The Interstate Natural Gas Infrastructure Authorization Process, a Policy Review

Prepared for

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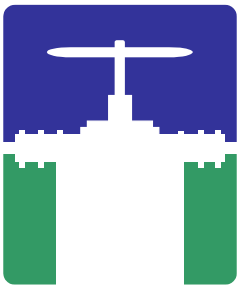

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Executive Summary

This paper reviews how the Federal Energy Regulatory Commission (FERC) assesses proposed natural gas infrastructure projects and contrasts that process with possible changes to it such as those proposed in the Natural Gas Strategy Act (Strategy Act or bill). The paper examines the precedents that have shaped the methodologies FERC employs. It also discusses how the agency's current decision-making process already considers the issues highlighted in the Strategy Act. In considering whether alternative approaches to evaluating natural gas infrastructure projects should be adopted via the Strategy Act or other legislation, it is important for the Congress and other participants in this debate to appreciate what FERC does already.

The Strategy Act (HR 6720, 110th Congress, July 31, 2008) would create a national commission to evaluate the processes by which natural gas infrastructure projects are reviewed and authorized. The stated purpose of the bill is to identify "factors that are in the public interest that natural gas infrastructure developers may not take into account . . . and that may not be adequately assessed by United States Government agencies. . . ." The specific factors that the Strategy Act would require the proposed commission to review are:

- Regional economic impacts;
- The relationship of proposed natural gas facilities to national climate change policy;
- The relationship between the proposed natural gas facilities and other national infrastructure development priorities, especially electric power;
- The relationship of the proposed natural gas facilities with national safety and security priorities;
- The level of expenditures by federal, state and local agencies for land and water-based security for natural gas infrastructure (and the relative level of such expenditures compared to security expenditures for other critical infrastructure);
- The ability of traditional security agencies like the Coast Guard, other traditional security missions, and state and local agencies to provide security and safety of LNG operations;

- The linkages between natural gas supplies, CO_2 emissions, electricity supply and reliability, and how carbon policies may affect demand for natural gas;
- The effect on natural gas infrastructure requirements of federal policies on carbon, electricity reliability, and the development of domestic natural gas resources; and
- Appropriate criteria for selecting natural gas infrastructure locations to meet national energy policy goals and ensure adequate natural gas supplies, given the constraints on land and water based security capabilities, and that are environmentally sound.

After one year, the commission would report its findings and recommendations.

This legislation appears to arise out of recent controversies that have accompanied the siting of natural gas pipelines, storage projects, and particularly liquefied natural gas (LNG) import facilities. The concern expressed by the sponsors of the legislation is that FERC only reacts to infrastructure proposals brought forth by project developers. The sponsors would like to see "a more comprehensive, national strategy for the placement of facilities which would increase access to affordable energy, strengthen security and reduce environmental concerns."[1] The bill seems to suggest that a regional planning type process for siting future natural gas infrastructure projects would be superior to the current process followed by FERC.

Pursuant to the Natural Gas Act (NGA), FERC has the responsibility to review proposals for interstate natural gas pipelines, storage facilities and onshore LNG import terminals. The current process for reviewing proposals to construct such natural gas infrastructure is the product of 70 years of evolution. This paper illustrates how the FERC process for reviewing and authorizing natural gas infrastructure now incorporates the extensive public engagement, environmental assessment, economic evaluation, and safety and security assessments that are of concern to the sponsors of the Strategy Act. Importantly, the current decision-making process gives appropriate weight to the national interests that were the reason for enactment of the NGA in 1938. This exercise of federal authority to preempt the states in this field is supported by the Supremacy and Commerce Clauses of the Constitution. Congress in 1938 opted for an interstate natural gas pipeline system subject to federal regulation as the means to ensure the broadest benefits from the development of natural gas resources. This goal has been achieved.

[1] "Bishop, Cummings to Introduce Bill to Create National Strategy for Natural Gas Supply," Press Release, July 29, 2008. Office of Congressman Elijah Cummings.

This paper provides an overview of how this process has evolved and how it works to demonstrate that, contrary to statements by the bill's sponsors, the current process is both wide ranging in its scope and thorough in its treatment of the issues discussed in the bill. A major lesson from this review is that while FERC can authorize a project that it determines meets the public convenience and necessity, the market ultimately determines whether that project will be built. A second lesson is that market participants are in a better position than a governmental planning body to identify and respond promptly to the needs of consumers.

The current regulatory scheme for the natural gas industry relies on market signals to determine when and where new projects should be developed. Companies compete to provide these projects by seeking out customers' views and developing designs that meet customers' needs at competitive prices. Subject to a requirement that a default cost-based rate must be posted, pipeline companies and prospective shippers can negotiate rates for service on a new pipeline. This process is consistent with the evolution of the interstate natural gas market that followed wellhead decontrol enacted by the Congress and the restructuring of interstate pipeline services initiated by FERC. The reliance on market incentives and commercial self interest, tempered by FERC's oversight of the industry to protect the public interest, has contributed to a robust, efficient, and responsive natural gas industry.

FERC's process for reviewing, approving and siting natural gas infrastructure has been successful in providing the United States with a reliable, economical, and safe interstate pipeline network. An important characteristic of the current process is its combination of both public and private decision making. Project developers anticipate market needs, design projects to meet those needs, raise capital, and secure customers willing to support infrastructure development. Energy markets can change quickly, and private decision makers, not a public planning entity as suggested by the Strategy Act, are in a better position to respond to those changes.

A state or regional approach would conflict with national goals and result in sub-optimal infrastructure development, as seen with electric transmission. The FERC infrastructure siting, review and approval process under the NGA is not broken and does not need to be fixed.

1. Introduction

The Federal Energy Regulatory Commission (FERC) is responsible for the review and authorization of interstate natural gas facilities in the United States under the provisions of the Natural Gas Act (NGA). This is a New Deal statute that recognized the interstate nature of natural gas service and the need for a national approach to building a pipeline network. Natural gas resources are concentrated in a few states. By contrast, demand for natural gas exists virtually everywhere. In the industry's formative years, Congress recognized the need for federal regulation of interstate pipelines to transport natural gas from the producing states to the consuming states, largely from the south to the north and northeast, because of Constitutional limits on the authority of the states. Therefore, while the NGA fills a regulatory gap that falls outside the constitutional authority of the states, the statute also preempts state authority in the oversight of interstate natural gas infrastructure development and regulation, based on the fundamental recognition of the need for national oversight of interstate commerce.

For 70 years, FERC, and its predecessor the Federal Power Commission, have overseen the development of a natural gas network that now is continental in scale and arguably the most robust and market responsive natural gas delivery system in the world. FERC has revised its NGA review process over the course of many years – and after learning many hard lessons – to arrive at what exists today: a process that implements national policies and aims to balance market needs with local and regional interests.

This paper critiques the assumptions underlying the proposed *Natural Gas Strategy Act* (Strategy Act or bill)[2] or other similar proposals that may be made to revisit the statutory framework for siting interstate natural gas infrastructure. (The bill is reproduced in Appendix A.) The specific requirements that would be created by the Strategy Act are listed and reviewed in Section 3.2 of this report. This proposed legislation would establish a national commission to examine the adequacy of current federal policies governing the siting of natural gas infrastructure. This legislation appears to arise out of recent controversies that have accompanied the siting of natural gas pipelines, storage projects, and liquefied natural gas (LNG) import facilities. The concern expressed by the sponsors of the legislation are that FERC and the Maritime

[2] Natural Gas Strategy Act, HR 6720, 110th Congress, 2d Session, July 32, 2008.

Administration (MARAD) only react to infrastructure proposals brought forth by project developers. The objective of the legislation is to "lead to a more comprehensive, national strategy for the placement of facilities which would increase access to affordable energy, strengthen security and reduce environmental concerns."[3] The bill seems to stem from a premise that a regional planning process for siting future natural gas infrastructure projects would be superior to the current process followed by FERC.

This paper demonstrates how the current FERC process for reviewing natural gas infrastructure projects already addresses the major concerns underlying the Strategy Act. The paper focuses on three key aspects of the current natural gas infrastructure review process:

- The recognition of the importance of an interstate natural gas transportation network to provide the greatest benefits from developing the nation's natural gas resources that resulted in giving FERC preeminent jurisdiction over natural gas facility siting;
- The development of a broad based and public decision-making process designed to incorporate a variety of view points and public policies in siting natural gas infrastructure; and
- The evolution of market-informed decision making for natural gas infrastructure that does a better job of anticipating market needs and responding to market developments than decision making by top-down regulatory dictate.

Finally, this paper reviews the history and evolution of regulatory policy as FERC and the Congress have responded to public concerns and national energy market developments.

Problem Overview

Large energy infrastructure projects can be controversial. Almost any proposed electric power line, generating plant, gas pipeline, refinery, fuel storage depot, LNG terminal, or wind turbine project will face objections from some segment of the population. Most of the controversy centers on where the projects are located. Even though people want the energy the projects provide, and at a low cost, they may not want them as neighbors. Objections over location can include concerns about public safety, the impact on the environment – visual, cultural, water resources, land use, wildlife – and often segue into questions about the need for the project in the first place

[3] "Bishop, Cummings to Introduce Bill to Create National Strategy for Natural Gas Supply," Press Release, July 29, 2008. Office of Congressman Elijah Cummings.

or how the review and authorization process works. "Why here?" quickly becomes "Why at all?"

The opposition to an energy project can be very intense, as indicated by some controversial pipeline projects and almost universal objections to LNG terminals proposed on the east or west coasts, wind turbines off Nantucket, and large power lines throughout the country. This opposition is often referred to as "NIMBY" for "Not in My Back Yard," to reflect that siting objections often have a narrow focus. Still, such siting disputes represent real concerns about land use and quality of life. These objections can be especially acute when the proposed projects are intended to serve energy needs of more distant markets. In such cases, decision makers must balance local concerns with larger market needs, and broader national interests.

This raises the question of what standards regulators should apply when evaluating whether and where natural gas facilities are constructed. What is an appropriate process for determining where natural gas infrastructure projects should be located? What weight should be given to the various factors that decision makers consider when evaluating projects?

In the U.S., where investment responds to market price signals, the development process for natural gas facilities involves a mixture of private decision making and public oversight to achieve economic and environmental policy objectives. Natural gas companies initiate plans to invest in new facilities when they see opportunities in the market. For example, the expansion of drilling in a new domestic producing basin will create a need for pipelines to carry the new production to market; or persistent high natural gas prices in consuming markets, such as those in the Northeast, may signal capacity constraints that can be alleviated either by constructing new pipelines or by delivering gas directly to the market through an LNG import terminal. The FERC review process, in turn, evaluates whether such private investment in infrastructure complies with public policies articulated in federal statutes, regulatory policy, and court decisions that together define what constitutes public convenience and necessity.

The sponsors of the Strategy Act would appear to disfavor this approach, criticizing it as "reactive." The alternative, regional planning, would identify where facilities should be located. But this alternative begs several questions. Would the members of the public most adamantly opposed to a natural gas project be any more satisfied with the projects selected by regional planners? For example, would there be any less opposition to wind turbines in Nantucket Sound if such a choice was made at

the initiative of a regional governmental planning entity instead of a private developer? What would be the consequences for consumers and the economy if private capital chose not to invest in the projects designated by regional planners?

FERC's process is the product of a well-developed body of law reflected in federal statute, regulatory rulemaking, and judicial precedent. This process implements the broad, national public purpose to have an adequate, safe, reliable, and efficient natural gas supply. The questions raised by the Strategy Act should be addressed based on a sound understanding of the history, economics, and law that underlie the current procedures. The next section reviews how the FERC process for evaluating natural gas infrastructure projects has evolved.

2. Evolution of Natural Gas Facility Authorization at FERC

The process by which FERC reviews proposals for natural gas infrastructure is the product of years of evolving public policy. Three themes emerge from a survey of the history of FERC energy project review. First is the dominance of a national perspective in determining which proposed projects should go forward. Second, is the effort to balance these national imperatives with regional and local issues under federal statutes such as the National Environmental Policy Act (NEPA), the Clean Water Act (CWA) and other legislation, and guided by court decisions and changing energy policy. The third theme is FERC's gradual application of market-informed decision making as a substitute for an administrative determination of market need based on the record of a trial-type proceeding. This process has been complex, reflecting changes in the industry and in the government's approach to regulation generally. These themes are addressed below.

