); N.Y. [Envtl. Conserv.] Law §§ 23-1301 – 1307 (1997); Ohio Rev. Code Ann. §§ 1571.01 – .91 (West 2001); Okla. Stat. Ann. tit. 52, §§ 36.1 –.7 (West 2000); Tenn. Code Ann. §§ 65-28-101 – 111 (2004); Wash. Rev. Code Ann. § 80.40:10-920 (West 2001).

statutes generally recite that underground storage of natural gas promotes conservation, the public interest and the general welfare of the state. Most of the statutes provide that only a natural gas public utility that is regulated by the state public utility commission or by the Federal Energy Regulatory Commission (FERC) can exercise eminent domain. The statutes generally, whether or not expressly stated, permit the taking of an underground storage reservoir only for public use. Most of the statutes, therefore, do not permit takings for underground gas storage operations that will be used by producers or carriers for their own use.

To exercise eminent domain, generally a conservation or public utility regulatory agency must approve a project and a storage operator must show that the proposed storage project is feasible and in the public interest. There are typically several limitations on the exercise of eminent domain for gas storage.

Many of the statutes forbid or restrict condemnation of strata in reservoirs productive of oil and gas.⁶⁷ This requirement has been criticized.⁶⁸ Even though such a requirement is intended to prevent waste, it may not adequately take into consideration the fact that reservoirs with cushion gas already in place are much more desirable to gas storers than reservoirs that are empty.

Several states require that the storage operator obtain storage rights on a voluntary basis from a certain percentage of the owners of storage rights before exercising eminent domain. For example, the required voluntary acquisition percentage in Louisiana is 75 percent⁶⁹ while in Mississippi, a majority of the owners must consent.⁷⁰ Requiring a certain percentage of

⁶⁷ See, e.g., Ala. Code §§ 9-17-152(a)(2)(2001); Colo. Rev. Stat. Ann. § 34-64-104 (West 2006); La. Rev. Stat. Ann. § 30:22B(1)(West 1989); Wash. Rev. Code Ann. § 80.40.040 (West 2001).

⁶⁸ See Jerry R. Fish & Robert A. Nelson, "Building Your Own Underground Gas Storage Project: From Leasing to Open Season Under FERC Order No. 636," 39 *Rocky Mt. Min. L. Inst.* § 19.03[5](a), at 19 – 36 (1993); Robert C. McGinnis, "Some Legal Problems in Underground Gas Storage," 17 *Sw. L. Inst. on Oil and Gas L.* 23, 57 (1966).

⁶⁹ La. Rev. Stat. Ann. § 30.22 (West 1989).

⁷⁰ Miss. Code Ann. § 53-3-155 (West 1999).

voluntary approval appeals to our sense of democracy because it restrains a storage operator from exercising eminent domain if a large enough group whose rights are being taken object. An argument can be made, however, that requiring a certain percentage of agreement gives superior bargaining position to those last few holdouts who are needed to reach the required statutory percentage.

[b] — Condemnation Under the Natural Gas Act.

In addition to state condemnation laws, interstate projects that are under the jurisdiction of the FERC, may exercise condemnation authority under the Natural Gas Act.⁷¹ The Natural Gas Act provides that any holder of a certificate of convenience and necessity may condemn right-of-way or land to construct, operate and maintain pipelines, compressor stations, pressure apparatus, or other stations and equipment necessary to the proper operation of the pipeline.⁷² The provision does not explicitly give interstate natural gas companies the power to condemn underground storage reservoirs. However, the condemnation provision was interpreted to include underground storage in both *Natural Gas Pipeline Co. of America v. Iowa State Commerce Comm'n*⁷³ and *Columbia Gas Transmission Corp. v. Exclusive Gas Storage Easement*⁷⁴

In *Parrott*, Columbia Gas Transmission Corporation (CGT) sought to condemn an easement for storage of natural gas under property owned by the Parrotts and their associates. The Parrotts first argued that CGT did not have the authority to condemn under the Natural Gas Act. The court rejected this argument and held that a natural gas company with a certificate of public convenience and necessity has the power to condemn underground storage areas. In reaching its decision, the court acknowledged that the statute does

⁷¹ 15 U.S.C. §§ 717a – z (1997).

⁷² 15 U.S.C. § 717f(h).

⁷³ *Natural Gas Pipeline Co. of America v. Iowa State Commerce Comm'n*, 369 F. Supp. 156 (S.D. Iowa 1974).

⁷⁴ *Columbia Gas Transmission Corp. v. Exclusive Gas Storage Easement*, 578 F. Supp. 930 (N.D. Ohio 1983), *aff'd*, 776 F.2d 125 (6th Cir. 1985)(referred to herein as “Parrott;” The last name of the landowners involved in the action was Parrott.).

not specifically mention the use of the condemnation procedure for underground gas storage areas but found that it is within the spirit and intent of the Natural Gas Act. In upholding the lower court's decision, the appellate court cited the language in the Natural Gas Act that provides condemnation is allowed for land that is necessary for the "location of compressor stations, pressure apparatus, or other stations or equipment necessary to the proper operation of such pipeline" ⁷⁵ The court found that underground storage facilities are a necessary and integral part of the operation of a natural gas pipeline; therefore, a holder of a certificate of public convenience and necessity has the power to condemn underground storage areas.

