Report on

**Business Regulation of Pipelines**

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By

Royce Don Deaver, P.E.

DEATECH Consulting Company

203 Sarasota Circle South

Montgomery, Texas 77356

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**Business Regulation of Pipelines**

**Executive Summary**

Business regulation of pipelines began with the Hepburn Act of 1906 which provided the Interstate Commerce Commission (ICC) with jurisdiction over oil pipelines. During the earlier parts of the twentieth century, crude oil pipelines were charging exorbitant rates for transporting crude oil from producing fields in Texas, Oklahoma, Kansas, and other states to oil refineries. The transportation distances were often several hundred miles and the only competition were railroads. However, railroads did not have the capacity to transport the large amounts of crude oil. The crude oil pipelines had no substantial competition.

In 1941, the U.S. Justice Department created the “Consent Decree formula” and imposed several constraints on oil pipelines. To accommodate the “Consent Decree”, pipeline companies established semi-standalone companies with their own semi-independent management. Pipeline assets were separated from their parent owner companies and the profitability of oil pipelines was limited to seven percent of the present day value of the pipeline properties. The asset valuations were based on considerations of the original cost and today’s replacement cost of the pipeline properties. The low profit limitation of seven percent was the major consideration in leveling the competition between major and small oil companies. This profit reduction also lowered the incentives for new oil pipelines to be constructed.

To monitor the conduct of oil pipeline companies, the ICC required pipeline tariffs be published and subject to their review to monitor price gouging in certain markets. Oil pipeline companies had to submit annual accounting reports covering their properties, expenses, and profits. Oil pipeline company profits were limited to seven percent (7%) of the value of the pipeline’s assets. Generation of profits was an easy matter for most oil companies until oil production began to decline in the 1970’s and refineries began to import large amounts of foreign crude oil.

The Federal Power Commission (FPC) was originally created in 1920 by the Federal Water Power Act to license hydroelectric projects on land and navigable waters owned by the federal government. The “independent” Commission was formed in 1930. The Natural Gas Act of 1938 was the first act of federal regulation of the natural gas industry.

This initial regulation gave the FPC the authority to set “Just and Reasonable Rates” for the transmission or sale of natural gas in interstate commerce. The FPC had jurisdiction over wholesale gas prices. The FPC also had the authority to grant certificates allowing construction and operation of facilities used in interstate gas transmission and authorizing the provision of services. A “certificate of public convenience and necessity” was to be issued under Section 7 of the Natural Gas Act that permitted pipeline companies to charge customers for some of the expenses incurred in pipeline construction and operation. The Natural Gas Act also required FPC approval prior to abandonment of any pipeline facility or service. The Natural Gas Act of 1938 did not apply to the production, gathering, or local distribution of natural gas.

At the time of the Natural Gas Act of 1938, large amounts of natural gas associated with crude oil production was being flared or otherwise wasted. The use of natural gas was dependent on the availability of a network of gas transmission pipelines to transport the gas sometimes hundreds of miles to places of consumption.

Passage of the Natural Gas Act of 1938 was also a reaction to concerns about the possible monopoly power of a few interstate pipeline companies. The natural gas market has changed significantly since the 1930’s, and particularly since the 1970’s, with less regulation combined with market forces to create a more competitive natural gas industry. The Department of Energy Organization Act of 1977 resulted in the FPC being renamed FERC.

From 1938 to 1978, the Federal government regulated only the interstate gas market. The Natural Gas Policy Act of 1978 (NGPA) grated FERC authority over intrastate as well as interstate natural gas production. The NGPA established price ceilings for wellhead first sales of gas that varied when the gas well was started, depth of the well, closeness to other gas wells, and when the gas was first sold to the interstate market. The maximum gas prices were set initially as ceiling prices plus monthly inflation and escalation factors. A schedule for price decontrol was also set. On January 1, 1985, price ceilings for new gas were to be removed.

The NGPA of 1978 resulted in an oversupply of natural gas resulting in a decline in natural gas prices by 1982. Natural gas prices at the wellhead were totally deregulated by the early 1990s. In April 1992, FERC issued Order 636 to require natural gas pipeline companies to split-off any non-regulated sales functions from their regulated transported functions. Interstate pipeline companies were prohibited from reselling gas and no longer owned the gas they transported. Natural gas purchasers were allowed to negotiate price provisions directly from gas suppliers or contract from marketers who can assemble a package of transportation and storage services. FERC allowed futures and options markets, and secondary markets for pipeline capacity to develop.

The Energy Policy Act of 2005 reduced and revised FERC’s authority and today FERC mainly:

1. Regulates the transmission and sale of natural gas for resale in interstate commerce;
2. Regulates the transmission of petroleum by pipelines in interstate commerce;
3. Regulates the transmission and wholesale of electricity in interstate commerce;
4. Licenses and inspects private, municipal, and state hydroelectric projects;
5. Approves the siting of and abandonment of interstate natural gas facilities, including pipelines, storage, and liquefied natural gas;
6. Ensures the reliability of high voltage interstate transmission system;
7. Monitors and investigates energy markets;
8. Uses civil penalties and other means against energy organizations and individuals who violate FERC rules in the energy markets;
9. Oversees environmental matters related to the natural gas and hydroelectricity projects and major electricity policy initiatives; and
10. Administers accounting and financial reporting regulations and conduct of regulated companies.

FERC considers itself to be an independent regulatory agency within the Department of Energy. Neither the President nor Congress reviews FERC decisions. However, the frequency of new laws affecting FERC suggests there should be more scrutiny over energy markets which are vital to our economy. FERC pays for itself by recovering costs directly from the industries it regulates through annual charges and fees.

R. D. Deaver, P.E.

DEATECH Consulting Company

rddeaver.com

 **Business Regulation of Pipelines**

**Oil Pipeline Business Regulation Overview**

Business regulation of pipelines began with the Hepburn Act of 1906 which provided the Interstate Commerce Commission (ICC) with jurisdiction over oil pipelines. During the earlier parts of the twentieth century, crude oil pipelines were charging exorbitant rates for transporting crude oil from producing fields in Texas, Oklahoma, Kansas, and other states to oil refineries. The transportation distances were often several hundred miles and the only competition were railroads. However, railroads did not have the capacity to transport the large amounts of crude oil. The crude oil pipelines had no substantial competition.

The profits generated by oil pipeline companies were much greater than the cost of producing and refining the crude oil. Many of the crude oil pipelines were owned by the major producing and refining companies and the profits from crude oil pipelines reached the major oil companies through high dividend payments. The crude oil companies were generating more profits than their owner’s producing and refining operations. This situation created competition disadvantages for the independent oil producers and even the independent oil refiners since the majority of the profits in the business were tied to oil pipelines. Independents having no trunklines to connect oil producing fields to refining centers were severely disadvantaged.

In 1941, the U.S. Justice Department created the “Consent Decree formula” and imposed several constraints on oil pipelines. To accommodate the “Consent Decree”, pipeline companies established semi-standalone companies with their own semi-independent management. Pipeline assets were separated from their parent owner companies and the profitability of oil pipelines was limited to seven percent of the present day value of the pipeline properties. The asset valuations were based on considerations of the original cost and today’s replacement cost of the pipeline properties. The low profit limitation of seven percent was the major consideration in leveling the competition between major and small oil companies. This profit reduction also lowered the incentives for new oil pipelines to be constructed.

To monitor the conduct of oil pipeline companies, the ICC required pipeline tariffs be published and subject to their review to monitor price gouging in certain markets. Oil pipeline companies had to submit annual accounting reports covering their properties, expenses, and profits. Oil pipeline company profits were limited to seven percent (7%) of the value of the pipeline’s assets. Generation of profits was an easy matter for most oil companies until oil production began to decline in the 1970’s and refineries began to import large amounts of foreign crude oil.

The 1977 Department of Energy Organization Act removed jurisdiction over interstate petroleum from the Interstate Commerce Commission.

**Gas Pipeline Business Regulation Overview**

The Federal Power Commission (FPC) was originally created in 1920 by the Federal Water Power Act to license hydroelectric projects on land and navigable waters owned by the federal government. The “independent” Commission was formed in 1930. The Natural Gas Act of 1938 was the first act of federal regulation of the natural gas industry.

This initial regulation gave the FPC the authority to set “Just and Reasonable Rates” for the transmission or sale of natural gas in interstate commerce. The FPC also had jurisdiction over wholesale gas prices. The FPC also had the authority to grant certificates allowing construction and operation of facilities used in interstate gas transmission and authorizing the provisions of services. A “certificate of public convenience and necessity” was to be issued under Section 7 of the Natural Gas Act that permitted pipeline companies to charge customers for some of the expenses incurred in pipeline construction and operation. The Natural Gas Act also required FPC approval prior to abandonment of any pipeline facility or service. The Natural Gas Act of 1938 did not apply to the production, gathering, or local distribution of natural gas. See Chapter 5 for more on natural gas price regulation.