2.1 Regulating from a National Perspective

From the enactment of the Natural Gas Act (NGA) in 1938 to the present, the review of proposals to build natural gas facilities has reflected the national focus embodied in the NGA. Still, this decision-making process has evolved to give greater weight to issues raised by stakeholders and to reflect changes in markets and regulatory schemes.

Early Questions of National and Regional Interests

Long distance natural gas transmission became practical in the late 1920s with improvements in metallurgy that allowed the fabrication of large diameter pipe that could be assembled into long distance pipelines. With this technology, natural gas produced in Texas, Oklahoma, Kansas, and Louisiana could be transported to markets outside the region. An interstate natural gas system emerged.

Concern about the exercise of market power by interstate pipeline companies and the limitations on the ability of states to regulate such interstate companies prompted Congress to enact the NGA in 1938. The NGA gave the Federal Power

Commission (the predecessor of FERC, hereinafter referred to as the Commission or FERC) the authority to set "just and reasonable rates" for the transmission or sale for resale of natural gas in interstate commerce. It also gave the Commission the authority to grant certificates of public convenience and necessity allowing construction and operation of facilities used in interstate natural gas transmission.[4]

A new, national perspective emerged early. The Commission instituted the first national uniform system of accounts for natural gas utilities. It brought under its regulatory umbrella previously unregulated natural gas companies, and instituted a new way to calculate allowed rates of return based on depreciated rate base.[5]

A precedent-setting case was decided by the Commission in 1939, shortly after the NGA was enacted, which established the focus of its evaluation of new natural gas pipeline projects. In that case, which involved the Kansas Pipe Line and Gas Company, the Commission articulated the factors it would evaluate to decide whether to authorize the construction of new pipeline facilities, such as the capacity of existing pipelines, the adequacy of the applicant's financial resources, the adequacy of supply, and the economic feasibility of the proposal. Importantly, as an interpretation of Congressional intent, the Commission adopted a policy favoring the construction of facilities to provide new service to communities.[6]

One of the early infrastructure controversies involved competing pipeline proposals to serve the same market. Tennessee Gas and Transportation Company (Tennessee Gas) in 1943 applied to build a pipeline to serve Cornwall, West Virginia. Hope Natural Gas Company (Hope), the local natural gas pipeline supplier, then filed a competing application with the Commission. Tennessee Gas eventually won the certificate, defeating Hope, but also overcoming vociferous objections from state officials in Texas and Louisiana. Industrial development in those southern states relied on cheap natural gas. Officials there objected that Tennessee Gas was diverting these supplies to Ohio and West Virginia and tried to block Tennessee from securing natural gas supply for the northern markets. They were partially successful in Louisiana, so Tennessee

[4] P.L. 75-688, 52 Stat. 821, 16 U.S.C. § 717, et seq. The NGA was the first instance of direct federal regulation of the natural gas industry. The NGA also requires Commission authorization prior to abandonment of any pipeline facility or services.
[5] M. Elizabeth Sanders, *The Regulation of Natural Gas.* Philadelphia: Temple University Press 1981; p 77.
[6] *Kansas Pipe Line & Gas Co.*, 2 FPC 29 (1939). The applications at issue at that time involved competing proposals to serve certain communities, so the Commission divided the territory that it would authorize each pipeline to serve.

Gas extended its pipeline network into Texas where opposition was less intense.[7] The Commission ruled that many of the objections raised about local interests were not within its jurisdiction to consider, which resulted in a decision authorizing the pipeline without considering the objections.[8]

In 1947, Congress further extended the Commission's authority by amending the NGA to confer eminent domain authority to companies that received certificates of public convenience and necessity.[9] This was consistent with the general policy to confer federal eminent domain authority to non-governmental entities in the interest of promoting infrastructure that served a national public purpose, a policy adopted with the building of the transcontinental land grant railroads beginning in the 1860s.

Under the Commission's policies pursuant to the NGA, the natural gas pipeline industry grew enormously after World War II. Natural gas prices were low. In 1950 the wellhead price of natural gas was about $0.07 per million Btu (MMBtu)[10]; interstate transmission costs until the early 1970s were higher than natural gas commodity costs. Between 1950 and 1970 about 142,000 miles of natural gas transmission pipelines were constructed.[11] A national network of pipelines, anticipated by the authors of the NGA, took shape, and natural gas flowed from southern producing states to cities and factories throughout the United States. The 1970s, however, proved to be a watershed in national energy policy. The Arab oil embargo of 1973 heralded an era of high-priced oil. Coincidentally, shortages of interstate natural gas supplies began to develop which carried special implications for natural gas policy.

Incorporating Environmental and Stakeholder Issues in Decisions

Congress passed the National Environmental Policy Act (NEPA) in 1969 to ensure that major federal actions would take into account the environmental impacts of those actions. A NGA certificate of public convenience and necessity is one of the major federal actions potentially within the scope of NEPA. Under NEPA, the Commission began to consider the environmental effects of natural gas projects through the development of environmental impact statements (EIS) for major projects.

[7] Tussing and Barlow, p. 43.
[8] Ibid. Citing 3 FPC 575 (1943)
[9] Act of July 25, 1947, Amendment to the Natural Gas Act 15 U.S.C. 717(h).
[10] Energy Information Administration (EIA), *Annual Energy Review 2007, Table 6.7 Natural Gas Wellhead, City Gate, and Imports Prices, Selected Years 1949-2007*. p. 195.
[11] EIA, http://tonto.eia.doe.gov/energy_in_brief/natural_gas_pipeline.cfm. This number may also include intrastate pipelines.

Initially, the Commission required applicants to submit EISs as part of the application to construct new facilities. But in a landmark case, *Greene County Planning Board v Federal Power Commission* (*Greene County*), the U.S. Court of Appeals for the Second Circuit ordered the Commission to prepare independent EISs.[12] Furthermore, the court ordered that such EISs must be prepared in sufficient time to be considered in administrative hearings at the Commission and reflect comments of other agencies and public commenters. Thus, prior to issuing a decision on a project, the Commission was required to obtain and review a full environmental record.

By the end of 1973, the FPC had set up procedures to screen natural gas applications for environmental issues: first to determine which applications involved "major" federal undertakings, and then to ensure that the environmental impacts were identified, evaluated, and made known to the Commission for its consideration in reviewing project applications. EISs and environmental assessments (for projects not deemed to be major under NEPA) became a routine component of the Commission deliberative process and an essential part of the project record.

Over the years, the significance of the environmental record developed by the FERC staff has increased. The NEPA process, with its emphasis on integrating the views of the public and other agencies, has become more comprehensive. As presented later in this section and in section 3 and Appendices B and C of this report, the FERC NEPA procedures have been major undertakings themselves, such that FERC has instituted an aggressive pre-filing process to ensure all of the relevant environmental, siting, and socioeconomic issues are considered early in the decision-making process.

Managing Natural Gas Shortages

The natural gas shortages of the 1970s and the subsequent restructuring of the interstate pipeline industry in the 1980s and 1990s greatly influenced how FERC evaluates natural gas infrastructure projects.

Natural gas consumption in the U.S. in 1972 was 22.1 trillion cubic feet (TCF), a level that would not be reached again until 1995.[13] At that time, natural gas competed

[12] This case involved the review of a power transmission line in New York State. See *Greene County Planning Board v. FPC,* 455 F.2d 412 (2nd Cir. 1972); cert. denied, 409 U.S. 849, 93 S. Ct. 56, 34 L.Ed.2d 90 (1972).

[13] Energy Information Administration (EIA), *Natural Gas Navigator*, U.S. Natural Gas Total Consumption. http://tonto.eia.doe.gov/dnav/ng/hist/n9140us2a.htm.

with oil and to some extent coal in industrial and electric power markets. The wellhead price averaged $0.21 per MMBtu in 1973 while the average residential price was $1.25 per MMBtu, demonstrating that the majority of costs of delivered natural gas continued to be interstate transmission and local distribution.[14]

Interstate pipelines bought natural gas from producers (often their own affiliates), transported it, and resold it to local distribution companies or industrial customers. Initially, the Commission did not regulate natural gas prices at the wellhead. In the 1954 decision in *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672 (1954), the U.S. Supreme Court ruled that the NGA required the Commission to regulate interstate gas prices including the commodity.[15] In time, two distinct natural gas markets emerged. The *interstate* market was served by the large interstate pipelines and natural gas prices and gas transportation rates were regulated by the Commission. The *intrastate* market, centered mainly in Texas, Louisiana, and Oklahoma, operated free of federal price or facility regulation and served the growing petrochemical and electric power industries in these states as well as local distribution markets.

Beginning in the winter of 1970-71, interstate natural gas markets began to experience shortages of natural gas, which led to the "curtailment" of some customers' contracted firm natural gas supplies. The initial curtailments were not large, but by the next year had reached almost 500 Bcf and by 1975-76 were at 2.9 Tcf.[16] Serious curtailments affected many communities in the north and east where factories and schools closed for lack of natural gas for heating. The causes of curtailments lay in the dual market where interstate natural gas prices were capped at levels well below market-based intrastate natural gas prices. Supply stayed in the intrastate markets and, as a result, there were no shortages in those markets.

[14] Energy Information Administration (EIA), *Natural Gas Navigator*, U.S. Natural Gas Wellhead Price. http://tonto.eia.doe.gov/dnav/ng/hist/n9190us3a.htm . See also U.S. Price of Natural Gas Delivered to Residential Customers. http://tonto.eia.doe.gov/dnav/ng/hist/n3010us3a.htm. Prices converted to MMBtu using 1.03 MMBtu per Mcf.

[15] *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672 (1954), held that the jurisdiction of the Commission extended to "the rates of all wholesales of natural gas in interstate commerce, whether by a pipeline company or not and whether occurring before, during, or after transmission by an interstate pipeline company." With this ruling, the FPC acquired authority to regulate the prices at which producers sold natural gas to interstate gas pipeline companies for resale. Previously, the FPC regulated the prices at which interstate pipeline companies sold gas but not the wellhead price at which they purchased it from producers.

[16] U.S. Congress, Office of Technology Assessment, An Analysis of the Impacts of the Projected Natural Gas Curtailments for the Winter 1975-1976, (November 1975), p. 3.

The Commission undertook a series of actions to re-direct natural gas into the interstate market to alleviate and manage the shortages. These efforts alleviated some of the crisis but did not eliminate the underlying causes of the shortages.

The shortages of the 1970s provided the impetus for supplemental natural gas projects to bring additional supply into the market. The first application for an Alaska natural gas pipeline was filed at the Commission in 1974. The Great Plains Coal Gasification Project in North Dakota also was proposed in the early 1970s and constructed in the early 1980s. The 1970s also saw the first base load LNG import facilities (at Quincy in Massachusetts (1971), and later at Cove Point, Maryland (1974), Elba Island, Georgia (1978), and Lake Charles, Louisiana (1982)). These early LNG projects were affiliated with interstate pipelines; the Commission developed special rate rules (purchased gas adjustments and minimum bills) to support the construction of these projects.

The shortages ended after the passage of the Natural Gas Policy Act of 1978 (NGPA).[17] The NGPA eliminated the barriers between the interstate and intrastate markets to create a national market. It also established complex pricing formulas to deregulate gradually the price of interstate natural gas production. By raising the ceiling prices of new natural gas production, the NGPA was successful in increasing the supply of natural gas available to the interstate market. By the early 1980s, the natural gas supply shortage had turned into a glut. The NGPA permitted producers to charge higher prices in the interstate market and interstate pipelines, reacting to the past shortages, entered into long-term contracts for these new supplies with take-or-pay provisions.[18] As a result, more wells were drilled, and natural gas production increased to levels beyond what the market could absorb. In response, producers began discounting their natural gas to buyers who could acquire it directly instead of through the pipelines. Industrial users and natural gas distributors clamored for this lower-priced product rather than the higher cost natural gas tied to NGPA ceiling prices. FERC attempted to accommodate these demands, but it became apparent that the traditional system of pipeline-owned supply could not accommodate the changes in the market. This had profound implications for how FERC would come to look on infrastructure proposals.

[17] PL. 95-621; 15 U.S.C. § 3301, et seq.

[18] Pipelines averaged the high cost gas supply under these contracts with their low cost gas supplies under the old contracts, increasing the average price of gas on their systems. In time, this caused their system supply to be priced higher than the gas available in the spot market once the glut forced producers to slash prices.