Even though the court found that the power of eminent domain under the Natural Gas Act could be used to condemn the storage area, the court denied CGT the right to condemn the Parrotts' subsurface rights. CGT's certificate of convenience and necessity did not cover the Parrotts' land. The court held that the power of eminent domain under the Natural Gas Act can be invoked only as to lands covered by a certificate of convenience and necessity. To invoke such rights, CGT was required to amend its certificate of convenience and necessity to cover the Parrotts' land. ⁷⁶

[c] — Overview of Damages in Condemnation.

Much has been written on the subject of damages in condemnations. ⁷⁷ To illustrate the variety of issues that can arise in determining damages, it is helpful to examine a few of the cases, but the following discussion certainly is not intended to be a general discourse on the subject of damages in condemnation litigation.

⁷⁵ Columbia Gas Transmission Corp. v. Exclusive Natural Gas Storage Easement, 776 F.2d at 128 (citing 15 U.S.C. § 717f(h)).

⁷⁶ Columbia Gas Transmission Corp. v. Exclusive Natural Gas Storage Easement, 578 F. Supp. at 935.

⁷⁷ See, e.g., Julius L. Sackman *et al.*, *Nichols on Eminent Domain* (Matthew Bender 2005)(1997).

[i] — Recovery of Expenses for Preparation to Drill.

To determine compensation owed to landowners in a condemnation procedure under the Natural Gas Act, the courts must apply state law standards because property rights are substantially defined by state law.⁷⁸ The issue of whether or not an oil and gas producer can recover expenses incurred in the preparation of a subject site during the pendency of a condemnation proceeding was addressed in a 1988 case, *Columbia Gas Transmission Corp. v. Exclusive Gas Storage Easement*.⁷⁹

In *Johnson*, the mineral owners had granted an oil and well production lease. Although CGT threatened condemnation and notified the producers that the proposed well was within CGT's storage field, the lessees prepared to drill. The court in *Johnson* held that in a gas storage easement condemnation action, the condemnee could recover expenses in preparing the subject site for drilling subject to certain conditions. First, the expenses had to be reasonable in amount, and second, a reasonably prudent person, knowing the facts and circumstances existing at the relevant time, would have proceeded to incur the expenses.⁸⁰ In *Johnson*, the producers' expenses were allowed up until the point when it first reasonably appeared certain that CGT had the right to condemn the owners' property.⁸¹

At the time CGT was threatening condemnation in the *Johnson* case, *Parrott* was still pending, so there was an issue as to whether CGT had any right to condemn the storage area in *Johnson* when the lessees began prepa-

⁷⁸ *Columbia Gas Transmission Corp. v. Exclusive Natural Gas Storage Easement*, 962 F.2d 1192 (6th Cir. 1992).

⁷⁹ *Columbia Gas Transmission v. Exclusive Natural Gas Storage Easement*, 705 F. Supp. 1242 (N.D. Ohio 1988)(herein referred to as "Johnson;" Johnson is the last name of the landowner under which the subterranean space in issue was located.).

⁸⁰ *Id.*

⁸¹ *Columbia Gas Transmission* argued that the only expenses that the producers should be allowed to recover were those incurred for the drilling permit and location survey because all other expenses were incurred after the producers were on notice that the proposed well site was included in the area designated by the FERC certificate as part of the CGT storage field. *Id.* at 1244.

rations to drill. Once *Parrott* was affirmed on appeal on October 30, 1985, it appeared reasonably certain that CGT could condemn under the Natural Gas Act, so, according to the court in *Johnson*, the producers should not have reasonably proceeded after this point.⁸² The court approved the producers' lease acquisition and right of way costs, legal fees for the drilling permit, and site preparation costs as reasonable expenses. The court did not allow the producers to recover the legal fees they incurred in connection with the condemnation proceeding.

[ii] — Compensation for Notice Gas.

An issue that often arises with respect to the amount of compensation owed in a condemnation action for underground storage is the amount owed for the native gas. Typically, no value is given to unrecoverable native gas.⁸³ The courts allow the amount of remaining native gas to be proven by expert testimony. In *Exxon Corp. v. West*,⁸⁴ Exxon Corporation, as successor in interest to Humble Oil & Refining Company, presented a reserve study at trial reflecting a geologist and petroleum engineer's opinion of the maximum amount of gas that could have been in place in the reservoir at the time gas storage operations were commenced. The Wests argued that they were entitled to account for royalty on all gas produced from the field. The trial court held that Exxon had not established with reasonable certainty, the maximum volume of either the "recoverable" gas or the "total" gas that remained when gas storage operations were first commenced. Exxon argued that because (i) it had stipulated the Wests would receive payment on the basis of the total amount of gas in place at the time storage operations were commenced and (ii) it had established with reasonable certainty the maximum total amount of gas, it had met its burden of proof. The appellate court held that Exxon

⁸² Because the *Parrott* Case was one of first impression in Ohio, the court found that the holding of the *Parrott* Case was not settled law until the appellate court's decision. *Id.* at 1248.