At the time of the Natural Gas Act of 1938, large amounts of natural gas associated with crude oil production was being flared or otherwise wasted. The use of natural gas was dependent on the availability of a network of gas transmission pipelines to transport the gas sometimes hundreds of miles to places of consumption.

Passage of the Natural Gas Act of 1938 was also a reaction to concerns about the possible monopoly power of a few interstate pipeline companies. The natural gas market has changed significantly since the 1930’s, and particularly since the 1970’s, with less regulation combined with market forces to create a more competitive natural gas industry. The Department of Energy Organization Act of 1977 resulted in the FPC being renamed FERC.

**FERC Regulatory Authority**

From 1938 to 1978, the Federal government regulated only the interstate gas market. The Natural Gas Policy Act of 1978 (NGPA) grated FERC authority over intrastate as well as interstate natural gas production. The NGPA established price ceilings for wellhead first sales of gas that varied when the gas well was started, depth of the well, closeness to other gas wells, and when the gas was first sold to the interstate market. The maximum gas prices were set initially as ceiling prices plus monthly inflation and escalation factors. A schedule for price decontrol was also set. On January 1, 1985, price ceilings for new gas were to be removed.

According to FERC, the NGPA of 1978 resulted in an oversupply of natural gas resulting in a decline in natural gas prices by 1982. Natural gas prices at the wellhead were totally deregulated in the early 1990s. In April 1992, FERC issued Order 636 to require natural gas pipeline companies to split-off any non-regulated sales functions from their regulated transported functions. Interstate pipeline companies were prohibited from reselling gas and no longer owned the gas they transported. Natural gas purchasers were allowed to negotiate price provisions directly from gas suppliers or contract from marketers who can assemble a package of transportation and storage services. FERC allowed futures and options markets, and secondary markets for pipeline capacity to develop.

The Energy Policy Act of 2005 reduced and revised FERC’s authority and today FERC mainly:

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3. Regulates the transmission and wholesale of electricity in interstate commerce;
4. Licenses and inspects private, municipal, and state hydroelectric projects;
5. Approves the siting of and abandonment of interstate natural gas facilities, including pipelines, storage, and liquefied natural gas;
6. Ensures the reliability of high voltage interstate transmission system;
7. Monitors and investigates energy markets;
8. Uses civil penalties and other means against energy organizations and individuals who violate FERC rules in the energy markets;
9. Oversees environmental matters related to the natural gas and hydroelectricity projects and major electricity policy initiatives; and
10. Administers accounting and financial reporting regulations and conduct of regulated companies.

FERC considers itself to be an independent regulatory agency within the Department of Energy. Neither the President nor Congress reviews FERC decisions. However, the frequency of new laws affecting FERC suggests there should be considerable scrutiny over energy markets which are vital to our economy. FERC pays for itself by recovering costs directly from the industries it regulates through annual charges and fees.

FERC’s authority to approve the siting, abandonment, and profit levels of gas transmission companies gives them overwhelming control over pipeline safety initiatives. There are over 100,000 miles of older gas transmission pipelines in need of proactive fitness for service analysis and replacement in many cases. However, FERC controls the actions and means of gas transmission companies to meet safety requirements and initiatives imposed by the U.S. Department of Transportation. This situation creates a “Catch 22” condition on pipeline safety initiatives.

Most forms of energy other than coal and wood can be very dangerous if adequate safety provisions are not made. FERC currently prevents adequate safety provisions from being available and continues to be a “road block” to public safety and energy transportation reliability.

**Interstate vs. Intrastate Transportation**

The scope of 49 CFR Part 192 is defined in Section 192.1(a) as:

This part prescribes minimum safety requirements for pipeline facilities and the transportation of gas---.

Section 192.3 includes the following definitions.

1. *Pipeline facility* means new and existing pipelines, right-of-way, and any equipment, facility, or building used in the transportation of gas or in the treatment of gas during the course of transportation.
2. *Transportation of gas* means the gathering, transmission, or distribution of gas by pipeline or the storage of gas in or affecting interstate or foreign commerce.

The scope of 49 CFR Part 195 is described in Sections 195.0 and 195.1 as:

1. This part prescribes minimum safety standards for pipeline facilities used in the transportation of hazardous liquids and carbon dioxide.
2. This part applies to pipeline facilities and the transportation of hazardous liquids or carbon dioxide associated with those of facilities in or affecting interstate or foreign commerce.

Section 195.2 includes the following definition.

*Pipeline facility* means new or existing pipe, right-of-way, and any equipment, facility, or building used in the transportation of hazardous liquids or carbon dioxide.

Transportation of hazardous liquid or carbon dioxide are not defined.

United States Constitutional Law defines *interstate commerce* as any commercial transactions or traffic that cross state boundaries or that involve more than one state. *Traffic* refers to transportation of people, money, or goods. *Commercial transactions* applies to sales or exchange of commodities.

Today, FERC’s Glossary includes the following definitions.

1. *Interstate* – Sales where transportation of natural gas, oil, or electricity crosses state boundaries. Interstate sales are subject to FERC jurisdiction.
2. *Interstate Commerce* – An exchange of goods or commodities which involves transportation between states.
3. *Intrastate* – Sales where transportation of natural gas, oil, or electricity occur within a single state and do not cross state boundaries. Intrastate sales are not subject to FERC jurisdiction.

FERC’s concept of interstate commerce does not consider the origin and final destination of natural gas, oil, or electricity transportation. FERC only considers where the sales or exchanges are made. This concept is questionable and is not consistently applied by the U.S. DOT in jurisdictional determinations.

When the U.S. DOT was developing and issuing pipeline safety regulations in the late 1960s, the U.S. DOT had little or no historical involvement with pipelines. They were looking for guidance and an interstate jurisdiction, the U.S. DOT relied on the Interstate Commerce Commission (ICC) for petroleum pipelines and the Federal Power Commission (FPC) for natural gas pipelines. However, these two business regulatory agencies applied the concept of interstate versus intrastate differently. The ICC practiced an oversight role on petroleum pipelines, but the FPC practiced an active role on natural gas pipelines that included their limited practice of interstate based only on sales of commodities and not transportation paths of the commodities.

The results of the U.S. DOT’s adoption of the FERC’s criteria for determining interstate commerce has created the following consequences:

1. 99+% of the natural gas distribution companies are not under Federal regulatory enforcement.
2. Over 100,000 miles of large high pressure pipelines being classified by pipeline operators as gathering although they function as transmission pipelines.
3. Over 100,000 miles of large diameter, high pressure gas transmission lines organized as intrastate pipeline to avoid Federal business or safety oversight.

The U.S. DOT allows gas pipeline companies to control the classifications of pipelines as interstate and subject to Federal jurisdiction or as intrastate and not subject to Federal jurisdiction.

For pipelines subject to 49 CFR Part 195, the traditional Interstate Commerce Commission (ICC) concept based on transportation or traffic is used to determine interstate commerce. The ICC criteria depends on the movement or transportation of goods or pipeline commodities from their origin to final destination.

For pipelines subject to 49 CFR Part 192, the old Federal Power Commission (FPC) concept is used to determine interstate commerce. The FPC criteria depended on the location of transportation facilities, not the origin and final destination of the natural gas involved in transportation.

FERC’s continuation of the FPC determination of interstate involves the definition of interstate pipelines and intrastate pipelines depending on the beginning and end points of each pipeline and on sales and exchanges between each pipeline. FERC allows natural gas produced in Texas and consumed in New York to be treated as intrastate transportation if only intrastate pipelines within each state are used to transport the gas from Texas to New York.

To avoid FERC regulation in total, a pipeline company can create intrastate pipeline companies for each state that are interconnected at state lines. They can also dodge FERC compliance by classifying transmission lines as gathering lines even if they function as transmission lines. Many gas midstream pipeline companies carry this practice to extremes.

It also appears that FERC does not want to be involved with local natural gas or electric distribution even when the natural gas and electricity are produced in one state and consumed in another state.