The Revolution in the Natural Gas Industry

Restructuring of the natural gas industry began with the partial decontrol of wellhead natural gas prices in the NGPA. Under the NGPA, price controls on interstate natural gas increasingly relaxed through the 1980s. FERC implemented open access pipeline transportation in 1985 as a first step towards workably competitive natural gas markets. In 1989, Congress followed with the Wellhead Decontrol Act, repealing all remaining price controls on wellhead sales.

Order No. 636,[19] issued by FERC in April 1992 and implemented in November 1993, was a seminal event in the restructuring of wholesale natural gas markets. The order fundamentally altered commercial relationships in the industry and effected a restructuring of the wholesale natural gas market by making two significant changes in how pipelines operated. First, pipelines were required to unbundle their natural gas sales from their transportation and storage services. Second, the pipelines were required to provide transportation and storage on an open access nondiscriminatory basis, without any preferences for the pipelines' own sales. At the same time, FERC allowed market-based sales for all natural gas still subject to the Commission's jurisdiction.

With these changes, FERC opened up the industry to greater market discipline and gave customers more choices as to natural gas commodity suppliers and pipeline services. This restructuring is sometimes – erroneously – described as "deregulation." Natural gas pipeline and storage service remain highly regulated. FERC has exclusive jurisdiction to authorize the construction of interstate pipelines, storage, and LNG terminals that it finds to be in the public interest and to set the rates and terms and conditions for interstate transportation and storage service. Only the natural gas commodity market has been deregulated. The combination of regulator-driven restructuring and Congressional commodity price deregulation has led to several market and industry developments that have major implications for natural gas infrastructure.

- Price discovery. Restructuring provided the impetus for the development of a natural gas futures market and regional market centers. Market prices are

[19] *Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation Under Part 284 of the Commission's Regulations*, 57 FR 13267 (Apr. 16, 1992), FERC Stats. & Regs. Regulations Preambles [Jan. 1991-June 1996] ¶ 30,939 (Apr. 8, 1992) (Order No. 636).

reported daily at about 50 market hubs around the country, showing the value of natural gas in different geographic markets.

- Basis spreads as indications of system conditions. The difference in prices between any two hubs normally indicates the value of pipeline transportation. When the basis between two hubs expands, i.e., one hub's price increases or decreases relative to others, this can signal that changes have occurred in demand or supply; and where such basis expansions persist, this indicates a need for new infrastructure.
- Natural gas price volatility. Price volatility, caused by rapid swings in demand and supply availability, dominates the modern natural gas market. Prices now allocate supply. Buyers can mitigate volatility and increase supply reliability by investing in storage or other facilities, where avoided price swings signal the value of these infrastructure investments.
- A reduction in the prevalence of long-term contracts and commitments needed to support infrastructure investment. With a robust and liquid spot market, market participants, including many local distribution companies reflecting the preferences of their state regulators, have been reluctant to make long term commitments for supply and in some cases for pipeline capacity.

* * *

The objective of the restructuring was to promote market efficiency that was lacking under wellhead price controls. Regulators realized that the information generated through prices set in a competitive market was superior to that which could be developed through the FERC adjudicatory processes. The next step in the evolution of FERC regulation was squaring the changes in the market with the approach to evaluating natural gas infrastructure proposals.

2.2 Three Cases that Shaped how FERC Considers Natural Gas Infrastructure Projects

Determining the appropriate role of the regulator in selecting between competing natural gas projects has been an issue from the earliest days of interstate natural gas regulation. Today, natural gas price basis spreads signal when a new project may be needed, and it is common for more than one natural gas company to respond with

project proposals to meet the market need. Thus, multiple pipeline projects have been proposed to take gas out of the Rockies and from the new Barnett Shale production in Texas; similarly, multiple LNG terminals and pipelines have been proposed to supply New York City and nearby environs. The three cases below illustrate the evolution of FERC natural gas infrastructure policy towards greater reliance on market and commercial arrangements and offer valuable lessons for anyone considering alternatives to the current framework: (1) the Alaska Natural Gas Transportation System (ANGTS) proceeding of 1974-1980; (2) the northeastern pipelines open season proceeding of 1987; and (3) and the Kern River/WyCal Pipeline proceeding in1990.

Alaska Natural Gas Pipeline Proposals (1970s)

The gas supply shortages of the 1970s prompted several companies to propose a pipeline to bring natural gas from the North Slope of Alaska to the lower-48 states. Between 1974 and 1976, three companies submitted applications to build the project: the Alaskan Arctic Gas Pipeline Company (Arctic); the El Paso Alaska Company (El Paso); and the Alcan Pipeline Company and Northwest Pipeline Company (Alcan). The Commission considered the applications under the *Ashbacker* principles in a consolidated hearing.[20]

The hearings at the Commission ran for 252 days, resulting in 253 volumes of transcripts totaling 45,000 pages, 1,000 exhibits, and a 1,000 page environmental impact statement. The administrative law judge issued his initial decision, 450 pages long with 200 pages of appendices, on February 1, 1977.[21] Concerned about the delay since natural gas curtailments were dominating the news, Congress enacted the Alaska Natural Gas Transportation Act (ANGTA) in 1976 to expedite the decision-making process. Pursuant to that law, a President's Decision was issued in September 1977,[22] selecting the Alcan proposal. The applicant was required to make a number of changes

[20] In 1945, the Supreme Court provided guidance on how regulatory agencies should handle situations where competing applicants file for agency authorizations. *Ashbacker Radio Corp. v. FCC*, 326 U.S. 327 (1945). Under the "*Ashbacker*" doctrine, agencies were obliged to consolidate mutually exclusive competing applications into a single comparative hearing. The *Ashbacker* policy guided FERC's evaluation of proposed infrastructure projects into the 1990s.
[21] Federal Power Commission, *Recommendation to the President: Alaska Natural Gas Transportation Systems*, May 1, 1977, p. I-9.
[22] Executive Office of the President, *Decision and Report to Congress on the Alaska Natural Gas Transportation System*, September 1977.

in design to address environmental concerns and other requirements identified in the hearings. FERC finally issued a full certificate in 1980.[23]

A natural gas pipeline from Alaska's North Slope to the lower-48 states has yet to be built. This outcome highlights an important aspect of natural gas infrastructure projects: while FERC approval is necessary for ensuring that projects are in the public interest, it alone is not a sufficient condition to enable a project to proceed. Projects must have solid economic underpinnings and commercial and financial support. In the case of the ANGTS, the market shifted during the extended period that the project was pending before the regulators -- natural gas supply increased, prices declined -- and the need for an Alaskan project receded.

Northeastern Pipeline Projects Open Season (1980s)

In the mid-1980s, new supply from Canada's Alberta Province began to flow into lower-48 natural gas markets. The northeastern United States offered a growing market for this natural gas, especially for residential and commercial markets and for power generation, where the small footprint of a gas-fired electric generator, low emissions, and ease of permitting favored this technology.

Between 1982 and 1987, FERC received many competing applications to provide new natural gas service in the Northeast, with projects proposing to provide supply from domestic sources and from the new Canadian sources. The number of competing applications created a logjam at FERC. Applying the *Ashbacker* principles and to bring some order to the process, FERC announced in July, 1987, an "open season" for filing certificate applications to provide natural gas service to the northeastern United States. Over 70 applications were filed. FERC grouped these applications into 31 projects, finding ultimately that 13 projects were mutually exclusive and competitive.[24] With the ANGTS proceedings in mind, and hoping to avoid protracted comparative hearings, FERC instead assigned a settlement judge to oversee negotiations among the project sponsors to identify and agree upon exclusive projects that independently were ready to proceed.

[23] The Alcan proposed route, paralleling the existing oil pipeline to Fairbanks and the Alcan Highway into Canada, was first proposed by the Commission environmental staff in the hearings on the project.

[24] A number of the projects were found to be discrete and not in competition with other applications; these proceeded through the normal FERC review process.

Two projects emerged from this process: Iroquois Gas Transmission System (Iroquois), running through New York, Connecticut and back to New York via the Long Island Sound, and the Champlain Project, running through Vermont, New Hampshire and Massachusetts to the Boston area. Almost immediately, opposition arose. FERC went through its application review, environmental assessment, and hearings on the Iroquois project, with the participation of the opponents. Iroquois ultimately was approved. On the eve of it's entry into service in 1992, the *New York Times* described the Iroquois Pipeline as "the region's most contentious energy project since the failed Shoreham Nuclear Power Station. . . ."[25] By the time that Iroquois entered service in 1992, it had taken 10 years from when the first application had been filed to get a new pipeline built into the Northeast.

Champlain was never built, because it was unable to secure customer support for its construction.[26] Several years later, developers proposed the Portland Natural Gas Transmission System (PNGTS) with a different route through New Hampshire, Maine, and Massachusetts. Finding customers in these states, PNGTS secured a FERC certificate and entered service in 1999.

While opposition to both projects initially focused on routing, the challenges expanded to include questions about the need for the projects and the FERC decision-making process. Multiple opponents sought judicial review of FERC's decision approving Iroquois.[27] Appellants included domestic oil and natural gas producers who claimed that they would lose market share, because Canadian pipeline tariff policies made Canadian gas cheaper than domestic gas. In granting the certificates, the Commission rejected these claims, following its long-standing policy to encourage proposals that increased the supply options for gas buyers and enhanced competition (i.e., it is not FERC's policy to protect existing suppliers from competition). The court affirmed the Commission's decision.[28]

Another group of appellants was a coalition of upstate New Yorkers concerned about the environmental effects of the pipeline and northeastern fuel oil dealers fearing lost heating oil sales. They challenged the certification on the ground that the

[25] New York Times, Northeast Gas Pipeline Ready but Critics Still Doubt Need," Jan. 21, 1992.
[26] New York Times, "Vermonters Organizing Opposition to Gas Pipeline," May 7, 1989.
[27] See *Louisiana Assoc. of Independent Producers & Royalty Owners v. FERC*, 958 F.2d 1101 (D.C. Cir. 1992)
[28] *Ibid.*, paragraph 68.

Commission reached its decision unfairly, improperly, and in violation of due process. These challenges also were rejected by the court.

The Northeast pipeline projects experience was a departure from the ANGTS *Ashbacke*r model and demonstrated the efficacy of involving pipelines in negotiations to identify viable projects. These negotiations resulted in some parties that originally were competitors becoming partners in Iroquois. It is an example of FERC acting proactively to identify a new infrastructure project using a regional approach to identifying alternatives and vetting the stakeholder views. Still, it was a lengthy process.

Kern River and WyCal Pipelines (1980s)

In Order No. 436 in 1985, FERC introduced Optional Expedited Certificate (OEC) procedures. The OEC procedures were based on the premise that new projects that had secured customers could demonstrate a market need. It followed that if a natural gas project sponsor was prepared to undertake a project at its own risk, this too could be deemed as an indication of market need. While OEC procedures could be interpreted as a more permissive approach to demonstrating market need in order to receive a FERC certificate, these procedures placed market risk explicitly on the project sponsor. Prior to OECs, FERC certificates of public convenience and necessity commonly authorized natural gas pipelines to roll the costs of the new project into the rates paid by all customers. If sponsors were willing to forego this method of cost recovery, and guarantee that their existing customers would not subsidize the service for the new customers, and if they met all the other certificate requirements, FERC would issue an OEC. Projects still had to go through the entire environmental review process, but could receive certificates more quickly (it was presumed) because applicants would not be required to demonstrate market need beyond (1) their customer commitments for the new facilities and (2) their willingness to bear the risk of under-recovery of costs if the project was not fully subscribed.[29]

The first major case involving OECs involved pipelines competing to serve the California enhanced oil recovery market from the new production in the Rocky Mountains around Opal, Wyoming. In 1985, FERC received applications for regular certificates from the Kern River Gas Transmission Company (Kern) and Mojave Interstate Pipeline (Mojave) to serve Bakersfield, California. Later, in 1987, the Wyoming-California Pipeline Company (WyCal) attempted to jump ahead of the other

[29] See *Public Utilities Commission v. FERC*, 900 F.2d 269 (D.C. Cir. 1990)

projects proposing to serve the California EOR market by applying for a certificate under the OEC rules. FERC made a preliminary determination that WyCal was in the public convenience and necessity pending completion of the environmental review, and granted a final certificate to WyCal in January 1989, while the Kern and Mojave applications were still pending approval in the regular certificate process.