⁸³ *Columbia Gas Transmission Corp. v. An Exclusive Natural Gas Storage Easement*, 620 N.E.2d 48, 49 (Ohio 1993).

⁸⁴ *Exxon Corp. v. West*, 543 S.W.2d 667 (Tex. Civ. App. 1976), *cert. denied*, 434 U.S. 875 (1977).

had met its burden of proof by presenting clear, positive and unimpeached testimony of experts regarding the total amount of gas in place.⁸⁵ The appellate court held that Exxon was not required to account to the Wests for gas produced from the field in excess of the maximum total gas remaining in the reservoir upon commencement of the gas storage operations.

To be compensated for native gas, a mineral owner must present evidence that native gas remained on the date of condemnation or the date of the first taking of the storage area.⁸⁶ In *Carnahan*,⁸⁷ the Kansas court held that the award in a condemnation of an underground reservoir had to include compensation for native gas as of the date Union Gas System, Inc. first began using the formation for storage, which was thirty years before the condemnation. Pursuant to Kansas law, the damages award had to be arrived by determining the difference in value before and after the taking.⁸⁸

§ 6.04. Proposed Rate Regulation of Certain Underground Storage Facilities.

[1] — Background to Proposed Regulation.

Recent proposed changes in the rates authorized for storage providers that are regulated by the FERC merit discussion. The FERC has proposed changes that will establish criteria for storage providers to obtain market-based rates for storage services. As of the date of submission of this chapter, the FERC has not issued its final rules regarding such criteria.

⁸⁵ *West*, 543 S.W.2d at 673.

⁸⁶ *Home Gas Co. v. Miles*, 358 N.Y.S.2d 846 (N.Y. Sup. Ct. 1974)(holding that there was no basis for any award for the taking of commercially recoverable native gas because there was nothing in the record to indicate that when the property was taken pursuant to a condemnation the gas in place was anything other than injected gas); *see Milby v. Louisville Gas & Elec. Co.*, 375 S.W.2d 237 (Ky. 1964)(No substantial value could be attributed to existing gas under a condemned tract of land unless there was evidence of commercially recoverable gas of some substantial quality).

⁸⁷ *Union Gas System, Inc. v. Carnahan*, 774 P.2d 962 (1989).

⁸⁸ *Id.* at 970.

[a] — Need for Additional Storage.

The Federal Energy Regulatory Commission (FERC) has jurisdiction over any underground storage project that is owned by an interstate pipeline and integrated into its system. The FERC also has jurisdiction over independently operated storage projects that offer storage services in interstate commerce.⁸⁹ According to a FERC staff report, while current and projected storage development has been keeping pace with aggregate storage demands in most areas of the country, underground storage development in the Southwest and New England has been virtually non-existent in recent years. Few new projects in the Southwest have been proposed and several have failed or have faced significant opposition.⁹⁰ In addition, a study performed by the National Petroleum Council indicates that there may be a need in North America for 700 billion cubic feet of new underground storage by the year 2025.⁹¹

The costs for developing a new underground storage facility are significant. Development of a typical salt cavern in the Gulf Coast region, with the ability to be cycled six to twelve times a year, can cost \$10 million per billion cubic feet of working gas capacity. The cost is higher in other regions, with development in the Pacific Northwest or California region ranging up to \$25 million per billion cubic feet of working gas capacity.⁹² The development costs for a storage field in a depleted oil and gas reservoir range between \$5 million and \$6 million per billion cubic feet of working gas capacity.⁹³

[b] — Overview of Current Storage Rates.

Some independent storage developers have argued that storage development is more risky than pipeline construction because contract commitments

⁸⁹ FERC Staff Report at 12.

⁹⁰ One project failed after the FERC denied market-based rate authority because it failed the FERC's market power test. Another failed because of environmental issues and a lack of contract support. *Id.* at 26.

⁹¹ National Petroleum Council, *Balancing Natural Gas Policy—Fueling the Demands of a Growing Economy* (2003).

⁹² FERC Staff Report at 18.