**Interagency Agreements on Pipelines**

The U.S. DOT and FERC have a 1993 memorandum of understanding (MOU) on gas transmission facilities, but none on petroleum and other hazardous liquid transportation facilities. There is no actual MOU on transportation of gas, only gas transmission facilities. Key provisions in this MOU between the U.S. DOE and the U.S. DOT on natural gas transportation facilities include:

1. Purpose is to set policy on respective statutory responsibilities to ensure the safe and environmentally sound siting, design, construction, operations, and maintenance of natural gas transportation facilities.
2. The U.S. DOT exercises the authority to promulgate and enforce safety regulations and standards for the transportation of natural gas in or affecting interstate or foreign commerce under NGPSA of 1968, as amended, and the Hazardous Materials Transportation Act (HMTA).
3. The U.S. DOT regulations and standards promulgated under these authorities extend to the design, installation, construction, initial testing, operation, and maintenance of gas transportation facilities.
4. The U.S. DOT enforces compliance with these regulations and standards through an inspection program and, when appropriate, the imposition of civil, criminal, or administrative remedies.
5. The U.S. DOT gas pipeline regulations and standards generally apply to both interstate and intrastate facilities.
6. FERC under Section 7 of the Natural Gas Act (NGA) issues certificates of public convenience and necessity with terms and conditions for facilities proposed for use in the sale for resale or transportation of natural gas in interstate commerce.
7. As required by the National Environmental Policy Act, FERC prepares environmental statements or environmental assessments for proposed natural gas transmission facilities in conjunction with the issuance of certificates.
8. Natural gas pipeline companies may also construct certain gas transmission facilities under Section 311 of the Natural Gas Policy Act.
9. This MOU acknowledges the U.S.DOT has exclusive authority to promulgate Federal safety standards for facilities used in the transportation of natural gas.
10. However, FERC exercises the authority over the siting or location of interstate natural gas transportation facilities and may impose conditions to mitigate the impact of construction or operation on the environment.
11. Coordination responsibilities of the U.S. DOT will include:
	1. Promptly alert FERC when U.S. DOT safety activities may impact the responsibilities of FERC.
	2. Notify FERC of major incidents involving pipeline facilities under the jurisdiction of FERC.
	3. Notify FERC of significant enforcement actions involving pipeline facilities under the jurisdiction of FERC.
	4. Refer to FERC complaints and inquiries made by state and local governments and the general public involving environmental or certificate of convenience and necessity to FERC.
	5. When requested by FERC, review draft mitigation conditions of FERC for conflict with U.S. DOT regulations.
12. Coordination responsibilities of FERC will include:
	1. Promptly alert the U.S. DOT when FERC becomes aware of an existing or potential safety problem involving natural gas transmission facilities.
	2. Notify the U.S. DOT of future pipeline construction.
	3. Provide periodic updates to the environmental compliance inspection schedule and coordinate site inspections when requested by the U.S. DOT.
	4. Notify the U.S. DOT when significant safety issues have been raised during the preparation of environmental assessments or environmental impact statements.
	5. Refer to the U.S. DOT complaints and inquiries made by local or state governments and the general public involving safety matters related to pipelines under FERC’s jurisdiction.

Analyses and comments of this MOU are:

1. As of 1993 and even today, the U.S. DOT has not fully complied with the NGPSA of 1968.
2. Title 49 CFR Part 195 was first issued on September 29, 1969 and initially covered design, construction, operations, and maintenance. Amendments were added on March 31, 1970; November 2, 1970; May 4, 1971; September 15, 1972; January 31, 1973; and March 16, 1973 to generally cover the initial scope of Part 195 on “Transportation of Liquids by Pipeline”.
3. On July 12, 1968, the Hazardous Materials Regulation Board issued Notice 68-4 (Docket HM-6; FR 10213, July 17, 1968) proposing to amend Part 180 to establish detailed safety regulations for hazardous liquid pipelines. However, the Board decided to delete Part 180 on pipelines and create a new Part 195.
4. The initial version of 49 CFR Part 191 was issued on February 9, 1970. The initial version of 49 CFR Part 192 was issued on August 11, 1970, one day before the due date in the NGPSA of 1968.
5. HMTA of 1974 generally empowered the U.S. DOT to issue and enforce regulations deemed necessary to ensure safe domestic and international movement of hazardous materials. The U.S. DOT has failed to meet this commitment.
6. Because of numerous grandfathering clauses and exemptions, many miles of pipelines are not subject to the design, installation, construction, and initial testing requirements in 49 CFR Parts 192 and 195.
7. The statement on the coverage on U.S. DOT regulations and standards is misleading.
8. What standards has the U.S. DOT promulgated?
9. The U.S. DOT enforcement activities until recently have been minimal at best.
10. Why wasn’t this MOU used to clarify the conflicting FERC criteria for defining interstate and intrastate pipelines?
11. Why wasn’t this MOU used to mutually establish the criteria on public convenience and necessity? There are significant differences between convenience and necessity.
12. Why doesn’t FERC require environmental assessments and statements on hazardous liquid pipelines? Hazardous liquids have a far greater potential for environmental damage than gas releases.
13. The siting of pipelines should be a dual undertaking by FERC and the U.S. DOT, FERC from the business regulation standpoint and the U.S. DOT from a public safety and environmental standpoint.
14. FERC has the power to delay or reject approvals for major expenditures needed by pipelines for safety issues. This should be a duty of the U.S. DOT.
15. FERC should be a source of cost and benefit data on U.S. DOT pipeline safety initiatives. The U.S. DOT only considers cost/benefit on a micro basis, not a regional or national basis for additional cost benefits.

The U.S. DOT also has a 2004 MOU with the U.S. DOE and the National Institute of Standards and Technology (NIST) on pipeline integrity, safety and reliability research and development (R&D). Provisions of and information in this MOU include:

1. Purpose is to detail the responsibilities of the U.S. DOT, U.S. DOE, and NIST in a program of research, development, demonstration, and standardization to ensure the integrity of pipeline facilities.
2. This MOU will identify the program elements, as well as specify areas of agency expertise, and establishes a framework for coordination and collaboration by these agencies.
3. The pipeline infrastructure that currently transports energy resources is facing age-related impacts on the transportation system integrity.
4. Although new pipelines are being constructed, pipeline operators plan on continued operation of the vast majority of existing pipeline mileage.
5. Ensuring the long-term integrity and security of these existing pipelines through the application of improved technology is essential.
6. This MOU was required by the Pipeline Safety Improvement Act of 2002 (PSA of 2002).
7. These MOU agencies recognize the need to work together to identify pipeline facility research priorities, determine the most promising research proposals, avoid duplication of R&D efforts, assure coordination and collaboration, advance technology solutions, and involve outside stakeholders.
8. Program elements will cover:
	1. Materials inspection;
	2. Stress and fracture analysis;
	3. Detection of cracks, corrosion, abrasion, and other abnormalities inside pipelines that lead to pipeline failure;
	4. Development of new equipment or technologies that are inserted into pipelines to detect anomalies;
	5. Internal inspection and leak detection technologies, including detection of leaks at very low volumes;
	6. Methods of analyzing the content of pipeline throughput (meters and quality instrumentation);
	7. Pipeline security, including real time surveillance of pipeline rights-of-way and developing tools for evaluating and enhancing pipeline security and infrastructure;
	8. Reducing natural, technological, and terrorists threats;
	9. Protecting first response units and persons near an incident;
	10. Risk assessment methodology, including vulnerability assessment and reduction of third-party damage;
	11. Communications, controls, and information systems security;
	12. Fire safety of pipelines;
	13. Improved excavation, construction, and repair technologies; and
	14. Other appropriate elements.
9. Each participating agency has primary responsibility for implementing program elements within its expertise.
10. The U.S. DOT has primary responsibilities in the following areas:
	1. Pipeline facility R&D, demonstration, and standardization as it pertains to natural gas and hazardous liquid pipeline safety, integrity management, and damage prevention.
	2. Short-term to mid-term R&D projects that will quickly bring the results to industry and market.
	3. Lead participating agencies in preparing and presenting the five-year program to Congress.
11. The U.S. DOE has primary responsibilities in the following areas:
	1. R&D, demonstration, and standardization on pipeline reliability, deliverability, and surveillance.
	2. Focus efforts on advanced and innovative mid-term to long-term R&D on the next generation of infrastructure technologies.
12. NIST has primary responsibilities in the following areas:
	1. Pipeline material R&D and demonstration.
	2. Pipeline fire safety.
	3. Liaison with private sector consensus standards organizations as it pertains to natural gas and hazardous liquid pipeline safety, reliability, and damage prevention.