Kern and Mojave, which ultimately received their certificates, sued on the grounds that FERC had not conducted an *Ashbacker* review. The appellate court upheld the decision by FERC that a comparative review was not required.[30] Once the proposed projects met their obligations under the certificates, including all environmental, routing, permitting, and related requirements, FERC could leave it to the market to decide which pipeline would go forward.

This was a significant development, because interstate pipeline project competition shifted from the hearing room to the marketplace. The project winner was determined by which pipeline company was most successful in obtaining contractual commitments from customers rather than by which company had the best lawyers and consultants. Instead of years of FERC hearings and court appeals, the competition for customers was settled within months. By late 1990, WyCal conceded defeat in the marketplace, announcing it would withdraw its routing applications with the federal land management agencies.[31] Kern and Mojave were built, and Kern has been expanded over the years.

* * *

From the ANGTS, through the Northeast pipeline projects, to the Kern River/WyCal competition, the policy for infrastructure review and authorization has evolved to the present approach.

- Need for a natural gas project is determined by the market, where there are customers willing to pay for a facility to meet the anticipated demand. Whether a project actually is built is determined by the skills of the developer, its financial resources, the design, routing, environmental impacts, access to supply, and commitment of shippers. While FERC can approve a project; it will not be constructed absent these conditions. The decision-making process used by FERC does not ultimately determine whether a particular

[30] Ibid.
[31] Deseret News (Salt Lake City), "WyCal Drops out of Gas Pipeline Race," December 12, 1990.

project will be constructed or which project or projects from among a number of competitors will prevail.

- Rational investors will not commit the hundreds of millions of dollars for major projects unless they have some assurance of success beyond the receipt of a FERC certificate. Thus, in a competitive situation, the first mover has an advantage while weaker projects tend to "self-select" out of the review process.
- By leaving the economic questions to market informed decision making, FERC can focus on the environmental, socioeconomic, and public health and safety aspects of projects to ensure that, if a project goes forward, it does so in a way that is consistent with the public interest.

2.3 Market-Informed Decision Making and LNG Facilities

Restructuring also brought about changes in the mix of interstate natural gas pipeline customers. Where historically shippers mainly had been local distribution companies (LDCs), with their regulated franchise markets, many of the newer projects' shippers were marketers or producers with gas to sell to LDCs, industries, and new natural gas-fired power plants. These shippers did not have captive markets, and this cast an entirely new light on how FERC should evaluate the need for natural gas projects.

Assignment of Risk

Building on the approach first adopted with OECs, FERC began to rely on contracts between project developers and shippers as evidence of economic need for a project. Where a developer had secured contracts, these were more indicative of need than any regulator's economic study. The other side of this coin was that developers were at risk for under recovery of costs. Thus, FERC departed from what had been its normal practice of rolling in the recovery of pipelines' new project costs into the rates paid by the existing shippers. [32]

FERC began to set rates for new facilities on an incremental basis as an additional means to ensure that market need had been demonstrated. The preference

[32] See, e.g., *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), clarified, 90 FERC ¶ 61,128 (2000), further clarified, 92 FERC ¶ 61,094 (2000).

for incremental pricing represented an important change. Absent a demonstration that existing customers would benefit, the cost of new facilities no longer would be averaged with the depreciated cost of existing facilities for purposes of setting rates. This policy shielded existing customers from subsidizing new customers. The marginal cost of a new facility would have to be covered by the marginal revenue from that facility. This raised the bar for project sponsors and ensured that new projects met real needs, because a shipper would not subscribe capacity unless it was willing to pay for its share of the full, incremental cost of the facility.

LNG Projects

Because LNG projects appear to have been much of the impetus for the Strategy Act, it is worth reviewing how the trend towards market-informed decision making has influenced FERC's policies on LNG terminals. LNG terminals constructed in the 1970s and 1980s primarily were owned by pipeline companies and were viewed as supplemental sources of natural gas supply, like the ANGTS. But as pipeline entities, they were subject to all the new rules that governed natural gas pipelines.

By 2000, interest in LNG imports once again began to increase, driven by several factors. These include surging natural gas prices in the United States, anticipated declines in U.S. and Canadian domestic production; increased demand for natural gas particularly in the northeast and far west; the existence of large amounts of stranded gas reserves in other parts of the world; and improvements in LNG technologies that reduced the cost of LNG for supply. While a number of new terminals were proposed, developers were reluctant to proceed under the applicable open access rules. LNG suppliers and importers were hesitant to invest in terminals that had to be open to receiving the LNG of competitors.

In its 2002 *Hackberry* decision, FERC determined that its open-access rules did deter investment in new LNG import terminals. Given the need to promote additional natural gas supply sources, FERC approved the Hackberry LNG terminal in Louisiana without requiring that it be "open access." The Hackberry policy effectively lifted all *commercial* regulation of new LNG terminals or expansions of existing facilities.[33] LNG terminals now are treated as if they were supply sources rather than adjuncts to pipelines.

[33] *Hackberry LNG Terminal, LLC*, 101 FERC ¶ 61,294 (2002).

While the commercial regulation of LNG terminals was relaxed with Hackberry, regulation of LNG terminal siting and safety decidedly was not relaxed. FERC's other regulatory requirements for siting, environmental impact, and safety regulations have remained extensive and are now its primary regulatory focus.

FERC's policy initiatives to remove economic barriers to LNG imports while maintaining its oversight of environmental, security, and safety issues were ratified by the Energy Policy Act of 2005.[34] Under this legislation, FERC issued new regulations that address several of the key issues raised by the Strategy Act:

- FERC required LNG terminal developers to undertake pre-filing activities six months before applying for authorization. Pre-filing requirements include extensive public notice and local and state consultations. (See the discussion in section 3.1 and Appendix C.).
- FERC also initiated formal procedures to consult with and coordinate its activities with other agencies for the review of LNG facilities.
- Finally, FERC entered into a memorandum of understanding (MOU) with the U.S. Coast Guard to coordinate the review of LNG tanker operations in connection with LNG terminal proposals and with the Department of Defense (DoD) to coordinate national security and defense aspects of LNG facilities.

Nevertheless, as reflected more generally in the Strategy Act, FERC has been criticized for authorizing more than one LNG terminal in, for example, New England, where critics maintain there is economic justification for at most one facility.[35] These criticisms fail to acknowledge that FERC authorization does not guarantee *any* of the projects will be built. The average cost of an LNG terminal is around $600 million, and developers remain at risk for this investment even if they have received approval from FERC. As with interstate natural gas pipelines, commercial viability is the ultimate arbiter of whether and LNG terminal is constructed. Since 2002, FERC has authorized 18 proposed new LNG projects. Of those approved, five are under construction or ready for operations.[36] The rest have yet to obtain adequate supply and customers to underwrite the large investments needed to proceed.

If these projects are constructed, they will have gone through the rigorous application process at FERC, including Coast Guard review, and coordination with other

[34] Energy Policy Act of 2005 (P.L. 109-58), July 29, 2005
[35] See in particular the Conservation Law Foundation at www.clf.org
[36] See the FERC website for information on LNG terminals. These numbers are as of February 2009. http://www.ferc.gov/industries/lng/indus-act/terminals/lng-approved.pdf

agencies to ensure consistency with environmental, safety and security requirements. Consider, for example, the recent FERC decision authorizing the AES's Sparrows Point LNG facility at the former Bethlehem Steel plant site near Baltimore, Maryland. The authorization was conditioned on the applicant meeting all of its requirements under FERC regulations and specifically meeting 169 environmental conditions related to the facility design, construction, and operations.[37]

2.4. Summary

A major charge leveled against FERC by sponsors of the Strategy Act is that the agency "can only react" to natural gas infrastructure proposals brought before it and, by implication, cannot fully consider all of the factors relevant to siting infrastructure projects.[38] This view ignores the lessons of 70 years of history that have led FERC to the present approach. The more proactive approach evidenced by the ANGTS process and the Northeast open season did not result in the timely construction of new infrastructure. This view also fails to acknowledge how the current process provides ample opportunities for the public, non-governmental organizations and other federal and state government agencies to be involved actively in FERC's extensive environmental assessment process. This process, which is detailed in the next section, ensures that the projects which do go forward do so consistent with the public interest.

Industry has an all important initiating role in the process of building natural gas infrastructure: to monitor markets, develop projects that the markets need, and secure capital investment for these projects. FERC's role in determining whether such projects should be authorized to proceed, and the terms under which projects are permitted to proceed, is vital for protecting the public interest. But FERC cannot require a project to be built. This limitation on government authority – the inability to compel private investment in the project that may appear optimal to policy makers – is an inherent limitation in any scheme, like the one envisioned by the Strategy Act, that emphasizes regional master planning. This is amply demonstrated by the experiences with ANGTS and with the Northeast projects, as well as by other more recent projects that have not been constructed due to the lack of market support.

[37] See *AES Sparrows Point LNG, LLC, et al.*, 126 FERC ¶ 61,019 (Jan. 15, 2009)("Order Granting Authority Under Section 3 of the Natural Gas Act and Issuing Certificates under Section 7 of the Natural Gas Act").
[38] Press Release, Congressman Cummings, July 29, 2008.

This section described how public policies shaped the interstate natural gas market to allow market forces to guide investment, with regulatory oversight exercised by FERC and its predecessor agency serving to protect the public interest. This has been an effective approach to ensuring that natural gas will be available at reasonable prices and in a timely fashion, while protecting the environment and the interests of landowners and communities affected by the facilities. The process by which FERC fulfills its statutory responsibilities invites broad participation by all persons with interest in the outcome. The courts consistently have upheld FERC when the agency has demonstrated it considered others' views in a reasoned fashion.

The Strategy Act seems to be premised on a view that FERC and developers are not responsive to market needs, and to the public needs reflected in various laws and public policies. Criticizing the current system of infrastructure development review as simply reactive presupposes that a top-down, administrative process would be more effective than market participants in identifying market needs. In practice, FERC's rules requiring sponsors to accept market risk have removed any incentive for project sponsors to develop projects that are not responsive to market need.

3. Comparing the Natural Gas Strategy Act with the FERC Review Process

This section reviews the current natural gas project development and review process, from beginning to end. Greater detail is contained in Appendices B and C. This review shows the many steps and analyses that project proposals must undergo before FERC will authorize them to proceed. This section also highlights FERC's coordination with other agencies, including the national security agencies, and the involvement of the public and stakeholders in this process. The section then summarizes the Strategy Act as introduced in the 110th Congress (see Appendix A for the full text of the bill), considers some of the antecedents of the issues raised in the Strategy Act, and compares the bill's directives with what FERC already does.

3.1. FERC Project Authorization Process and Coordination with Other Statutes and Authorities

The NGA requires any proposed facility for interstate natural gas transportation or for natural gas import/export to obtain authorization from FERC. The major steps in the project development and review process are:

- initial project conception and planning,
- the FERC pre-filing process,
- the formal FERC application process and the FERC decision, and
- project implementation.

While the NGA is the basic authorizing statute, many of the activities undertaken as part of the planning and review of natural gas infrastructure projects are required by other statutory mandates. NEPA guides FERC in its pre-filing requirements and the environmental review of proposed facilities. FERC also has significant environmental review and inter-agency coordination responsibilities under the amendments to the NGA enacted as part of the Energy Policy Act of 2005 (EPAct), discussed later in this section. Other environmental statutes that apply to the development, construction and operation of interstate natural gas pipelines and LNG terminals that are considered as part of the FERC process include the Clean Air Act, Clean Water Act, Endangered Species Act, Coastal Zone Management Act, Fish and Wildlife Coordination Act, Historic Preservation

Act, Rivers and Harbors Act, and the Wild and Scenic Rivers Act. FERC entered into an interagency agreement with nine federal agencies in 2002 to ensure early coordination and cooperation among agencies for the review of interstate natural gas pipeline projects under NEPA and related authorities.[39] Separately, FERC has executed interagency agreements with the Coast Guard and Department of Defense.

The specific details of the steps involved and requirements applicable to the pipeline planning and pre-filing process and activities associated with filing and review of an application by FERC are described in Appendix B. The FERC review process is comprehensive. It is designed to involve stakeholders early in the review process to ensure that all of the relevant public policy concerns are identified, addressed by the project sponsors, and considered by FERC. The process invites all the stakeholders to participate and provide input. It involves other agencies authorized to implement federal environmental, health, safety, national defense, and cultural preservation statutes that will be applicable to the interstate pipeline project.