⁹³ *Id.*

for storage service are typically for relatively short terms, often in the one to five year range. They have further argued that the traditional cost-based storage rate design (i) does not encourage the development of additional storage, (ii) does not reflect the value of service on peak, and (iii) does not reflect rates of return that adequately compensate for the level of risk associated with the investment.⁹⁴

Rates for storage services that are subject to the FERC's jurisdiction historically have been set on a cost-of-service basis. Under the cost-based storage rate policy, 50 percent of a storage project's fixed costs are collected based on storage deliverability and the remaining 50 percent collected based on storage capacity. The variable rate component for injection and withdrawal charges does not provide for a return on a storage provider's equity and related taxes. The injection and withdrawal charges are designed to recover only the variable costs.⁹⁵

The FERC has, however, promoted various alternative cost-based pricing mechanisms. Pipeline and storage providers have been able to implement storage rates designed for peak-day usage, discounted rates, index-based rates, tiered rates, and negotiated rates.⁹⁶ In addition, the FERC has provided certain other means for cost recovery through term-differentiated rates and seasonal rates that provide incentives for customers to sign long-term storage contracts. Potential storage providers have argued, however, that the best and preferred way to permit them to fairly compete is through the flexibility of market-based rates.⁹⁷ The FERC has approved market-based rates where the company has demonstrated that it lacks "market power" over its customers in the relevant market for storage services.⁹⁸

94 *Id.* at 26.

95 *Id.* at 26-27.

96 Regulation of Short-Term Natural Gas Transportation Services.

97 FERC Staff Report at 27.

98 *See, e.g.,* Koch Gateway Pipeline Co., 66 F.E.R.C. ¶ 61,385 (1994); Caledonia Energy Partners, L.L.C., 111 F.E.R.C. ¶ 61,095 (2005); Freebird Gas Storage, LLC, 111 F.E.R.C. ¶ 61,054 (2005).

[c] — Determination of Market Power.

The FERC has developed tests to determine when a provider lacks market power. The tests are based on the market competitiveness analysis used by the U.S. Department of Justice and the Federal Trade Commission. In 1996, the FERC issued a policy statement⁹⁹ that established a framework for analyzing market-based rate proposals in gas pipelines, including gas storage. Under the policy statement, an applicant has market power if (1) the applicant can withhold or restrict services to increase price by a significant amount for a significant period of time, or (2) the applicant can discriminate unduly in terms of price or conditions. Before the FERC can conclude an applicant cannot exercise market power, the FERC must either (1) find there is a lack of market power because the applicant's customers would have sufficient alternatives or (2) mitigate the market power by virtue of specified conditions that will prevent the exercise of market power.

The FERC's initial screening tool for significant market power is the Herfindahl-Hirschman Index (HHI). The HHI is a formula that focuses on the relevant market's concentration as an indicator of an applicant's potential to act in concert with other sellers to raise prices. In general, the FERC has stated that an HHI of less than 1,800 suggests limited market concentration, therefore, each participant has limited potential to exercise significant market power.¹⁰⁰ An HHI of greater than 1,800 suggests a higher level of concentration. In the case of an HHI greater than 1,800, the FERC increases its scrutiny of other factors such as an applicant's market share, ease of entry into the market, the relative size of an applicant's capacity, and the sustainability of a potential attempt by an applicant to exercise market power.¹⁰¹ In assessing

⁹⁹ *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines and Regulation of Negotiated Transportation Services of Natural Gas Pipelines*, 74 F.E.R.C. 61,076 (1996), *reh'g and clarification denied*, 75 F.E.R.C. 61,027 (1996), *petition denied and dismissed*, Burlington Resources Oil & Gas Co. v. FERC, 172 F.3d 918 (D.C. Cir. 1998 [hereinafter cited as *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines*]).

¹⁰⁰ See, e.g., Caledonia Energy Partners, L.L.C., 111 F.E.R.C. ¶ 61,095 (2005); Egan Hub Partners, L.P., 99 F.E.R.C. ¶ 61,269 (2002).

¹⁰¹ Rate Regulation of Certain Underground Storage Facilities, 70 Fed. Reg. 77079-01 (proposed Dec. 22, 2005).

whether a storage provider can exercise significant market power, the FERC has traditionally looked only to the availability of other storage alternatives in the relevant geographic market. There has been some argument that it may be impossible for an applicant to demonstrate lack of market power in certain areas of the country that lack an existing storage infrastructure.¹⁰²

[2] — Section 312 of the Energy Policy Act of 2005.

Section 312 of the Energy Policy Act of 2005 adds a new section 4(f) to the Natural Gas Act (“Section 4(f”).¹⁰³ Section 4(f) permits the FERC to allow a natural gas company that is placing new “storage capacity” in service to negotiate market-based rates even if it is unable to show that it lacks market power. To allow the storage provider to negotiate market-based rates, however, the FERC must determine that (i) market-based rates are in the public interest and are necessary to encourage the construction of the storage capacity in the area needing storage services, and (ii) customers are adequately protected.¹⁰⁴ Section 4(f) further provides that the FERC must ensure that reasonable terms and conditions are in place to protect consumers. The section also requires the FERC to review periodically whether the market-based rate that a natural gas company has been authorized to charge is “just, reasonable, and not unduly discriminatory or preferential.”¹⁰⁵

[3] — Proposed Rulemaking by the FERC.