Analyses and comments on this MOU are:

1. This joint effort has diffused efforts toward pipeline safety and waste government financial resources (tax payer money).
2. Cooperative efforts and sharing of expertise driving these agencies should have a beneficial outcome, but behavior and politics between agencies will prevent this concept from working. The concept may work on a professional or staff level, but not on a management level between agencies.
3. The U.S. DOT grandfathering provisions in 49 CFR Parts 192 and 195 are partially responsible for the age-related impacts on the pipeline transportation systems infrastructure. Other U.S. DOT negative impacts included the lack of enforcement and the use of general performance-based regulation without a clue on how to define targeted pipeline performance goals.
4. Many of these negative impacts on old pipelines making up much of the pipeline transportation infrastructure has been the failure of U.S. DOT management to allocate adequate resources to pipeline safety.
5. Even today, with substantially greater resource allocation to pipeline safety, the U.S. DOT emphasis is on random inspection of operator’s procedures, but there is little or no enforcement action.
6. The U.S. DOT fails to accept the limited useful and fitness for service concept for older pipelines.
7. Pipeline companies will continue to operate older pipelines until the cost of continued operation exceeds the cost to replace the pipelines.
8. I estimate that the U.S. DOT has applied only about 10% of the available knowhow on materials inspection, stress analysis, fracture mechanics, new technologies, leak detection technologies, metering, pipeline operation surveillance, rights-of-way surveillance, protecting first responders and public safety near incidents, fire safety, and other technologies.
9. The U.S. DOT does not need new R&D applicable to pipeline integrity and safety. The U.S. DOT needs to “harness” and apply currently available knowhow into pipeline regulations.
10. More prescriptive pipeline regulations have been needed for the past 45 years.
11. Any attempt to share technical responsibility with the U.S. DOE will likely meet failure, but could be used by the U.S. DOT to blame the U.S. DOE for 45 years of regulatory failures.
12. The NIST has many capable technical professionals, but their efforts are not likely to be fruitful unless proper guidance is provided. If not, much of their work may be in areas already researched and also known in other industries.

Neither the U.S. DOE nor the U.S. DOT have the knowhow to address and untangle overdue pipeline safety issues due to about 50 years of neglect.

**FERC Profit Control over Interstate Petroleum Pipelines**

In 1980, interstate petroleum pipeline companies subject to business regulation reported the following data on FERC Form P annual reports:

1. 35,279 miles of crude oil gathering pipelines.
2. 59,560 miles of crude oil trunklines.
3. 74,510 miles of refined products trunklines.
4. Annual crude oil deliveries of 6,405 million barrels.
5. Annual refined products deliveries of 4,195 million barrels.
6. Pipeline property valuation of $19,752,256,000.
7. Operating revenue of $6,356,000,000.
8. Net income of $1,912,000,000.
9. Net profit rate of 9.68%.

In 1990, interstate petroleum pipeline companies subject to FERC business regulation reported the following data on FERC Form No. 6 annual reports:

1. 32,349 miles of crude oil gathering pipelines.
2. 55,504 miles of crude oil trunklines.
3. 80,511 miles of refined products trunklines.
4. Annual crude oil deliveries of 6,562 million barrels.
5. Annual refined products deliveries of 4,816 million barrels.
6. Pipeline property valuation of $25,828,192,000.
7. Operating revenue of $7,148,000,000.
8. Net income of $2,339,609,000.
9. Net profit rate of 9.06%.

In 2000, interstate petroleum pipeline companies subject to FERC business regulation reported the following data on FERC Form No. 6 annual reports:

1. 17,518 miles of crude oil gathering pipelines.
2. 50,555 miles of crude oil trunklines.
3. 83,932 miles of refined products trunklines.
4. Annual crude oil deliveries of 6,923 million barrels.
5. Annual refined products deliveries of 7,527 million barrels.
6. Pipeline property valuation of $29,647,994,000.
7. Operating revenue of $7,483,100,000.
8. Net income of $2,705,463,000.
9. Net profit rate of 9.12%.

In 2010, interstate petroleum pipeline companies subject to FERC business regulation reported the following data on FERC Form No. 6 annual reports:

1. 10,437 miles of crude oil gathering pipelines.
2. 50,198 miles of crude oil trunklines.
3. 86,889 miles of refined products trunklines.
4. Annual crude oil deliveries of 7,204 million barrels.
5. Annual refined products deliveries of 6,314 million barrels.
6. Pipeline property valuation of $45,379,810,000.
7. Operating revenue of $12,562,252,000.
8. Net income of $4,582,285,000.
9. Net profit rate of 10.10%.

In 2014, interstate petroleum pipeline companies subject to FERC business regulation reported the following data on FERC Form No. 6 annual reports:

1. 14,571 miles of crude oil gathering pipelines.
2. 56,375 miles of crude oil trunklines.
3. 89,663 miles of refined products trunklines.
4. Annual crude oil deliveries of 9,289 million barrels.
5. Annual refined products deliveries of 6,881 million barrels.
6. Pipeline property valuation of $84,910,293,000.
7. Operating revenue of $19,281,113,000.
8. Net income of $9,572,871,000.
9. Net profit rate of 11.3%.

In 2017, interstate petroleum pipeline companies subject to FERC business regulations reported the following data on FERC Form No. 6 annual reports:

1. 15,170 miles of crude oil gathering pipelines.
2. 60,517 miles of crude oil trunklines.
3. 93,126 miles of refined products pipelines.
4. Annual crude oil deliveries of 11,420 million barrels.
5. Annual refined products deliveries of 7,910 million barrels.
6. Pipeline property valuation of $111,861,868,000.
7. Operating revenue of $25,426,615,000.
8. Net income of $13,856,077,000.
9. Net profit rate of 12.4%.

Between 2013 and 2014, the miles of crude oil trunklines increased by 6,401 miles; however, the carrier property valuation increased from $67,890,464,000 to $84,910,293,000. Net profits increased from $6,980,508,000 in 2013 to $9,572,871,000, an increase of 37% in just one year. In 2017, net profits increased to $13,856,077,000 from $10,542,007,000 in 2016, a 31.4% increase in one year. What’s going on? This is an unprecedented increase in profits of petroleum pipeline companies regulated by FERC.

**FERC Profit Control over Natural Gas Pipelines**

In 1980, interstate natural gas pipeline companies subject to FERC business regulation reported the following data on FERC Form 2 annual reports:

1. 192,418 miles of transmission pipelines.
2. 69,745 miles of field or gas gathering lines.
3. 12,085miles of storage facility pipelines.
4. 274,248 total miles of pipelines.
5. 1,993 total compressor stations.
6. Total sales of 17,317,198,000,000 SCF.
7. Pipeline property valuation (gas plant) of $34,212,309,000.
8. Operating revenue of $45,271,035,000.
9. Net income of $3,057,010,000.
10. Net profit rate of 8.9%.

In 1990, interstate natural gas pipeline companies subject to FERC business regulation reported the following data on FERC Form 2 and 2-A annual reports:

1. 208,358 miles of transmission pipelines.
2. 62,148 miles of field or gas gathering (field) lines.
3. 4,436 miles of storage facility pipelines.
4. 274,942 total miles of pipelines.
5. 2,279 total compressor stations.
6. 5,744,053,000,000 SCF sold to others.
7. 21,083,151,000,000 SCF transported for others.
8. Pipeline property valuation of $55,267,854,000.
9. Operating revenue of $32,195,898,000.
10. Net income of $2,877,508,000.
11. Net profit rate of 5.2%.

In 2000, interstate natural gas pipeline companies subject to FERC business regulation reported the following data on FERC Forms 2 and 2-A annual reports:

1. 192,842 miles of transmission pipelines.
2. 1,439 total compressor stations.
3. 1,386 miles of field or gathering (field) lines.
4. 237 miles of storage facility pipelines.
5. 194,096 total miles of pipelines.
6. 812,402,000,000 SCF sold to others.
7. 31,987,136,000,000 SCF transported for others.
8. Pipeline plant valuation of $68,823,431,000.
9. Operating revenue of $14,980,925,000.
10. Net income of $2,910,835,000.
11. Net profit rate of 4.2%.

In 2010, interstate natural gas pipeline companies subject to FERC business regulation reported the following data on FERC Forms 2 and 2-A annual reports:

1. 196,134 miles of transmission pipelines.
2. 1,522 total compressor stations.
3. Volume transported for others of 40,495,173,000,000 SCF.
4. Pipeline property valuation $124,742,960,000.
5. Operating and maintenance expenses of $6,617,570,000.\*
6. Operating revenue of $19,790,011,000.
7. Net income of $5,210,388,000.
8. Net profit rate of 4.2%.

\*Not reported on petroleum pipelines.

In 2014, interstate natural gas pipeline companies subject to FERC business regulation reported the following data on FERC Forms 2 and 2-A annual reports:

1. 195,194 miles of transmission pipelines.
2. 1,482 total compressor stations.
3. Volume transported for others of 46,293,010,000,000 SCF.
4. Pipeline property valuation $151,986,076,000.
5. Operating and maintenance expenses of $7,474,131,000.
6. Operating revenue of $24,514,239,000.
7. Net income of $4,776,194,000.
8. Net profit rate of 3.1%.