While FERC can authorize a project, whether the project actually is built depends on the project sponsor securing all the other required federal and state permits, landowner rights-of-way agreements, finalizing customer commitments, and most critically, the financing. Authorized projects have failed to receive necessary state permits or the necessary commercial support to allow them to acquire financing for construction.[40] Where a project sponsor proceeds through the authorization process with less than full subscription for its capacity, the sponsor ultimately may decide the project is not economic.

Other Statutes that Affect Natural Gas Infrastructure

Although FERC has exclusive authority under the NGA to authorize the siting of interstate pipeline facilities and facilities for import or export of natural gas, including

[39] Interagency Agreement on Early Coordination of Required Environmental and Historic Preservation Reviews Conducted in Conjunction with the Issuance of Authorizations to Construct and Operate Interstate Natural Gas Pipelines Certificated by the Federal Energy Regulatory Commission, May 2002. The signatory agencies include FERC and the Departments of Army, Agriculture, Interior, Commerce, Transportation and Energy; and the Advisory Council on Historic Preservation, Council on Environmental Quality and the Environmental Protection Agency.

[40] A recent example of a project certificated by FERC but cancelled is the Islander East Project which was unable to secure a water quality permit from the state of Connecticut. See Gas Daily, Feb. 27, 2009, p. 1. Projects that fail to achieve financing do so because they do not secure key commercial agreements with customers or suppliers. WyCal, discussed on page 20, returned its various land use certificates and allowed its FERC certificate to expire. Several LNG projects have accepted certificates but have yet to be built.

LNG, FERC also must take other federal statutory requirements into account. In addition to NEPA, other major federal statutes that FERC addresses include the Clean Water Act, the Coastal Zone Management Act, the National Historic Preservation Act, and the Clean Air Act. There is substantial authority under these federal statutes for states and other federal agencies to have considerable input into the ultimate development of natural gas infrastructure projects.

Section 401 of the Clean Water Act requires project sponsors to obtain certification of compliance with a state's water quality standards from the responsible state agency for any activity (including construction and operation of facilities) that may result in a discharge into navigable waters. If the 401 certificate is denied by the state, the facility cannot be constructed. Also under the Clean Water Act, section 404 requires project sponsors to obtain a permit from the U.S. Army Corps of Engineers (Corps) for discharge of dredged and fill material, which equates to a permit for crossing wetlands and water bodies. The Corps typically requires that applicants first obtain a section 401 certification from the state prior to receiving Corps approval.

Section 307(c) of the Coastal Zone Management Act (CZMA) requires a LNG project developer or coastal pipeline project to certify that the proposed activity in a designated coastal zone complies with the enforceable policies of the affected state's coastal zone management program. If the state does not concur that the project is consistent with its coastal zone management plan, FERC cannot grant authorization to construct. This state CZMA review applies to all federal permits and authorizations in the state coastal zone, including FERC and the U.S. Army Corps of Engineers.[41] A state's ruling of inconsistency with its coastal zone management plan, must be appealed to the Secretary of Commerce before judicial review can be sought.

Under the National Historic Preservation Act, FERC must assess the effect of proposed projects on historic and archeological sites, and coordinate with state historic preservation officers and the Advisory Council on Historic Preservation.

Section 502 of the Clean Air Act, requires a permit for any person to operate a source of air pollution, including LNG facilities or pipeline compressor stations. If the responsible state agency does not issue the permit, the project cannot go forward.

To help coordinate multiple agency reviews of natural gas projects under NEPA and the other statutes, FERC in 2002 entered into an interagency memorandum of

[41] See FERC's discussion of its obligations under the CZMA, http://www.ferc.gov/industries/lng/gen-info/laws-regs/state-rights.asp

understanding with nine agencies.[42] In 2004, FERC executed an interagency agreement with the U.S. Coast Guard (USCG) and the Department of Transportation's (DOT) Research and Special Programs Administration to provide for the comprehensive and coordinated review of land and marine safety and security issues at LNG import terminals.[43] In 2007, FERC entered into a memorandum of understanding with the Department of Defense to coordinate review of the effects of proposed LNG terminals on defense facilities.[44]

Under the amendments to the NGA enacted as part of EPAct, FERC is required to coordinate and set the schedule for the environmental review and processing of all federal authorizations relating to natural gas infrastructure under FERC's jurisdiction. Such authorizations include those issued by federal officials and by state officials acting under delegated federal authority.[45] FERC issued Order 687 in December 2006 establishing regulations and procedures under the NGA for how it would implement this EPAct requirement.

* * *

To summarize, the FERC review process is comprehensive. It is designed to have project sponsors address all of the relevant public policy concerns early in the application process. As part of this, the process takes into account the requirements of other federal and state agencies.

3.2 Overview of Natural Gas Strategy Act

The Strategy Act proposes to authorize a national commission to review national policy on natural gas infrastructure siting. (A copy of the bill is in Appendix A.) This proposed national commission would focus on three sets of issues: 1) potential threats to security of natural gas infrastructure; 2) the process for assessing regional versus national economic impacts of natural gas infrastructure placement; and 3) ensuring

[42] Interagency Agreement, op. cit.
[43] Interagency Agreement among the Federal Energy Regulatory Commission United States Coast Guard and Research and Special Programs Administration for the Safety and Security Review of Waterfront Import/Export Liquefied Natural Gas Facilities, Feb. 11, 2004. http://www.ferc.gov/industries/lng/safety/reports/2004-interagency.pdf
[44] Memorandum of Understanding between the Federal Energy Regulatory Commission and the United States Department of Defense to Ensure Consultation and Coordination on the Effect of Liquefied Natural Gas Terminals on Active Military Installations, Nov. 21, 2007. https://www.ferc.gov/legal/maj-ord-reg/mou/mou-dod.pdf
[45] See EPAct, Section 313.

environmental protection. The bill in particular directs the commission to identify factors that are in the public interest that natural gas infrastructure developers may not take into account and that government agencies may not adequately assess due to lack of expertise or oversight authority.

In section 2, Purpose and Goals, the bill indentifies factors that are in the "public interest that natural gas infrastructure developers may not take into account . . . and that may not be adequately assessed by United States Government agencies. . . ." The specific factors that the Strategy Act would require the proposed commission to review are:

1. Regional economic impacts;
2. The relationship of proposed natural gas facilities to national climate change policy;
3. The relationship between the proposed natural gas facilities and other national infrastructure development priorities, especially electric power;
4. The relationship of the proposed natural gas facilities with national safety and security priorities;
5. The level of expenditures by federal, state and local agencies for land and water-based security for natural gas infrastructure (and the relative level of such expenditures compared to security expenditures for other critical infrastructure);
6. The ability of traditional security agencies like the Coast Guard, other traditional security missions, and state and local agencies to provide security and safety of LNG operations;
7. The linkages between natural gas supplies, CO_2 emissions, electricity supply and reliability, and how carbon policies may affect demand for natural gas;
8. The effect on natural gas infrastructure requirements of federal policies on carbon, electricity reliability, and the development of domestic natural gas resources; and
9. Appropriate criteria for selecting natural gas infrastructure locations to meet national energy policy goals and ensure adequate natural gas supplies, given the constraints on land and water based security capabilities, and that are environmentally sound.

After one year, the commission would report its findings and recommendations regarding the above issues.

This is a very broad scope for an investigation. The sponsors of the bill apparently believe that the current approach to approving natural gas infrastructure is not working very well. The bill implies two criticisms of the current approach: first, that the decision process for siting natural gas infrastructure projects does not adequately consider regional economic and environmental impacts, and second, inadequate attention is paid to how new facilities affect security and public safety. Security and public safety issues often arise in connection with LNG terminal siting and the bill specifically addresses LNG facilities. Regional economic and environmental impacts can arise in connection with any natural gas infrastructure proposal.

3.3 Comparing the Natural Gas Strategy Act with the FERC Process

This section compares each of the nine issues to be evaluated under the Strategy Act with the current FERC review, authorization, and siting process:

1. *Regional economic impacts*

   In its review under NEPA, FERC routinely looks at regional issues that arise in connection with the siting of pipelines and LNG facilities. During the environmental review process, the FERC staff evaluates a wide range of alternative routes or sites, compares them with the proposal, and often recommends modification to the proposal. The EIS also will address socioeconomic issues in the area affected by a project, such as impacts of construction and operations on the affected region, including employment, income, taxes, traffic, and other such issues as may be raised by the public or local governments. A project's economic rationale and purpose – whether it meets the public convenience and necessity, i.e., whether it is intended to serve a local, near-by regional, or more distant region – is reflected in the application and considered by FERC during its review.

2. *The relationship of proposed natural gas facilities to national climate change policy*

   Climate change issues rarely have arisen in connection with projects under review by FERC, and then only in the context of the environmental review under NEPA. The newly created Office of Energy Policy and Innovation at FERC has responsibility for considering how climate change will affect the industries regulated by the Commission and for informing the Commission of any policy

recommendations. The mission of this Office is to provide leadership within FERC in the development and formulation of policies and regulations to address emerging energy and environmental issues affecting wholesale and interstate energy markets. With the creation of this new Office, FERC has positioned itself to consider the relationship of new pipeline facilities to developing climate change policy, such as the currently proposed climate change legislation under which pipelines would be regulated for greenhouse gas emissions.

3. *The relationship between the proposed natural gas facilities and other national infrastructure development priorities, especially electric power*

   A FERC determination of market need for natural gas facilities rests on the assumption that users of natural gas infrastructure projects can exercise choice in their sources of supply because there is a competitive energy market. A central tenet of FERC's restructuring of the interstate natural gas pipeline industry was to bring to consumers the benefits of the competition promoted by the wellhead decontrol enacted by the Congress. The combination of competitive natural gas commodity markets, non-discriminatory open access to pipeline transportation, and market-driven natural gas infrastructure siting ensure that demand for natural gas can be satisfied efficiently. These policies also make it possible for natural gas to fulfill its potential as a contributor to achieving the goals of the nation's economic, energy security, and environmental policies. New gas facilities may be aimed at meeting market needs for power generation, various industrial demands, or to bring more domestic or overseas supply to the market. The decisions of developers and investors to propose infrastructure projects are based on needs they perceive and the opportunities these needs present for successful -- i.e., profitable – projects. This is a dynamic, market-driven process where the relationships among infrastructure needs create the opportunities for new projects. It is difficult to see how a government decision-making process can be a viable substitute.

4. *The relationship of the proposed natural gas facilities with national safety and security priorities*

   Under EPAct's amendments to the NGA, FERC's review and oversight of LNG facilities is almost exclusively focused on safety and security issues. The FERC-mandated pre-filing process for LNG facilities includes extensive consultation and coordination between the developer, FERC and the Coast Guard, the

Department of Homeland Security and the Defense Department, as well as with state and local agencies and first responders. FERC and DoD have signed a MOU to ensure coordination and FERC must coordinate with the USCG prior to issuing any approval for a project. FERC has been on the forefront in supporting analyses of LNG safety issues and incorporating safety-related design requirements into LNG facilities. Pipeline project applicants must certify to FERC that they will design and operate their projects in accordance with regulations of the Pipeline and Hazardous Materials Safety Administration (PHMSA), a part of DOT.

5. *Consideration of the level of expenditures by federal, state and local agencies on land and water-based natural gas infrastructure (including the extent of such expenditures relative to expenditures for the protection of other critical infrastructure)*

   The socioeconomic impact assessment sections of FERC EISs routinely consider the level of services that local governments may have to provide to support new natural gas infrastructure. Applicants are required to consult with other agencies at state and federal levels as well. FERC considers specific issues raised by the public and other agencies. Often, as a FERC-required mitigation measure, developers will supplement local service expenditures for new facilities and staff. This is known as a cost-sharing plan and must be coordinated with U.S. Coast Guard in the case of LNG facilities. Property taxes paid by the pipeline or LNG terminal, which can be substantial, also defray some additional expenses incurred locally.

6. *The ability of traditional security agencies like the Coast Guard, other traditional security missions, and state and local agencies to provide security and safety of LNG operations*

   FERC requires developers to consult with and receive approval of the U.S. Coast Guard regarding waterway safety as part of the LNG pre-filing process. In addition, FERC consults with the Departments of Homeland Security and Defense on these matters as well. Further, FERC consults with state and local security agencies to include their views in the process.