In a proposed rulemaking released on December 22, 2005, the FERC seeks to reform gas storage pricing in two ways. The FERC first proposes regulations that would permit all companies with storage facilities to seek market-based rates through a showing that their storage operations do not

¹⁰² See *Red Lake Gas Storage, L.P.*, 103 F.E.R.C. 61,277 (2003); *Red Lake Gas Storage, L.P.*, 102 F.E.R.C. 61,077 (2003). *Red Lake Gas Storage L.P.* proposed to construct a new storage facility in Arizona, an area not currently served by underground gas storage. The FERC denied *Red Lake Gas Storage L.P.*’s market-based rate request because the market in which it would operate would have been extremely concentrated.

¹⁰³ 15 U.S.C. §§ 717, *et seq.* (1997).

¹⁰⁴ Energy Policy Act of 2005, Pub. L. No. 109-58, § 312, 119 Stat. 594, 688 (2005) *reprinted in* 42 U.S.C. §§ 15801, *et seq.* (2005) [hereinafter cited as Energy Policy Act of 2005].

¹⁰⁵ *Id.*

have significant market power. Second, for new storage capacity relating to storage facilities placed into service after August 8, 2005, the FERC proposes regulations authorizing market-based rates under certain circumstances. Under the proposed rules, a storage service provider could apply for market-based rates under either method by filing appropriate supporting data (1) when it files its certificate application, (2) as part of its request for section 311 rate authorization under the Natural Gas Policy Act,¹⁰⁶ or (3) in a request for declaratory order for authority to charge market-based rates. In any case, a provider will not be able to charge market-based rates until the FERC concludes that the storage applicant has established that it either lacks significant market power¹⁰⁷ or will adopt adequate customer protections to mitigate its exercise of market power.

[a] — Proposed Reform of Market-Power Test.

As part of the proposed rule, the FERC seeks to reform its market-power test for natural gas storage operators. Traditionally, the FERC has looked only to the availability of competitive gas storage in the area in determining whether a provider can exercise market power. The FERC now proposes to adopt a more expansive definition of the relevant storage product market to explicitly include close substitutes for gas storage services. Potential substitutes will vary on a case-by-case basis, but may include available pipeline capacity, local gas production, and liquefied natural gas terminals. In its notice of proposed rulemaking, the FERC argues that consideration of such alternative products will ensure that its market power analysis accurately reflects whether a storage applicant will be able to exercise significant market power.

In order to show that a non-storage product or service, such as transportation, is a good alternative, the storage applicant must show that the alternative will be available soon enough, has a price that is low enough, and has

¹⁰⁶ 15 U.S.C. § 3371 (1998). Section 311 authorizes interstate pipelines to transport natural gas on behalf of, and sell natural gas to, any interstate pipeline at rates and charges that are “fair and equitable.”

¹⁰⁷ See *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines*; see also *Ass’n of Oil Pipe Lines v. FERC*, 83 F.3d 1424, 1442-43 (D.C. Cir. 1996).

a quality high enough to permit customers to substitute the alternative for the applicant's storage services. In addition, the FERC has proposed that, consistent with its current practice,¹⁰⁸ capacity on pipeline systems owned or controlled by an affiliate of an applicant will not be considered as an alternative. The FERC is proposing that affiliated capacity be included in the market share calculated for an applicant.

Under the proposed regulations, an applicant that is granted the authority to charge market-based rates for storage capacity will be required to file an updated market-power analysis every fifth year after the FERC order that granted the applicant the authority to charge market-based rates. The FERC believes this review is necessary to ensure that the grant of market-based rates remains just and reasonable.¹⁰⁹

[b] — Market-Based Rates for New Storage Capacity.

The FERC has stated that it will presume that an applicant has market power in its review of an application for market-based rates under regulations implementing Section 4(f).¹¹⁰ Section 4(f) provides that the FERC may authorize market-based rates “for new storage capacity related to a specific facility placed in service after the date of enactment.”¹¹¹

[i] — New Facility.

In its proposed rule, the FERC interprets the phrase “placed in service after the date of enactment” as modifying the term “facility” rather than the term “capacity.” In the FERC's opinion, therefore, a facility itself must be placed into service after the date of enactment of the Energy Policy Act of 2005, which is August 8, 2005, rather than the storage capacity being completed after such date. While the statute does not define the term “specific facility,” under the FERC's proposed rule, a new cavern, reservoir or aquifer that is developed after August 8, 2005, would constitute a facility

¹⁰⁸ See *Policy Statement*, 74 F.E.R.C. ¶ 61,076 at 61,234 (1996).

¹⁰⁹ See *Rate Regulation of Certain Underground Storage Facilities*, *supra* note 101 at 77083.

¹¹⁰ *Id.* at 77079.