In 2017, interstate natural gas pipeline companies subject to FERC business regulation reported the following data on FERC Forms 2 and 2-A annual reports:

1. 193,488 miles of transmission pipelines.
2. 1,500 total compressor stations.
3. Volume transported for others of 52,077,902,000,000 SCF.
4. Pipeline property valuation $170,743,499,000.
5. Operating and maintenance expense $6,855,207,000.
6. Operating revenue of $23,276,168,000.
7. Net income of $6,287,577,000.
8. Net profit rate of 3.7%.

At some time in the early 2000’s, gas pipeline operating and maintenance expenses were included in the Annual Reports. Annual operating and maintenances expenses reported to FERC for the interstate gas pipeline market included:

Table 1

|  |  |
| --- | --- |
| Year | Operating & Maintenance Expenses |
| 2004 | $6,024,562,000 |
| 2005 | $7,064,523,000 |
| 2006 | $7,097,752,000 |
| 2007 | $7,865,327,000 |
| 2008 | $8,147,038,000 |
| 2009 | $6,325,155,000 |
| 2010 | $6,617,570,000 |
| 2014 | $7,474,131,000 |
| 2016 | $7,158,574,000 |
| 2017 | $6,855,207,000 |

I suspect that the information on operating and maintenance expenses for years before 2002 are available in FERC records, but were not summarized for the *Oil and Gas Journal*.

Why are the gas pipeline company profit margins going down when petroleum pipeline margins are going up at a dramatic rate? It appears that FERC applies a double standard in favor of petroleum pipeline companies. Why?

Observations from the above FERC data on compliance activities of natural gas transmission companies from 1980-2014 include:

1. The volume of natural gas transported in 2014 was 2.7 times the 1980 volume.
2. The miles of transmission lines did not change substantially.
3. The miles of gathering (field) lines dropped by over 98%.
4. The profit margins for interstate gas transmission were low.
5. In 1990, the miles of transmission lines and number of compressor stations were their highest and continued to drop in 2000, 2010, and 2014. This trend was caused by reclassification of interstate pipelines as interstate pipeline affiliates with little business regulation by gas transmission companies.
6. In 1980, the revenue for each 1,000 SCF transported was $2.61.
7. In 1990, the revenue for each 1,000 SCF transported was $1.53.
8. In 2000, the revenue for each 1,000 SCF gas transported dropped again to $0.49.
9. In 2010, the revenue for each 1,000 SCF of gas transported dropped to $0.47.
10. In 2014, the revenue for each 1,000 SCF of gas transported was $0.53.
11. In 2017, the average revenue for each 1,000 SCF of gas transported dropped to $0.45.
12. The average revenue charged for gas transmission is too low. A revenue of at least $1.00 per 1,000 SCF would allow more than ample funding of more pipeline safety initiatives.
13. The profit margins for gas transmission dropped from $0.18 per 1,000 SCF of gas in 1980 to $0.10 per 1,000 SCF of gas in 2014 and $0.12 per 1,000 SCF in 2017.
14. FERC needs to be sensitive to requirements for pipeline safety expenditures.

**FERC 2014-2018 Strategic Plan**

*Introduction*

FERC published a “Strategic Plan” on how they will comply with their “mission and vision”. FERC’s stated mission was to assist customers in obtaining reliable, efficient, and sustainable energy services at a reasonable cost through appropriate regulatory and market means. To fulfill this mission, FERC has the following goals:

1. Ensure just and reasonable rates, terms, and conditions.
2. Promote safe, reliable, secure, and efficient infrastructure.
3. Mission support through organizational excellence.

*FERC Regulatory Authority*

FERC stated their regulatory activities include:

1. Regulates the transmission and wholesale sale of electricity.
2. Regulates the transmission and wholesale sale of natural gas in interstate commerce.
3. Regulates the transportation of oil by pipeline in interstate commerce.
4. Reviews proposals to build interstate natural gas pipelines, natural gas storage projects, and liquefied natural gas (LNG) terminals.
5. Licenses non-federal hydropower projects.
6. Protect the reliability and cyber security of the electric transmission power system through the establishment and enforcement of mandatory standards.

*FERC Organizational Structure*

FERC is organized into twelve offices. Only the following two offices are involved with pipelines.

1. Office of Energy Projects. Fosters economic and environmental benefits through the approval and oversight of natural gas pipelines, natural gas storage, and LNG projects that are supposedly in the public interest.
2. Office of Energy Market Regulation. Analyzes filings submitted by natural gas and oil pipelines to ensure that rates, terms, and conditions of service are just, reasonable, not unduly discriminatory, and not unduly preferential.

*FERC Goals*

Goals stated in the FERC Strategic Plan include:

1. Establish FERC rules and policy that will result in just, reasonable, and not unduly discriminatory or preferential service.
2. Increase compliance with FERC rules and detect market manipulation.
3. Foster economic and environmental benefits for the nation through approval of natural gas projects.
4. Minimize risks to the public associated with FERC jurisdictional energy infrastructure.
5. Manage FERC resources effectively and efficiently.

FERC and its predecessors have been regulating the business affairs of gas and oil pipeline facilities for years. A goal of establishing FERC rules and policy in this area seems “too little, too late”.

Although FERC includes safety of the pipeline infrastructure, FERC has no legislative authority on pipeline safety initiatives to “minimize risks to the public”. Pipeline safety is the legislated responsibility of the U.S. DOT. The memorandum of understanding between U.S. DOT and U.S. DOE/FERC does not directly include pipeline safety regulations. The inclusion of pipeline safety under the U.S. DOE is a regulatory duplication of effort and a waste of taxes.

*Minimize Risk to the Public Due to Jurisdictional Energy Infrastructure*

FERC stated activities to minimize risk to the public include:

1. Review applications and issuing orders on construction, operation, and modification of interstate natural gas facilities.
2. Ensuring the safety of LNG facilities throughout their entire life cycle.

However, regulations on the safety of LNG facilities are found in 49 CFR Part 193. The U.S. DOT, not FERC, is responsible for these regulations. However U.S. DOT enforcement regulations in 49 CFR Part 190 do not address LNG facilities. Regulations in 49 CFR Part 193 cover:

1. Scope of regulations,
2. Siting requirements,
3. Facility design,
4. Construction,
5. Equipment requirements,
6. Operations,
7. Maintenance,
8. Personnel qualifications, and
9. Security.

There is no mention of FERC in 49 CFR Part 193. This division of authority and responsibility is awkward and inefficient “to say the least”. Why does the U.S.A. government create such an awkward and inefficient regulatory dilemma?

The FERC Strategic Plan indicates before LNG projects are constructed, the designs, plans, and specifications of the proposed facility are reviewed and approved. Through regularly scheduled and comprehensive inspections construction and operation, FERC engineers verify that LNG facilities meet stipulated design criteria, identify necessary remedial modifications or required maintenance, and ensure compliance with requirements.

The experiences gained through comprehensive facility and operational inspections or audits are invaluable in addressing issues that needed to be modified, expanded, or included in regulations. However, the U.S. DOT, not FERC, has authority over LNG safety regulations. There are no published documents covering whether there is appropriate cooperation and interaction between FERC and the U.S. DOT.

*FERC’s Future Challenges*

Information stated by FERC on its published list of future challenges included:

1. FERC has a responsibility to ensure the safe, secure, and reliable operation of the energy infrastructure within its jurisdiction.
2. FERC oversees the enforcement of safety requirements and reliability standards.
3. FERC identifies and advances practices to protect against cyber and physical security threats.
4. Natural disasters and major incidents, both accidental and intentional, can shift public opinion and identify gaps in current requirements and standards.
5. State and Federal agency jurisdiction for electric and oil transportation infrastructure and weather conditions affect demand for electricity and natural gas.

Questions from the above FERC perception of future challenges include:

1. FERC appears to be trying to expand its “sphere of influence” or scope of regulatory authority to transportation safety.
2. However, the U.S. DOT has been granted the authority and responsibility for transportation safety by Congress for many years.
3. FERC should limit its activities to business oversight of the energy industries and not the transportation infrastructure involving energy.
4. A major safety issue involves control of energy transportation facility locations. This is an important consideration that affects safety and should be under the U.S. DOT as part of pipeline safety regulations.
5. However, control of siting is one of FERC’s absolute regulatory control actions held over from the “old” Federal Power Commission to support the use of natural gas within the U.S.A., especially after World War II. Thousands of miles of these pipelines, constructed in the late 1940s, 1950s, and 1960s are still in operation.
6. FERC does not list the aging energy transportation infrastructure as one of its priorities. However, FERC has to be involved with this challenge and approve pipeline replacement projects.
7. FERC overstated its authority in its mission and goal statements.

FERC’s Strategic Plan appears to be poorly conceived and off target when it comes to oil and natural gas transportation facilities.