7. *The linkages between natural gas supplies, CO_2 emissions, electricity supply and reliability, and how carbon policies may affect demand for natural gas*

FERC does not explicitly address these interrelationships in individual application proceedings, insofar as there is no concrete national policy regarding these linkages. FERC has recognized that gas pipelines have a role to play in electricity supply and reliability and has investigated that relationship, and taken various actions, on a generic basis. Some portion of the investment driving natural gas infrastructure projects is in response to the increased interest in electricity supply generated from natural gas, because natural gas is a less carbon intensive fuel than coal. The reasons why new pipeline infrastructure is proposed are not ignored by FERC, but are not necessarily determinative in its decision making. An underlying assumption of the FERC process is that the combination of competitive commodity markets and market driven infrastructure policy will ensure that natural gas will efficiently respond to new demand that may be created by the evolution of U.S. energy/environmental policy. Also, FERC's Office of Energy Projects and the new Office of Policy and Innovation are designated to consider such issues in the future to ensure that FERC decision making takes into account issues at the intersection of energy and environmental policy.

8. *The effect on natural gas infrastructure requirements of federal policies on carbon, electricity reliability, and the development of domestic natural gas resources*

   Many of the infrastructure projects approved by FERC in recent years have been to ensure access to new domestic supply from the Rocky Mountains and various shale developments in Texas, Louisiana and Arkansas. These infrastructure projects, as well as LNG infrastructure proposals, will make more natural gas available for power generation that would help reduce greenhouse gas emissions. Accessing world supplies of natural gas through LNG can help supplement these North American resources. Still, projects authorized by FERC will be constructed only where the market and economics of supply are favorable.

9. *Appropriate criteria for selecting natural gas infrastructure locations to meet national energy policy goals and ensure adequate natural gas supplies, given the constraints on land and water based security capabilities, and that are environmentally sound*

FERC policy for evaluating projects takes these matters into consideration. FERC evaluates projects under three sets of criteria:

- Market need for a project;
- Cost of the project relative to the need; and
- Environmental, safety and security impacts of the project, including impacts on land and water based security, local communities, and natural resources.

In sum, the process by which natural gas infrastructure projects are developed by the industry and reviewed through the FERC project review process currently address the specific issues set forth in the Strategy Act. Public policy is unsettled in some of these areas, primarily those involving climate change, and therefore does not translate into specific criteria that can be applied to applications for individual natural gas facilities. Still, for many of the other areas FERC has developed a robust process that invites consideration of the key issues raised by the Strategy Act.

3.4 Summary

The Strategy Act proceeds from the premise that the current process for reviewing gas infrastructure is flawed because developers do not take into account factors important to the public interest and, further, that FERC does not have the authority or skills to consider these matters of public interest.

This section summarized the FERC review process and compared it to the issues highlighted in the Strategy Act. Developers' proposals are conceived in response to market developments that reflect some of the issues the bill raises. Once developers choose to proceed with viable projects, they are required by the FERC pre-filing process to address a wide range of issues important to policy makers and the public. These include many of the issues identified in the Strategy Act. The pre-filing process, which is mandatory for LNG facilities and is highly recommended for other major proposals, can take many months and millions of dollars. The next step is the FERC application where, again, project proposals are tested. Finally, project approval by FERC often is conditioned upon the applicant meeting extensive environmental and other requirements imposed in response to public concerns.

The issues that must be addressed by the project sponsor and evaluated by FERC can vary significantly depending on the particular input provided by stakeholders and by other federal or state agencies. Throughout this process, FERC draws on considerable expertise from its own staff, contractors, other agencies, other stakeholders, and the applicants. Therefore, a close examination of the process does not substantiate a claim that FERC does not take into account factors important to the public interest or that it lacks authority or the requisite skills.

4. Alternative Models for Evaluating Natural Gas Projects

Previous sections reviewed the historical development of FERC's decision-making approach for natural gas infrastructure projects. This section considers some alternative infrastructure review and decision-making approaches. These are discussed and compared according to the following evaluation criteria: timeliness, efficiency, completeness, transparency, and finality.

The alternative approaches include a return to the *Ashbacker* approach (as with the ANGTS and Northeast gas projects), a "master planning" approach, and the current process. The conclusions reached in this section are the following:

- None of the approaches will result in decisions that will appease the most vigorous opponents of projects. Even a "master planning" or proactive approach will not dissuade opponents if they do not agree with the decision;
- An approach that combines private sector initiatives and public policy decision making can do a better job balancing market imperatives with public policies than government dominated top-down decision making;
- A return to the litigation-based review under *Ashbacker* would fail to meet the timeliness and efficiency criteria, as evidenced by the history of the ANGTS and the Northeast open seasons proceedings: and
- Government approvals are necessary but are not the only conditions that projects must meet. It thus follows that in any top-down, "master planning" approach, where some "optimal" solution is identified, the government prescribed solution will not be implemented unless the private sector is willing to invest the capital.

4.1 Alternative Decision-making Approaches

This section considers three alternative approaches to evaluating multiple, mutually exclusive projects and whether there would be any benefit over the current process.

1. *Ashbacker*. Under this approach, FERC would return to the comparative evaluations used in the major cases described previously (ANGTS and the Northeast projects). This presumes that FERC would have to make the following determinations: whether the proposed projects are in fact mutually exclusive in that they would all serve the same market need; which project would better meet the market need; and at a reasonable cost, while minimizing impact on the environment, including public health and safety. FERC would then select the acceptable project from among those proposed as the "optimal" project meeting the public convenience and necessity. Each of the competing project sponsors would be allowed to present its case in a competitive administrative proceeding.

2. Master Planning. This approach could take any of several forms. Under this approach, some entity (FERC or a new agency) could initiate a proceeding to identify potential natural gas infrastructure needs by region. A process would have to be devised to identify and evaluate acceptable sites for projects. To induce a developer to use one of these sites, projects at those sites could be authorized quickly with the understanding that certain conditions of design and construction would attach to such authorization. The identification of national need corridors for electric transmission projects authorized by EPAct suggests some elements of this approach.

3. Current Market Based Approach. This would continue the current process, in which developers, responding to market developments, propose projects. After undertaking the initial design, open season, environmental evaluations, landowner outreach, and local government consultations, the developer would file an application with FERC triggering the governmental review. This would involve the pre-filing process, application, and agency review.

4.2 Evaluation Matrix

Criteria by which the above four approaches are considered include timeliness, efficiency, completeness, transparency and finality. These are discussed below, followed by exhibit 4-1 which addresses each approach under these criteria.

- Timeliness. Does a process lead to a mismatch between the timing of the decision and the need for a project? It is presumed that most projects are proposed at FERC reasonably close to the time when the project need is expected. That is, most developers do not propose projects in response to an anticipated market need that is 10 or 20 years away. Applicants should have a reasonable expectation that a FERC decision will be rendered quickly enough for them to be able to respond to the identified market demand in a timely manner.
- Efficiency. Does the decision-making process address the issues relevant to public convenience and necessity in a cost effective and timely manner? This concerns both the costs incurred by the agency as well as by the applicants and other parties. The time and resources expended to reach a decision should be commensurate to the level of importance the decision has to the broadest group of interests.
- Completeness. Does the process address all of the relevant matters under the law (e.g., environmental impact pursuant to NEPA, national security issues pursuant to EPAct) to a degree that is satisfactory for understanding those matters and ensuring that the facts and the conclusions that follow are considered by FERC?
- Transparency. Is the process by which decisions are reached transparent and reviewable? That is, a decision should explicitly respond to legitimate issues and provide a reasoned analysis supporting the outcome.
- Finality. To the extent that any decision can be final, subject to court review, there ought to be some sense that the decision once reached provides enough certainty for the project sponsors to finalize their investment plans and secure the funds to undertake the project. As the agency with sole responsibility for authorizing infrastructure projects, FERC decisions provide a degree of finality.

Exhibit 4-1 Decision Process Evaluation Matrix

	Timeliness	Efficiency	Completeness	Transparency	Finality
1. *Ashbacker*	Major *Ashbacker* proceedings have been quite lengthy. In ANGTS Congress stepped in; in the Northeast projects settlements decided the outcome	Competing projects tend to use the FERC process itself as the competitive venue rather than customers. Leads to large expenditures on legal and consulting firms	Generally covers all of the issues and then some. Much of the time is spent sorting out the truly relevant issues from the red herrings raised by opponents.	Reasonably transparent since decisions are made through contested hearings.	Given that the process determines the winners and losers in the context of administrative litigation, this may increase the likelihood of judicial review and a lack of finality.
2. Master Planning	Would not necessarily be timely since, because the process of selecting a site may be time consuming and contentious. Further, once a site is selected, there may not be a sponsor ready to undertake the project.	Costs would tend to be higher for the government to evaluate sites in absence of applications. Some portion of the process may have to be repeated once a "real" project is proposed.	Uncertain in the absence of a proposed project. May be reasonably complete on siting, but not on market need and detailed design questions.	Reasonably transparent except for the lack of certainty around a real project.	There is no final decision until a real project is authorized. No guarantee the process would satisfy all objectors who can go to court to challenge elements of the master planning process. Further, even if the master planning process was not challenged, the specifics of actual projects still would be open to challenge.
3. Current Approach	Projects are considered when sponsors believe them ripe for consideration. While there is no guarantee of timely approval, a well prepared application that thoroughly addresses all relevant issues typically will be approved in a timely manner.	Appears reasonably efficient in that issues are identified in pre-filing process.	Appears to consider all of the issues raised by parties and public. Decisions explicitly address the relevant issues.	Is effectively transparent given the pre-filing, filing, NEPA process, and FERC decisions which address all issues deemed relevant. FERC also states why it does not consider other issues.	FERC decisions are final but subject to court review.

4.3 Observations on the Alternatives and Current FERC Procedures

Returning to the *Ashbacker* approach to selecting projects would negate many of the lessons learned since the early 1970s and ignore the subsequent changes in the marketplace. *Ashbacker* and the judicial approach may have made sense when ratepayers were the ultimate guarantors of large infrastructure projects; however, by putting developers at risk for projects, the market can impose a stricter discipline for ensuring a project is needed than can regulatory decision making. This eliminates the need for the lengthy *Ashbacker* proceedings to choose a winner from among the competing projects. A project with strong market support as evidenced by customers' commitments under contracts should beat out a project with weaker support, all else being equal. Also of importance, in light of the history of the ANGTS and Northeast open season proceedings, an *Ashbacker* approach usually results in protracted regulatory proceedings that are neither timely nor efficient.

Adoption of a master planning approach raises a number of questions regarding practicality. Where the current FERC process relies on market participants to identify need and a project or projects to meet that need, master planning would have to rely on some other triggering mechanism. It is not clear what this would be. How would agencies know when and where to launch a planning exercise? How would they know when to update that exercise based on subsequent developments?

Given the rapid changes that can occur in the market place, how could a master plan ensure that, in fact, a given project would be useful? And, how could this determination be made in any timely way? There have been occasions where large projects have proved to be uneconomic due to later market developments. The Great Plains Coal Gasification Project is one example – a government-sponsored project that produced synthetic gas that ultimately was too expensive for the market. Pipeline ratepayers had to underwrite its economics despite the availability of cheaper gas. Another, more timely example relates to LNG import terminals. Would a planning process focused on this technology, deemed vital in 2002 to replace declining United States production, have been able to anticipate the rapid growth in domestic production from unconventional sources beginning in 2007? The current process has accommodated this swing in fortunes. While most of the pipelines authorized to bring new gas production to market have been constructed, only five of 18 LNG projects

authorized are under construction or ready for operation. As Daniel Yergin observed recently, despite the fact that the energy business is inherently a long-term business, "every three or four years the outlook and expectations change substantially. And sometimes more quickly than that."[46]

Furthermore, the very process of identifying market need and a suite of infrastructure projects to meet that need could be very time consuming and controversial. For example, suits have been filed against the Department of Energy challenging its electric transmission corridor designations around the country.[47] This is further reason to suspect that in a time of rapidly evolving energy markets, the results of a master planning process could be quickly overtaken by events.

The Strategy Act seems to assume that if the government approving authorities took a more proactive approach many of the controversies surrounding natural gas infrastructure projects would be blunted or reduced. In truth, none of the approaches identified in this section will result in decisions that will appease the most vigorous opponents of projects. Even a "master planning" process will not dissuade opponents if they do not agree with the decision. As seen in many of the LNG siting cases, no amount of studies or careful consideration of facts, science, or law can satisfy those who do not want a project in the first place.