¹¹¹ Energy Policy Act of 2005, 42 U.S.C.A. §§ 15801 – 16524 (2005).

that would qualify for market-based rates. Storage expansions of existing storage facilities would not qualify under this provision.

[ii] — Protection of Customers.

The FERC's proposed rule will require an applicant to bear the burden of showing that market-based rates are necessary to encourage the construction of the proposed storage facility needed in the area. The appropriate method of customer protection will probably vary depending on the facts and circumstances of individual project proposals. The FERC, therefore, proposes to allow applicants to suggest relevant methods of protecting customers in their application process.

[iii] — Periodic Review.

Section 4(f) also requires that, for those entities granted market-based rates, the FERC “review periodically whether the market-based rate is just, reasonable, and not unduly discriminatory or preferential.”¹¹² In its notice of proposed rulemaking, the FERC states that the periodic review requirement will focus on the consumer protection safeguards adopted and whether these safeguards are effectively preventing the storage provider from exercising significant market power. To assist it in making such a determination, the FERC asserts that existing posting requirements on contractual obligations and storage reports, which include prices charged and levels of available capacity, together with publicly available information will provide the information necessary to determine whether storage operators have been exercising market power. Storage operators that provide service only under section 311 of the Natural Gas Policy Act are subject to fewer reporting requirements than required under the Natural Gas Act, but the FERC believes that those reports will also be adequate.¹¹³

[4] — Comments on Proposed Rulemaking.

The FERC has received comments on its proposed rule from 32 commenters. The companies that filed comments include natural gas producers,

¹¹² *Id.*

¹¹³ Rate Regulation of Certain Underground Storage Facilities, *supra* note 101 at 77085.

natural gas marketers, independent natural gas storage operators, interstate pipelines, local distribution companies and trade associations representing industrial consumers.

**[a] — Proposed Reform of Market Power Test.
[i] — Comments Supporting Reform.**

Comments from interstate pipelines companies generally supported the FERC's proposed reform of its market power analysis to better reflect the competitive alternatives to storage. Several of them suggested, however, that the FERC take additional steps to further liberalize its analysis of market concentration. For example, two of the interstate pipeline companies urged the FERC to adopt an HHI of 2500, rather than the current HHI of 1800, as the threshold for heightened scrutiny.¹¹⁴ The companies argued that an HHI level of 1800 is "simply unrealistic and unduly conservative."¹¹⁵

Several of the interstate pipelines also suggested that the FERC amend its proposed regulation to eliminate the requirement that the capacity of a market-based rate applicant's affiliates be automatically included in the market share for the applicant. The companies argued that an open-access pipeline does not have direct control over the use of capacity in its pipeline once capacity has been committed.¹¹⁶ Given a shipper's control over con-

¹¹⁴ One owner of jurisdictional storage facilities criticized the FERC's application of the HHI analysis to projects proposed for market areas where there is little or no existing storage infrastructure. The company urged the FERC to shift its analysis in such areas to an analysis of (1) the extent to which a new entrant will increase the potential gas supply options available to the market participants, and (2) whether there are opportunities for additional entrants to develop competitive storage. The company cites Ohio, West Virginia, Pennsylvania, Virginia, and New York as areas that are not thoroughly developed but have opportunities to develop storage. Comments of Duke Energy Gas Transmission, Docket Nos. RM05-23-000, AD04-11-000, 23-25 (Feb. 27, 2006) *available at* http://elibrary.ferc.gov/docs_filing/elibrary.asp follow the "Docket Search" hyperlink and search for Docket Number AD04-11-000 [hereinafter cited as Comments of Duke Energy Gas Transmission] (last visited November 9, 2006).

¹¹⁵ Comments of the Interstate Natural Gas Ass'n of Am., Docket Nos. RM05-23-000, AD04-11-000, 16 (Feb. 27, 2006) *available at* http://elibrary.ferc.gov/docs_filing/elibrary.asp follow the "Docket Search" hyperlink and search for Docket Number AD04-11-000 [hereinafter cited as Comments of Interstate Natural Gas Ass'n of Am.].

¹¹⁶ Comments of the Interstate Natural Gas Ass'n of Am. In its supplemental comments, Duke Energy Gas Transmission stated that pursuant to Orders 636 and 637, interstate

tracted pipeline capacity, the pipeline companies argued that the *per se* rule should be eliminated, and affiliated capacity should instead be reviewed on a case-by-case basis.