*FERC Financial Report for 2015*

Relevant information in the FERC Financial Report for 2015 is:

1. During 2015, approximately 1,456 full time equivalents of people carried out FERC’s activities.
2. The 2015 budget was $304,389,000.
3. FERC’s statutory authority centers on major aspects of the Nation’s wholesale electric, natural gas, hydroelectric, and oil pipeline industries.
4. FERC was created through the Department of Energy Organization Act on October 1, 1977. At that time, FERC inherited most of the Federal Power Commission’s (FPC) regulatory mission.
5. The FPC was established in 1920.
6. In addition to the regulation and oversight of energy markets, FERC is charged with the responsibility to promote the development of a robust, reliable, and secure energy infrastructure that operates safety, reliability, and efficiently.
7. In addition to its siting authority, FERC has other infrastructure responsibilities including the safety of non-federal hydroelectric power projects and LNG facilities throughout their entire life cycle.
8. Specifics on FERC activities are limited to:
	1. Add risk analysis into the Owners Dam Safety Program.
	2. Develop mandatory reliability and security standards for the electric bulk power system.
	3. Conduct an assessment of the operation of the electric bulk power system.
	4. Promote energy infrastructure security with facility owners and operators.
9. FERC recovers the full cost of its operations through annual charges and filing fees assessed on the industries it regulates.
10. None of FERC’s objectives and related activities are related to pipelines other than possible cyber security which will likely be a regulatory responsibility of the U.S. DOT.
11. FERC’s Financial Report does not breakdown its sources of its receipts from regulated entities.
12. FERC’s Financial Report does not breakdown its expenditures between regulated entities. These breakdowns should be provided.

**Gas Transmission Pipelines Subject to FERC**

Natural gas transmission subject to FERC’s interstate gas transmission rules, including Ruby Pipeline, L.L.C. are:

1. Algonquin Gas Transmission, LLC;
2. Alliance Pipeline, L.P.;
3. American Midstream (Midla), LLC;
4. ANR Pipeline Company;
5. ANR Storage Company
6. Arlington Storage Company, LLC;
7. Big Sandy Pipeline, LLC;
8. Bison Pipeline LLC;
9. Black Marlin Pipeline Company;
10. Blue Lake Gas Storage Company;
11. Bluewater Gas Storage, LLC;
12. Bobcat Gas Storage;
13. B-R Pipeline Company;
14. Caledonia Energy Partners, L.L.C.;
15. Cameron Interstate Pipeline, LLC;
16. Carolina Gas Transmission Corporation;
17. CenterPoint Energy-Mississippi River Transmission, LLC;
18. CenterPoint Energy Gas Transmission Company, LLC;
19. Centra Pipelines Minnesota, Inc.,
20. Central Kentucky Transmission Company;
21. Central New York and Gas, LLC;
22. Chandeleur Pipe Line Company;
23. Cheniere Creole Trail Pipeline, L.P.;
24. Cheyenne Plains Gas Pipeline Company, L.L.C.;
25. Cimarron River Pipeline, LLC;
26. Clear Creek Storage Company, L.L.C.;
27. Colorado Interstate Gas Company;
28. Columbia Gas Transmission, LLC;
29. Columbia Gulf Transmission Company;
30. Cotton Valley Compression, L.L.C.;
31. Crossroads Pipeline Company,
32. Dauphin Island Gathering Patterns;
33. Destin Pipeline Company, L.L.C.;
34. Discovery Gas Transmission LLC;
35. Dominion Cove Point LNG, LP;
36. Dominion South Pipeline Company, LP;
37. Dominion Transmission, Inc.;
38. East Tennessee Natural Gas, LLC;
39. Eastern Shore Natural Gas Company;
40. Egan Hub Storage, LLC;
41. El Paso Natural Gas Company;
42. Elba Express Company, L.L.C.;
43. Empire Pipeline, Inc.;
44. Enbridge Offshore Pipelines (UTOS) LLC;
45. Energy West Development, Inc.
46. Equiltrans, L.P.;
47. ETC Tiger Pipeline, LLC;
48. Fayetteville Express Pipeline LLC;
49. Florida Gas Transmission Company, LLC;
50. Freebird Gas Storage, LLC;
51. Garden Banks Gas Pipeline, LLC;
52. Gas Transmission Northwest Corporation;
53. Golden Pass Pipeline, LLC;
54. Golden Triangle Storage, Inc.;
55. Granite State Gas Transmission, Inc.;
56. Great Lakes Gas Transmission Limited Partnership;
57. Guardian Pipeline, L.L.C.;
58. Gulf Crossing Pipeline Company LLC;
59. Gulf South Pipeline Company, LP;
60. Gulf States Transmission LLC;
61. Gulfstream Natural Gas System, L.L.C.;
62. Hampshire Gas Company;
63. Hardy Storage Company, LLC
64. High Island Offshore System, L.L.C.;
65. Honeoye Storage Corporation;
66. Horizon Pipeline Company, L.L.C.;
67. Iroquois Gas Transmission System, L.P.;
68. Kern River Gas Transmission Company;
69. Kinder Morgan Illinois Pipeline LLC;
70. Kinder Morgan Interstate Gas Transmission LLC;
71. Kinder Morgan Louisiana Pipeline LLC;
72. KO Transmission Company;
73. Leaf River Energy Center LLC;
74. Liberty Gas Storage, LLC;
75. Maritimes & Northeast Pipeline, L.L.C.;
76. MarkWest New Mexico, L.L.C.;
77. MarkWest Pioneer, L.L.C.;
78. Midcontinent Express Pipeline LLC;
79. Midwestern Gas Transmission Company;
80. MIGC LLC;
81. Millennium Pipeline Company, LLC;
82. Mississippi Canyon Gas Pipeline, L.L.C.;
83. Mississippi Hub, LLC;
84. McGas Pipeline, LLC;
85. Mojave Pipeline Company, LLC;
86. Monroe Gas Storage Company, LLC;
87. National Fuel Gas Supply Corporation;
88. National Grid LNG, LP;
89. Natural Gas Pipeline Company of America LLC;
90. Nautilus Pipeline Company, L.L.C.;
91. NGO Transmission, Inc.;
92. North Baja Pipeline, LLC;
93. Northern Border Pipeline Company;
94. Northwest Pipeline GP;
95. OkTex Pipeline Company, L.L.C.;
96. Ozark Gas Transmission, L.L.C.;
97. Paiute Pipeline Company;
98. Panhandle Eastern Pipe Line Company, LP;
99. Panther Interstate Energy, LLC;
100. Petal Gas Storage, L.L.C.;
101. PetroLogistics Natural Gas Storage, LLC;
102. Pine Needle LNG Company, LLC;
103. Pine Prairie Energy Center, LLC;
104. Portland General Electric Company;
105. Portland Natural Gas Transmission System;
106. PostRock KPC Pipeline, LLC;
107. Puget Sound Energy;
108. Questar Overthrust Pipeline Company;
109. Questar Pipeline Company;
110. Questar Southern Trails Pipeline Company;
111. Rendezvous Pipeline Company, LLC;
112. Rockies Express Pipeline LLC;
113. Ruby Pipeline, L.L.C.;
114. Sabine Pipe Line LLC;
115. Saltville Gas Storage Company, L.L.C.;
116. Sea Robin Pipeline Company, LLC;
117. SG Resources Mississippi, L.L.C.;
118. Southeast Supply Header, LLC;
119. Southern LNG Company, L.L.C.;
120. Southern Natural Gas Company;
121. Southern Star Central Gas Pipeline, Inc.;
122. Southwest Gas Storage Company;
123. Southwest Gas Transmission Company, A Limited Partnership;
124. Steckman Ridge, LP;
125. Steuben Gas Storage Company;
126. Stingray Pipeline Company, L.L.C.;
127. Tennessee Gas Pipeline Company;
128. Texas Eastern Transmission, LP;
129. Texas Gas Transmission, LLC;
130. Total Peaking Services, L.L.C.;
131. Trailblazer Pipeline Company LLC;
132. TransColorado Gas Transmission Company LLC;
133. Transcontinental Gas Pipe Line Company, LLC;
134. Trans-Union Interstate Pipeline, L.P.;
135. Transwestern Pipeline Company, LLC;
136. Tres Palacios Gas Storage LLC;
137. Trunkline Gas Company, LLC;
138. Trunkline LNG Company, LLC;
139. Tuscarora Gas Transmission Company;
140. TWP Pipeline LLC;
141. UGI Storage Company;
142. UGI LNG Inc.;
143. USG Pipeline Company;
144. Vector Pipeline L.P.:
145. Venice Gathering System, L.L.C.;
146. Viking Gas Transmission Company;
147. West Texas Gas, Inc.;
148. Western Gas Interstate Company;
149. WestGas InterState, Inc.;
150. White River Hub, LLC;
151. Williston Basin Interstate Pipeline Company;
152. WTG Hugoton, LP;
153. Wyckoff Gas Storage Company, LLC;
154. Wyoming Interstate Company, L.L.C.; and
155. Young Gas Storage Company, Ltd.