As stated elsewhere in this paper, the current process involves both commercial and public decision making on where, when, and how infrastructure projects are developed. Market-informed decision making is more likely to result in projects being developed in a timely way than alternative approaches that would substitute government decision makers or administrative hearings to select "optimal" projects. Authorized projects will not get built if the market is not there to support them. But even this is not a guarantee, since markets can change quickly. At the same time, a vigorous government review process, such as that exercised by FERC, ensures that the projects ultimately built are done so in the public interest.

[46] *American Gas Magazine*, April 2009; p. 20.

[47] Environmental organizations have filed suits challenging DOE corridor designations in the mid-atlantic, the west, and the south. See. Pennsylvania Department of Environmental Protection *Daily Update*: (Jan. 11, 2008) http://www.depweb.state.pa.us/news, Western Environmental Law Center,Jan. 10, 2008. http://www.westernlaw.org/pressroom, and Southern Environmental Law Center, April 30, 2008. http://www.southernenvironment.org/newsroom/press_releases. The most recent suit was filed July 6, 2009, by 15 environmental groups challenging 6,000 miles of corridors in the west. See Energy Daily, July 13, 2009, p. 4.

5. Conclusions

The proposed Strategy Act is flawed on several counts. First it calls for a commission to study issues that already are addressed by the current FERC project review process. It also implies that FERC ought to address climate change issues in assessing natural gas infrastructure, when there is not yet a national policy on the incorporation of climate change into energy infrastructure decision making – unlike, for example NEPA on environmental issues, or the Clean Water Act, or the National Historic Preservation Act.

The sponsors of the bill also suggest that a proactive, master planning type approach would serve the public better. This report, however, demonstrates that a major strength of the current process is its inclusion of both private decision makers anticipating market developments and investing in infrastructure projects to meet market needs and public decision makers to ensure that what is built satisfies the public interest. Markets move fast; public agencies are nowhere near as well equipped to anticipate these moves as energy project developers. As long as developers are required to undertake a public review under existing law and regulation, the public purpose is served by their efforts.

A proactive, master planning process moreover would not defuse the intense objections some elements of the population have for large energy projects. As former chairman of FERC Joseph Kelliher observed about one LNG project FERC had approved – despite all the studies, science, the legal reviews and evidence to the contrary there are leaders who simply refuse to accept a project in their community. [48]

The process that FERC has developed for reviewing natural gas infrastructure has served the nation well. Compare, for example, the interstate natural gas network with the interstate electric power grid. Most electric transmission was designed to serve in-state or regional markets with interconnections between regions to support reliability. Despite growing demand for electricity and new and exciting technologies for generating electricity to meet future demand, connecting new power plants or interconnecting regional power systems has been hampered by balkanized state regulation of power transmission that gives more voice to state and local concerns than to national priorities.

[48] See FERC, Statement of Chairman Joseph T. Kelliher on *Broadwater Energy, LLC*; March 20, 2008. CP06-54, CP06-55, CP06-56.

In 1938, Congress determined that because the states were incapable of overseeing natural gas pipelines serving interstate commerce, it needed to establish a national legal framework for doing this. No national body with similar exclusive authority licenses the siting or construction of electric transmission lines. From January 2000 through December 2008, only 19 transmission lines totaling 1,000 miles were built across state lines; during the same time, FERC has overseen the construction of 13,345 miles of interstate natural gas transmission in response to market demand for the infrastructure needed to link new natural gas supply with natural gas consuming markets.[49] Report after report has acknowledged the siting problems for electric transmission as being plagued by inconsistent state regulation and local opposition.

* * *

The NGA in 1938 recognized that promoting the interstate transportation of natural gas was in the national interest. This logic ensures that natural gas resources concentrated in a few states can be transported to meet the demand for natural gas is in all states. The success of the natural gas market in the United States is evidenced by the widespread availability of natural gas at competitive prices and the ability of the system to access new supply and deliver natural gas to growing markets, and specifically electric power generation, reasonably quickly. The industry has a solid safety record – in both pipeline and LNG operations.

Much of this success has been made possible by a national regulatory framework, established during the New Deal, and at its center, FERC. FERC's process is the product of a well-developed body of law reflected in federal statute, regulatory rulemaking, and judicial precedent. This process implements the broad, national public purpose of having an adequate, safe, reliable, and efficient natural gas supply. FERC's natural gas infrastructure review, authorization and siting policies have evolved over the last 70 years. Today, major project proposals undergo a rigorous review that includes extensive outreach and engagement with stakeholders, public meetings, and the incorporation of many viewpoints. FERC routinely coordinates with federal, state, and local agencies responsible for public safety and the national defense. LNG projects in particular face extensive and detailed review and FERC engages in extensive interagency coordination on LNG project design and operations. The economic

[49] Mark Robinson, Director FERC Office of Energy Projects, Presentation at INGAA Planning Meeting, Houston, Texas, January 7, 2009, pp. 6 & 7.

requirements FERC imposes on new projects ensure that those that receive authorization to proceed do so on their own merits. A FERC certificate does not mean a project will be built, but if it is built, it will be in the public interest.

A close reading of the Strategy Act suggests that it is an effort to derail recent FERC decisions on major, controversial projects, principally FERC's approvals of several LNG import terminals. The opponents of projects approved by FERC, unable to defeat projects in FERC proceedings, or in the courts, now question the very process. In evaluating such legislative proposals, the Congress should consider that the current process works well in balancing private and public, regional and national interests in the development of natural gas infrastructure. This process has facilitated the development of one of the best and most efficient natural gas networks in the world.

Appendix A: Natural Gas Strategy Act

110th CONGRESS
2d Session
H. R. 6720

To establish the Commission on Comprehensive Strategies for the Placement of Natural Gas Infrastructure, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

July 31, 2008

Mr. BISHOP of New York (for himself, Mr. CUMMINGS, Mr. HARE, Mr. HILL, Mr. ISRAEL, Mr. MURPHY of Connecticut, Mr. MCGOVERN, Mr. RUPPERSBERGER, Mr. BAIRD, Mr. INSLEE, and Mr. FRANK of Massachusetts) introduced the following bill; which was referred to the Committee on Energy and Commerce

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A BILL

To establish the Commission on Comprehensive Strategies for the Placement of Natural Gas Infrastructure, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the 'Natural Gas Strategy Act'.

SEC. 2. PURPOSE AND GOALS.

It is the purpose of this Act to facilitate the achievement of the following Congressional goals:

(1) Conducting a study relating to natural gas infrastructure, including natural gas pipelines and natural gas storage infrastructure, and liquefied natural gas infrastructure in the United States, which shall include an examination of roles, authorities, and methods of assessing risks and benefits employed by United States Government agencies that regulate natural gas infrastructure sitings, taking into account considerations that are beyond the regulatory scope of the current siting agencies and an examination of the extent that reviews of proposed natural gas infrastructure projects by United States Government agencies are conducted in a complementary and effectively coordinated manner.

(2) Identifying factors that are in the public interest that natural gas infrastructure developers may not take into account in proposing specific projects, and that may not be adequately assessed by United States Government agencies reviewing natural gas infrastructure development proposals due to a lack of technical expertise or oversight authority, including--

(A) regional environmental impacts;

(B) relationship of proposed natural gas infrastructure developments to United States policies to address climate change;

(C) relationship of proposed natural gas infrastructure developments with other national infrastructure development priorities, especially in the electric power sector; and

(D) relationship of proposed natural gas infrastructure developments with national safety and security priorities.

(3) Examining--

(A) Federal, State, and local expenditures for water-side and land-based security for natural gas infrastructure protection, including the extent of such expenditures relative to the protection of other critical infrastructure (such as chemical facilities and chemical tankers); and

(B) the ability of existing and traditional security missions of agencies involved, including the United States Coast Guard and State and local law enforcement agencies, to ensure adequate security and safety of liquefied natural gas operations.

(4) Understanding--

(A) the linkages among natural gas supplies, carbon dioxide emissions, electricity supply, and electricity reliability, including the extent that United States carbon dioxide policies will influence the existing and anticipated demand for natural gas; and

(B) the national and regional requirements for natural gas supply infrastructure in light of other Federal policies related to carbon dioxide control, electricity reliability, and development of domestic natural gas resources.

(5) Identifying criteria for the selection of appropriate natural gas infrastructure facility locations that will meet national energy policy goals, ensure adequate natural gas supplies, can be adequately secured given existing constraints on water-side and land-based security measures, and are environmentally sound.

SEC. 3. COMMISSION.

(a) Establishment- There is established the Commission on Comprehensive Strategies for the Placement of Natural Gas Infrastructure (in this Act referred to as the 'Commission').

(b) Purpose- The Commission shall conduct a comprehensive review of United States natural gas policy for the following purposes:

(1) REVIEW- Reviewing relevant analyses of the current and long-term natural gas policy and conditions in the United States.

(2) IDENTIFYING PROBLEMS- Identifying problems that may threaten the security of natural gas infrastructure, assessing regional versus national economic impacts of natural gas infrastructure placement, and ensuring the protection of the environment.

(3) ANALYZING POTENTIAL SOLUTIONS- Analyzing potential solutions to problems that threaten the security of natural gas infrastructure, regional economic security, and protection of the environment.

(4) PROVIDING RECOMMENDATIONS- Providing recommendations that will ensure that the United States natural gas policy goals, including the goals described in section 2, are met.

(c) Report and Recommendations-

(1) IN GENERAL- Not later than one year after the date of enactment of this Act, the Commission shall transmit to Congress a report on the progress of United States natural gas policy toward meeting its long-term goals of natural gas infrastructure, including a detailed statement of the findings, conclusions, and recommendations of the Commission.

(2) LEGISLATIVE LANGUAGE- If a recommendation submitted under paragraph (1) involves legislative action, the report shall include proposed legislative language to carry out such action.

(d) Membership- The Commission shall be composed of 20 members of whom--

(1) 2 shall be appointed by the Secretary of Transportation, 1 of whom shall be a representative of the Maritime Administration;

(2) 2 shall be appointed by the Secretary of Homeland Security, 1 of whom shall be a representative of the United States Coast Guard;
(3) 2 shall be appointed by the Secretary of Energy, 1 of whom shall be a representative of the Federal Energy Regulatory Commission;
(4) 2 shall be appointed by the Secretary of Commerce, 1 of whom shall be a representative of the National Oceanic and Atmospheric Administration;
(5) 6 shall be appointed by the Speaker of the House of Representatives--
(A) 3 of whom shall be appointed in consultation with the majority leader; and
(B) 3 of whom shall be appointed in consultation with the minority leader; and
(6) 6 members shall be appointed by the President Pro Tempore of the Senate--
(A) 3 of whom shall be appointed in consultation with the majority leader of the Senate; and
(B) 3 of whom shall be appointed in consultation with the minority leader of the Senate.

(e) Chairperson- The members of the Commission shall designate a Chairperson from among its members.

(f) Date- Members of the Commission shall be appointed by not later than 30 days after the date of enactment of this Act.

(g) Period of Appointment- Members shall be appointed for the life of the Commission. Any vacancy in the Commission shall not affect its powers, but shall be filled in the same manner as the original appointment.

(h) Staff-

(1) DIRECTOR- The Commission shall have a staff headed by an Executive Director.
(2) STAFF APPOINTMENT- The Executive Director may appoint such personnel as the Executive Director and the Commission determine to be appropriate.
(3) EXPERTS AND CONSULTANTS- With the approval of the Commission, the Executive Director may procure temporary and intermittent services under section 3109(b) of title 5, United States Code.

(4) FEDERAL AGENCIES-
(A) DETAIL OF GOVERNMENT EMPLOYEES- Upon the request of the Commission, the head of any Federal agency may detail, without reimbursement, any of the personnel of such agency to the Commission to assist in carrying out the duties of the Commission. Any such detail shall not interrupt or otherwise affect the civil service status or privileges of the Federal employee.
(B) TECHNICAL ASSISTANCE- Upon the request of the Commission, the head of a Federal agency shall provide such technical assistance to the Commission as the Commission determines to be necessary to carry out its duties.