**[ii] — Comments Asserting Modifications
Are Unwarranted.**

Some companies, including the Natural Gas Supply Association (NGSA), the American Public Gas Association (APGA), and the American Gas Association (AGA), asserted in their comments that the FERC’s proposed modifications to the existing market power test are unwarranted. The NGSA pointed to the fact that the FERC had approved forty requests for market-based rates for storage under the existing market-power test and denied only one such request as evidence that lack of storage development is not because of FERC’s rejection of market-based rates. In its filing, the NGSA suggests that the FERC’s proposed liberalization of the traditional market-test should “not be allowed to open Pandora’s Box”¹¹⁷ by allowing existing storage providers to use the liberalized market test.

pipelines “cannot deny access to storage or transportation services through the bundling of storage and transportation services; must offer capacity in their system to others on an open-access, non-discriminatory basis; and cannot withhold transportation or storage capacity to manipulate the market.” Supplemental Comments of Duke Energy Gas Transmission, Docket Nos. RM05-23-000, AD04-11-000, 5 (March 20, 2006) *available at* http://elibrary.ferc.gov/docs_filing/elibrary.asp follow the “Docket Search” hyperlink and search for Docket Number AD04-11-000 (*citing Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Wellhead Decontrol*, Order No. 636, 57 Fed. Reg. 13267, (Apr. 16, 1992), FERC Stats. and Regs. Regulations Preambles (Jan. 1991-June 1996) ¶ 30,939, at p. 30,446-48 (April 8, 1992), *order on reh’g*, Order No. 636-A, 57 Fed. Reg. 36128, (Aug. 12, 1992); *reh’g denied*, Order No. 636-B, 57 Fed. Reg. 57911, (Dec. 8, 1992), 61 F.E.R.C. ¶ 61,272 (1992), *notice of denial of reh’g*, 62 F.E.R.C. ¶ 61,007 (1993), *aff’d in part and vacated and remanded in part, United Dist. Companies v. FERC*, 88 F.3d 1105 (D.C. Cir. 1996), *order on remand*, Order No. 636-C, 78 F.E.R.C. ¶ 61,186 (1997), *Rendevous Gas Servs., L.L.C.*, 112 F.E.R.C. ¶ 1,141, at p. 39 (2005); *Am. Gas Ass’n v. FERC*, 428 F.3d 255, 260 (D.C. Cir. 2005).

¹¹⁷ Comments of the Natural Gas Supply Ass’n, Docket Nos. RM05-23-000 and AD04-11-000 27 (Feb. 27, 2006) *available at* http://elibrary.ferc.gov/docs_filing/elibrary.asp follow the “Docket Search” hyperlink and search for Docket Number AD04-11-000 [hereinafter cited as Comments of the Natural Gas Supply Ass’n].

The AGA suggests that if the FERC decides it must liberalize its market power test that, at a minimum, the FERC should not do so before two years after the effective date of the regulations implementing Section 4(f). The AGA argues that the FERC would then have had an opportunity to assess the impact of the new rules implemented under Section 4(f) and could better determine whether any additional steps are necessary to encourage the growth of storage capacity.¹¹⁸

[iii] — Five-Year Market Power Review.

Interstate pipeline companies urged the FERC to eliminate its proposal for an automatic five-year market power review. The companies argued that the review would be unnecessarily burdensome. They also expressed concern that it would create additional problems in obtaining financing because of the risk that the FERC would rescind its prior authorization of market-based rates at a five-year review. If the FERC does require an automatic review, the companies urged that the requirement not have a retroactive effect. In particular, the companies sought a clarification that a review could not affect the enforceability of market-based rate contracts entered into at the time the original authority for market-based rates was acquired.

Storage companies that are currently authorized to charge market-based rates asked for clarification regarding the applicability of the new review process. The proposed regulation provides that the review requirement applies to “[a]pplicants granted the authority to charge market-based rates under §284.503,” which is the new proposed market-based rate rule. The proposed Section 284.501, however, states that “[a]ny pipeline or storage provider . . . that wishes to provide storage at market-based rates must confirm to the requirements of subpart M.” Thus, the provisions appear to be inconsistent and imply that the new review process could apply to storage providers that are currently authorized to charge market-based rates. Storage companies currently holding market-based rate authority argue that they should not be subject to the proposed five-year reviews because they

¹¹⁸ *Id.*

have already satisfied the traditional, more vigorous test demonstrating a lack of market power.

[b] — Market-Based New Storage Facilities or New Capacity?

Comments were generally supportive of the FERC's stated goal of increasing natural gas storage. The question of whether that goal can be obtained by granting market-based rates only for new storage facilities and not for expansions of existing facilities, however, resulted in the largest number of comments. The companies registering a comment were either strongly in favor of, or strongly opposed to, the FERC's interpretation of the phrase "specific facility" in Section 4(f) as meaning only "a new cavern, reservoir or aquifer."

Interstate pipeline companies argued that the FERC's interpretation of Section 4(f) is unnecessarily restrictive. In their comments, the companies urged the FERC to amend its proposed regulation to permit market-based rates for new storage capacity resulting from the expansion of existing fields or reservoirs.¹¹⁹ In reviewing the language of Section 4(f), the pipeline companies argued that the statute is intended to apply to any "new storage capacity" and does not require the "specific facility" to be new.¹²⁰ The companies assert fairly persuasive arguments that expansions of existing fields are the quickest, most economical, and environmentally-friendly ways to add new storage capacity.¹²¹ Thus, the FERC's proposed refusal to apply Section 4(f) to expansions of existing facility seems to be not in keeping with its stated goal of increasing storage capacity. Some of the companies further commented that market-based rates would apply only to customers utilizing the new storage capacity, while existing cost-based rate customers would not be effected by the new rates.