**Petroleum Pipelines Subject to FERC**

Petroleum pipelines subject to FERC’s interstate petroleum transportation rules are:

1. Alpine Transportation Company;
2. Amoco Capline Pipeline Company;
3. Apache GOM Pipeline, Inc.;
4. Arrowhead Louisiana Gathering LLC;
5. Banner Transportation Company L.L.C.;
6. Baton Rouge Pipeline LLC;
7. Belle Fourche Pipeline Company;
8. Belle Rose NGL Pipeline, L.L.C.;
9. Bengal Pipeline Company LLC;
10. BKEP Pipeline, L.P.;
11. Black Lake Pipeline Company;
12. Blue Dolphin Pipe Line Company;
13. BP Oil Pipeline Company;
14. BP Pipelines (Alaska) Inc.;
15. BP Pipelines (North America) Inc.;
16. BP Transportation (Alaska) Inc.;
17. Bridger Pipeline LLC;
18. Buckeye Pipe Line Company, L.P.;
19. Buckeye Pipe Line Transportation LLC;
20. Butte Pipe Line Company;
21. Caillou Boca Gathering, L.L.C.;
22. Calnev Pipe Line LLC;
23. CCPS Transportation, LLC;
24. Cenex Pipeline, LLC;
25. Centennial Pipeline LLC;
26. Centurion Pipeline L.P.;
27. Chapararal Pipeline Company, LLC;
28. Chevron Pipe Line Company;
29. Chicap Pipe Line Company;
30. Chisholm Pipeline Company;
31. Chunchula Pipeline Company, LLC;
32. CITGO Pipeline Company;
33. CITGO Products Pipeline Company;
34. Collins Pipeline Company;
35. Colonial Pipeline Company;
36. Conoco Offshore Pipe Line Company;
37. ConocoPhillips Pipe Line Company;
38. ConocoPhillips Transportation Alaska, Inc.;
39. Cottonwood Creek, Inc.;
40. Cypress Interstate Pipeline LLC;
41. Cypress Pipeline Company LLC;
42. DCP Wattenberg Pipeline LLC;
43. Delaware Pipeline Company LLC;
44. Diamondback Pipeline L.L.C.;
45. Dixie Pipeline Company;
46. Dome Petroleum Corp.;
47. Dry Trails Midstream Energy, LLC;
48. Ellwood Pipeline, Inc.;
49. Enbridge Energy, Limited Partnership;
50. Enbridge Pipelines (North Dakota) LLC;
51. Enbridge Pipelines (Ozark) L.L.C.;
52. Enbridge Pipelines (Southern Lights) LLC;
53. Enbridge Pipelines (Toledo) Inc.;
54. Enbridge Storage (Patoka) L.L.C.;
55. Endicott Pipeline Company;
56. Energy XXI Pipeline, LLC;
57. Energy XXI U.S.A., Inc.;
58. Enterprise Crude Pipeline LLC;
59. Enterprise Lou-Tex NGL Pipeline L.P.;
60. Enterprise TE Products Pipeline Company LLC;
61. EPL Pipeline, L.L.C.;
62. Excel Pipeline LLC;
63. Explorer Pipeline Company;
64. Express Pipeline LLC;
65. ExxonMobil Pipeline Company;
66. Frontier Pipeline Company;
67. Genesis Pipeline USA, L.P.;
68. Hawthorn Oil Transportation (North Dakota), Inc.;
69. Hawthorn Oil Transportation (Oklahoma), Inc.;
70. Heartland Pipeline Company;
71. Holly Energy Partners – Operating, L.P.;
72. IMTT-PIPELINE;
73. Independent Trading and Transportation Company LLC;
74. Inland Corporation;
75. Jayhawk Pipeline, L.L.C.;
76. Keystone Pipeline Company;
77. Kinder Morgan Cochin LLC;
78. Kinder Morgan Operating L.P. “A”;
79. Kinder Morgan Wink Pipeline LLC;
80. Koch Alaska Pipeline Company, LLC;
81. Koch Pipeline Company, L.P.;
82. Kuparuk Transportation Company;
83. Lacieda Pipeline Company;
84. LOCAP LLC;
85. Magellan Pipeline Company, L.P.;
86. Marathon Offshore Pipeline LLC;
87. Marathon Pipe Line LLC;
88. MarkWest Michigan Pipeline Company, L.L.C.;
89. Mars Oil Pipeline Company;
90. Mid-America Pipeline Company, LLC;
91. Mid-Valley Pipeline Company;
92. Milne Point Pipeline, LLC;
93. Minnesota Pipe Line Company, LLC;
94. Mobil Eugene Island Pipeline Company;
95. Mobil Pipe Line Company;
96. MOEM Pipeline LLC;
97. Mustang Pipeline LLC;
98. Muskegon Pipeline LLC;
99. Navajo Nation Oil & Gas Company;
100. Nexen Pipeline U.S.A. Inc.;
101. Nexen Pipeline U.S.A. LLC;
102. Norco Pipe Line Company, LLC;
103. Northstar Pipeline Company, LLC;
104. NOVA Chemicals Inc.;
105. NuStar Logistics, L.P.;
106. NuStar Pipeline Operating Partnership, L.P.;
107. Ohio Oil Gathering Corporation II;
108. Ohio River Pipe Line LLC;
109. Olympic Pipe Line Company;
110. ONEOK Arbuckle North Pipeline, L.L.C.;
111. ONEOK NGL Pipeline, L.L.C.;
112. ONEOK North System, L.L.C.;
113. Onyx Offshore LLC;
114. Osage Pipe Line Company, LLC;
115. Overland Pass Pipeline Company LLC;
116. P.M.I. Services North America, Inc.;
117. Phillips Texas Pipeline Company, Ltd.;
118. Pioneer Pipe Line Company;
119. Plains LPG Services, L.P.;
120. Plains Pipeline, L.P.;
121. Plains Pipeline-North Dakota LLC;
122. Plantation Pipe Line Company;
123. Platte Pipe Line Company;
124. Portland Pipe Line Corporation;
125. QEP Field Services Company;
126. Questar Gas Management Company;
127. Razorback L.L.C.;
128. Red Butte Pipe Line Company;
129. Regency Liquids Pipeline LLC;
130. Rio Grande Pipeline Company;
131. Rocky Mountain Pipeline System LLC;
132. Salmon Resources Ltd.;
133. San Pedro Bay Pipeline Company;
134. Sanders Pipeline Company;
135. Seaway Products Pipeline Company;
136. Seminole Pipeline Company;
137. SFPP, L.P.;
138. Shell Pipeline Company LP;
139. Ship Shoal Pipeline Company;
140. Sinclair Pipeline Company, L.L.C.;
141. Skelly-Belvieu Pipeline Company, L.L.C.;
142. SLC Pipeline LLC;
143. Sorrento Pipeline Company, LLC;
144. South Tex 66 Pipeline Company, Ltd.;
145. SP 49 Pipeline LLC;
146. Suncor Energy (U.S.A.) Pipeline Company;
147. Sunoco Pipeline L.P.;
148. Targa NGL Pipeline Company LLC;
149. Tesoro High Plains Pipeline Company LLC;
150. The Premcor Pipeline Co.;
151. The Shamrock Pipe Line Corporation;
152. TOTAL PETROCHEMICALS PIPELINE USA, INC.;
153. Trans Mountain Pipeline (Puget Sound) LLC;
154. TransCanada Keystone Pipeline, LP;
155. Tri-States NGL Pipeline, LLC;
156. Unocal Pipeline Company;
157. Valero MKS Logistics, L.L.C.;
158. Valero Terminalling and Distribution Company;
159. WestPac Pipelines – Memphis LLC;
160. West Shore Pipe Line Company;
161. West Texas Gulf Pipe Line Company;
162. West Texas LPG Pipeline Limited Partnership;
163. Western Refining Pipeline Company;
164. WesTTex 66 Pipeline Company;
165. White Cliffs Pipeline, L.L.C.;
166. Whitecap Pipeline Company, L.L.C.;
167. Whiting Oil & Gas Corporation;
168. WILPRISE Pipeline Company, L.L.C.;
169. Wolverine Pipe Line Company;
170. Wood River Pipe Lines LLC;
171. XTO Energy, Inc.; and
172. Yellowstone Pipe Line Company.

**Pipeline Compliance with FERC Interstate Classification Rules**

*Introduction*

Every year in the autumn, the *Oil and Gas Journal* publishes a “Pipeline Economics” edition that lists pipeline companies that submit annual FERC reports. For crude oil and refined products, the annual report is provided on US FERC Form No. 6, Annual Report of Oil Pipelines. For natural gas transmission pipelines, the annual report is provided on US FERC Form 2 for major companies and Form 2A for non-major companies.