¹¹⁹ Additional storage capacity can be obtained from existing fields by a variety of means, including drilling larger diameter wells, relocating wells, incorporating coil tubing drilling, and adding compression, dehydration facilities, and new gathering lines. *See* FERC Staff Report at 16.

¹²⁰ *See* Comments of Interstate Natural Gas Ass'n of Am., *supra* note 117.

¹²¹ *Id.* at 22.

At the other end of the spectrum, several commentators, including independent natural gas storage operators, the AGA, the NGSAs, and the APGA, strongly supported the FERC's interpretation of the term "specific facility" as being limited to "a new cavern, reservoir or aquifer."¹²² Such commentators expressed concern that permitting expansions of existing facilities to qualify for market-based rates without market review and analysis would increase the potential for cross-subsidization, in which the storage provider would shift costs to cost-of-service customers, thereby effectively subsidizing their market-based rate customers. In its comments, the NGSAs asserts that the FERC would find it impossible to adequately protect the interests of the existing customers if existing cost-based storage providers are able to seek market-based rates for expansion of existing facilities under the proposed liberalized rules implementing Section 4(f).¹²³

[c] — Generic Safeguards.

In response to the FERC's invitation for comments on what, if any, potential generic safeguards should be implemented to protect against market power abuse, several commenters agreed with the FERC that the FERC could rely on a showing that a storage operator has sold or made available all of its capacity. Such commenters also agreed with the FERC's proposal that an auction process pursuant to which an applicant would be required to sell all capacity above a "reserve price" would be an appropriate means to ensure that the operator is not withholding storage capacity. Some of the commenters, however, suggested that the FERC not establish rules for determining a reserve price because the price should be dependent upon the economics of each project.¹²⁴ One commenter asserted that no generic safeguards are necessary. Instead, the company argued that the "best assurances against the exercise of market power is the creation of a competitive

¹²² Rate Regulation of Certain Underground Storage Facilities, *supra* note 101 at 77084.

¹²³ See Comments of the Natural Gas Supply Ass'n, *supra* note 117.

¹²⁴ See, e.g., Comments of the Interstate Natural Gas Ass'n of Am., *supra* note 117.

market” and that this is best done by “allowing market-based rates to ‘clear’ the market, even during times of shortage.”¹²⁵

Other commenters, including the NGSAs and the APGA urged the FERC to adopt a number of requirements to prevent providers from imposing “either excessive or unduly discriminatory and preferential rates.”¹²⁶ The APGA provided a lengthy list of proposed requirements, including the following:

the capping of the price of long-term storage service and requiring tariff terms and conditions;

long-term contracts being subject to a right of first refusal;

any storage service at market-based rates being awarded based on an auction procedure approved by the FERC; and

a review by the FERC every three years to determine whether the availability and rates offered for market-based storage services are just and reasonable.¹²⁷

The NGSAs propose that the FERC compare prices an applicant intends to charge to the prices others in the area are charging for market-based rate storage. The NGSAs also propose that contracts could provide customers the ability to ratchet down their contract demand requirements. In its comments, the NGSAs support the use of a non-discriminatory open season to award available storage capacity and urges the FERC to conduct a periodic review at least every five years.¹²⁸

Congress has clearly mandated the FERC to implement changes in its regulations to allow natural gas companies placing new storage capacity in service to negotiate market-based rates even if they are unable to show a lack of market power. If the FERC amends its proposed rule to expand its application to increased capacity at existing facilities, it seems likely that the

¹²⁵ Comments of Duke Energy Gas Transmission.

¹²⁶ Comments of the Am. Public Gas Ass’n, Docket Nos. RM05-23-000, AD04-11-000 19 (Feb. 27, 2006) available at http://elibrary.ferc.gov/docs_filing/elibrary.asp follow the “Docket Search” hyperlink and search for Docket Number AD04-11-000.

¹²⁷ *Id.* at 20.

¹²⁸ Comments of the Natural Gas Supply Ass’n, *supra* note 117.

FERC will also need to adopt more generic safeguards than are contemplated in the currently proposed rule to ensure the protection of the consumers.

§ 6.05. Conclusion.

Underground gas storage plays a critical role in assuring that the demands of natural gas customers are met. Storage may also be increasingly viewed as an effective way to reduce commodity price volatility, thus resulting in an increasing demand for additional storage capacity to be developed.

The statutes, rules, regulations, and case law governing the development, maintenance, and operation of underground gas storage facilities are numerous. It will be interesting to maintain the continued development of the law as demand for storage continues to increase and advancements in the development and operation of natural gas storage are made in the years to come.