Every year in the autumn, the *Pipeline and Gas Journal* publishes an “Annual Pipeline Review” that lists the largest 100 gas transmission and gathering pipelines, the largest 100 petroleum pipelines, and the largest 250 gas distribution companies.

*Leading Gas Gathering and Transmission Companies*

For the end of 2009 *Oil and Gas Journal* list of gas transmission included:

1. 139 companies;
2. 198,381 miles of transmission pipelines;
3. 1,526 compressor stations;
4. 38,622,261,000,000 standard cubic feet of transported natural gas per year;
5. $121,270,385,000 of gas pipeline facilities;
6. Revenue of $18,953,292,000;
7. Revenue per 1,000 standard cubic feet of $0.49;
8. Net income of $4,657,340,000; and
9. Net income per 1,000 standard cubic feet of $0.12.

For the end of 2009 *Pipeline and Gas Journal* list, no total are given because only the largest 100 companies were included. For the largest twenty companies in the 2009 *Pipeline and Gas Journal* the miles of pipeline were:

Table 2

2009 List of Largest Gas Gathering and Transmission Pipeline Companies

 Pipeline Mileage

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Transmission\* | Gathering | Total |
| 1. DCP Midstream | 3,133 | 56,649 | 59,782 |
| 2. ONEOK Partners | 6,880 | 14,600 | 21,480 |
| 3. Northern Natural Gas | 15,028 | 0 | 15,028 |
| 4. Tennessee Gas | 14,113 | 0 | 14,113 |
| 5. El Paso Natural Gas | 10,235 | 0 | 10,235 |
| 6. Columbia Gas Transmission | 9,794 | 0 | 9,794 |
| 7. ANR Pipeline | 9,579 | 0 | 9,579 |
| 8. Texas Eastern | 9,314 | 0 | 9,314 |
| 9. Natural Gas Pipeline of America | 9,312 | 0 | 9,312 |
| 10. TRANSCO | 9,225 | 0 | 9,225 |
| 11. Enogex | 2,433 | 5,763 | 8,196 |
| 12. Southern Natural Gas | 7,563 | 0 | 7,563 |
| 13. Gulf South Pipeline | 6,565 | 835 | 7,431 |
| 14. Dominion | 3,452 | 3,375 | 7,314 |
| 15. CenterPoint | 6,162 | 0 | 6,162 |
| 16. Pacific Gas & Electric | 5,557 | 440 | 6,034 |
| 17. Texas Gas Transmission | 5,881 | 99 | 5,980 |
| 18. Panhandle Eastern | 5,894 | 0 | 5,894 |
| 19. Southern Star Central Gas | 5,711 | 0 | 5,711 |
| 20. Kinder Morgan Interstate Gas | 5,272 | 0 | 5,272 |

\*Includes storage piping

Mysteriously missing from the list of largest gas pipeline companies were Enbridge, Energy Transfer Equity, and Southern Union Company. Recently, Energy Transfer announced its purchase of Southern Union Company for $4,200,000,000 and assumed $3,700,000,000 in debt. According to a *Wall Street Journal* article on the acquisition, Energy Transfer had nearly 24,000 miles of natural gas pipelines, mainly in Texas. Southern Union had more than 21,000 miles of pipelines that reached customers in Florida, Illinois, and other states.

The new company will transport more than 30,000,000,000 standard cubic feet of gas a day, close to half the USA’s daily consumption. The new company will be the largest natural gas pipeline company by mileage and capacity, surpassing Houston based El Paso Corporation.

Current natural gas related operations of Energy Transfer Fuel include:

1. Interstate pipeline operations including:
	1. ETC Tiger Pipeline and
	2. Fayetteville Express Pipeline.
2. Intrastate transportation and storage operations including:
	1. ET Fuel System:
		1. 2,600 miles of intrastate pipelines with 5,200,000,000 standard cubic feet per day of capacity;
		2. 460 receipt and/or delivery points;
		3. 6,400,000,000 standard cubic feet of storage capacity; and
		4. Godley gas plant.
	2. Oasis Pipeline:
		1. 36-inch, 600 mile pipeline from the Waha Hub near Midland, Texas to the Katy Hub near Houston, Texas; and
		2. Connections to other pipelines, power plants, gas processing plants, municipalities and gas producers.
	3. Houston Pipeline System:
		1. 4,100 miles of intrastate pipelines;
		2. 5,500,000,000 standard cubic feet per day of capacity; and
		3. Bammel storage facility with 62,000,000,000 standard cubic feet of working capacity.
	4. East Texas Pipeline:
		1. 370 miles and
		2. Connects Houston Pipeline System, North Central Texas producers, and Southeast Bossier pipeline.
3. Midstream operations including:
	1. 7,000 miles of gas gathering pipelines.
	2. Three natural gas processing plants.
	3. Seventeen natural gas treating facilities.
	4. Ten natural gas conditioning plants.
4. Propane operations from coast to coast in forty states and 1,100,000 customers.

Current natural gas related operations of the Southern Union Company include:

1. 15,000 miles of interstate pipeline interests including:
	1. Panhandle Eastern Pipe Line Company,
	2. Trunkline Gas Company,
	3. Sea Robin Pipeline Company, and
	4. Florida Gas Transmission.
2. Trunkline LNG Company.
3. Southwest Gas Storage.
4. Southern Union Gas Services:
	1. 5,500 miles of pipelines and
	2. Engaged in gathering, treating, processing, and redelivery of natural gas and natural gas liquids in Texas and New Mexico.
5. Local gas distribution including:
	1. Missouri Gas Energy,
	2. New England Gas Company, and
	3. Half a million customers in Missouri and Massachusetts.

Somehow, Energy Transfer and Southern Union have escaped the oversight of federal business regulation by forming intrastate affiliates. If Federal regulation is truly needed, FERC should close this loophole.

Kinder Morgan acquired El Paso Corporation and created the largest midstream and fourth largest energy company in North America with an enterprise value of $94 billion U.S. dollars and 80,000 miles of pipelines. The total purchase price for El Paso including El Paso’s debt is $38 billion U.S. dollars.

El Paso Corporations gas related operations included:

1. 43,000 miles of interstate transmission system:
	1. Tennessee Gas Pipeline,
	2. Southern Natural Gas,
	3. 50% of Florida Gas Transmission,
	4. Cheyenne Plains Pipeline,
	5. Colorado Interstate Gas,
	6. Wyoming Interstate,
	7. Mojave Pipeline, and
	8. El Paso Natural Gas.
2. Liquefied Natural Gas facilities:
	1. 50% of Gulf LNG terminal and
	2. Eibs Island LNG terminal.
3. Exploration and production operations in:
	1. Wyoming,
	2. Utah,
	3. Texas,
	4. New Mexico,
	5. Oklahoma,
	6. Arkansas,
	7. Indiana,
	8. Louisiana,
	9. Mississippi,
	10. Alabama,
	11. Gulf of Mexico,
	12. Brazil, and
	13. Egypt.
4. Marcellus ethane pipeline system (in future):
	1. 1,100 mile joint venture with Spectra Energy Transmission;
	2. 90,000 barrel per day capacity; and
	3. Connects Marcellus gas plants to delivery points in:
		1. Eunice, Louisiana;
		2. Plaquemine, Louisiana; and
		3. Mont Belvieu, Texas.

My question to the readers and to FERC is whether FERC is up to the challenge to adequately regulate the activities of very large somewhat integrated natural gas companies like Energy Transfer and El Paso Corporation. Do these two companies have too much power over natural gas and natural gas related markets? How much of their operations are regulated by FERC?

The scope of FERC’s activities are too broad and the scope of gas industry production, pipeline gathering, gas treating and processing, gas transmission, gas distribution, and number of companies are too broad for FERC to realistically have timely and effective control over the supply and price of natural gas. The volatility of natural gas supply and natural gas prices illustrate FERC is a following, not leading, force in business regulation of the natural gas industry. Their questionable effectiveness of their ability to regulate the natural gas industry is similar to the failure of the government agencies to control the banking industry in the late 2000’s. Therefore, at least the following questions need to be asked:

1. Does FERC serve any meaningful purpose in our economy?
2. What effect has FERC had on the petroleum pipeline industry?
3. What would happen to the natural gas industry if the FERC did not exist?
4. Shouldn’t FERC be balanced in its judgments on “public convenience and necessity”?
5. Does FERC represent the interests of the general public?
6. Why does FERC continue to interfere with safety and environmental issues that are better addressed by the U.S. DOT?
7. Does FERC do more harm than good?

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R. D. Deaver, P.E.

DEATECH Consulting Company

rddeaver.com

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