(5) RESOURCES- The Commission shall have reasonable access to materials, resources, statistical data, and other information the Commission determines to be necessary to carry out its duties from all relevant Federal agencies. The Chairperson shall make requests for such access in writing when necessary.

Appendix B: The FERC Process: Project Planning; Pre-Filing; and the Application to FERC

This Appendix provides an overview of the process by which natural gas facilities are planned, go through the FERC review process, and are implemented. Three procedural steps are described: project planning, the FERC pre-filing process, and the formal FERC application and review.

Project Planning

Natural gas project conception and planning is an activity of natural gas companies and takes place in advance of government review of the proposed project facilities. The need for natural gas infrastructure is continually changing. This need can arise for a variety of reasons – new sources of supply are developed; new natural gas-fired power generation is scheduled; growth in regional natural gas demand drives a need for more storage or more pipeline capacity or for new natural gas supply sources like LNG. These needs often are signaled by high regional natural gas price caused by local infrastructure capacity constraints, consistently large basis differentials for a period of time, or project developers may notice market changes that anticipate future needs. This may include a perceived need for new gas-fired power generation in a region like New England or major gas supply finds such as the Barnett Shale in Texas. Those involved in the markets – producers, pipeline companies, marketers, developers – monitor these opportunities and are motivated to act on them.

Once a company identifies a potentially profitable opportunity to meet a market need, they will analyze the technical design and commercial feasibility, then seek out and consult with potential customers, and develop preliminary designs for the necessary facilities. The initial design phase will include identifying routes and sites, performing early environmental assessments, planning construction and budgets, developing cost, rates, and revenue estimates, and consulting with local and regional agencies as well as with applicable federal agencies. At some point in this process, the company will announce an "open season," where the company publicly presents its project plans and seeks customers to commit to the project by signing precedent agreements and contracts for transportation capacity on the project. Initial commitments are not binding. When enough customers express an interest in the project, however, the company will negotiate terms for binding commitments. Many announced projects never get beyond

this point, due to insufficient customer interest or because potential customers may prefer a competing project that may have better siting and superior economics. Once a company believes it has sufficient customer support evidenced by customer commitments for all or a substantial portion of the project's capacity, the company will engage FERC staff in the "pre-filing" process that will lead ultimately to the sponsor filing a formal application at FERC.

The Pre-Filing Process

The pre-filing process was initially developed by the FERC staff in 2002 to encourage natural gas companies to consult with the environmental staff prior to filing their applications for new facilities. Intended to improve the quality of applications filed with FERC on environmental matters, initially it was an informal "guidance" process. Upon the passage of EPAct in 2005, FERC implemented a formal pre-filing process that remains voluntary for pipelines but is mandatory for LNG terminals.[50] The pre-filing process involves the project developer undertaking a wide range of detailed studies, public outreach, and interagency coordination with the participation and oversight of FERC staff prior to filing an application at FERC. Most large pipeline projects choose to pre-file.

Pre-filing is a major commitment and it is time consuming and costly. Projects which clearly have no stakeholder issues, and weak projects – those with marginal support or those that foresee major siting obstacles – will not go through the pre-filing effort. So there is an element of self selection among companies that choose to proceed. The extensive coordination and outreach steps involved in the pre-filing process are described and listed in Appendix C.

The FERC pre-filing rules ensure that information about project environmental impacts and public views is developed fully and made available to the Commission when it considers the formal application. Exhibit B-1, taken from the FERC website, outlines the pre-filing and environmental process. It highlights the numerous opportunities for input from the public and other stakeholders in the proceeding.[51] The pre-filing process

[50] See FERC Order 665, October 7, 2005. RM05-31, "Regulations Implementing the Energy Policy Act of 2005; Pre-Filing Procedures for Review of LNG Terminals and Other Natural Gas Facilities." http://www.ferc.gov/EventCalendar/Files/20051007163557-RM05-31-000.pdf

[51] See FERC Regulations at 18 CFR 157.21, "Pre-filing procedures and review process for LNG terminal facilities and other natural gas facilities prior to filing applications."

takes a minimum of 6 months, i.e., a company will not file its application for at least 180 days after commencing the pre-filing process. Briefly, the pre-filing process involves:

- Consultation with state and local agencies and with those federal agencies with review and approval authority;
- Contacting all stakeholder, and holding public meetings, with the FERC staff and other agencies, to present the project and take public comment;
- Undertaking detailed analyses of environmental impacts and filing "resource reports" and engaging a third party environmental contractor to assist the FERC staff draft the FERC environmental impact statement); and
- Coordinating with public safety and security agencies (e.g., Coast Guard and DoD) for LNG facilities.

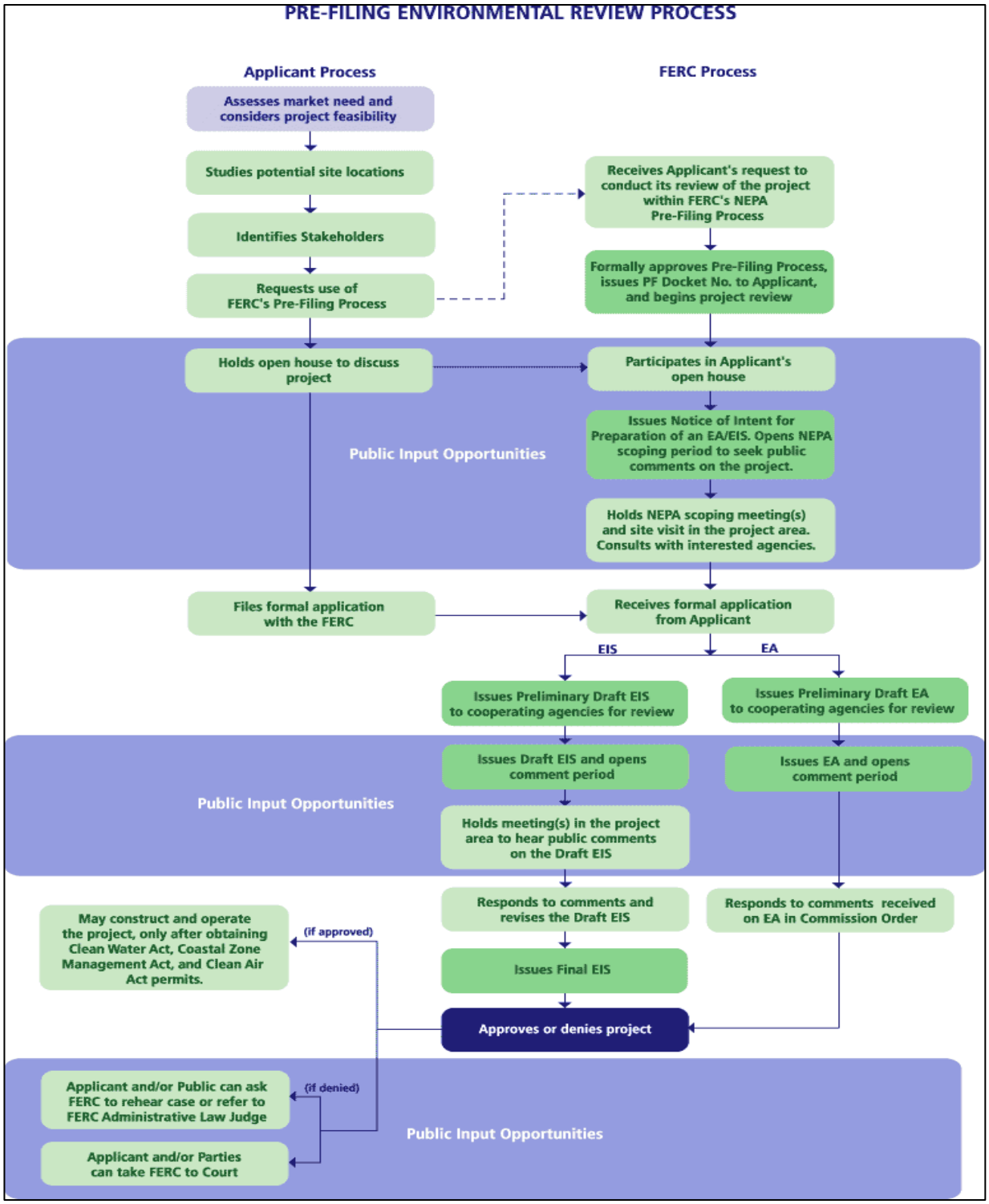
Pipelines must file 12 resource reports; LNG facilities must file a 13th report:

Resource Report 1 - General Project Description
Resource Report 2 - Water Use and Quality
Resource Report 3 - Fish, Wildlife, and Vegetation
Resource Report 4 - Cultural Resources
Resource Report 5 - Socioeconomics
Resource Report 6 - Geological Resources
Resource Report 7 - Soils
Resource Report 8 - Land Use, Recreation, and Aesthetics
Resource Report 9 - Air and Noise Quality
Resource Report 10 - Alternatives
Resource Report 11 - Reliability and Safety
Resource Report 12 - PCB Contamination
Resource Report 13 - Additional Information Relating to LNG Plants (engineering and safety)

Formal Application to FERC for Authorization to Construct

After a company files a certificate application and FERC assigns a certificate proceeding (CP) docket number, a copy of the entire application becomes available for viewing at public libraries, as well as via the FERC website. It typically takes FERC eight to 10 months to consider a certificate application before it makes a final decision on whether to issue a certificate order authorizing construction.

Exhibit B-1 Pre-Filing and Environmental Review



Source: FERC at http://www.ferc.gov/help/processes/flow/lng-1-print.asp

Certificate applications require project sponsors to file additional reports supporting their proposals.[52] The applications must include:

- The purpose of the project;
- Indication that potential affected landowners, towns, communities, local, state, and federal government agencies have received notification of the project;
- All engineering, design, and construction plans and maps, flow studies, operating and management plans;
- Environmental reports –the resource reports listed above;
- Access to supply and demonstration of market need, evidenced by customer commitments; and
- Cost of facilities, financing plans, expected revenues, pro-forma rates and tariff.

Next, the FERC staff reviews the application and provides an independent evaluation of the applicant's submissions. The staff is also responsible for a full environmental review under NEPA. Public and stakeholder participation in the process is an important aspect of FERC decision making as part of its responsibility under NEPA. Notices of applications are published widely, applications are made available for review, and stakeholders are invited to comment and participate in the docket. The FERC staff often holds public meetings to receive comments and identify issues. During this process the FERC staff prepares an EIS (typically through a third-party independent contractor paid by the applicant but answerable to FERC) that incorporates the comments of stakeholders.

The role of the staff is to develop a record on all the relevant issues. The staff assembles the facts about the project, including an environmental impact statement and other relevant studies, and comments from other agencies and the public. The staff ultimately makes a recommendation to the Commissioners on the disposition of the application.

The Commissioners review the overall record developed by the staff describing the project, its impacts, costs and the recommendations proposed by the staff. The record also will include filings of other interested parties to the proceeding (the applicant, landowners, competing developers, potential customers, public interest groups,

[52] See 18 CFR 157.14. This is an abbreviated list of what is required in each of the exhibits that accompany applications.

government agencies), including opponents. Based on the record before it, the Commissioners, acting on behalf of FERC, make the final decision whether to issue a certificate of public convenience and necessity. When reviewing projects the Commission weighs three criteria:

- Need for the project. Would the project meet a tangible need for natural gas such that the economic benefits of the project justify its approval?
- Cost. Are the costs reasonable and would implementing the project result in current customers unduly subsidizing the new customers for whom the project is intended?
- Environmental considerations, broadly considered. Are the impacts on the natural and man-made environment, including local socioeconomic impacts, public safety, and landowner rights, within an acceptable rage and can they be mitigated by reasonable adjustments to the project design and timing?

Typically certificates and authorizations are conditioned upon the applicant undertaking certain actions, recommended by the FERC staff. Conditions attached to a certificate may address any issues the Commission determines need further refinement or action by the project applicant under the NGA, or to address other concerns, alternative routes, or mitigation under NEPA. The project sponsor then determines whether to accept the certificate as conditioned. (If not, the sponsor may request a "re-hearing.") Upon agreeing to accept the certificate, the project sponsor can proceed with their project. [53]

Stakeholders as parties to the docket can request a rehearing for FERC reconsider its decision if they disagree with it. FERC may grant a rehearing or may not. Further, parties can appeal a FERC order directly to a U.S. court of appeals after FERC has acted on any requests for rehearing.

[53] Pipeline and related facilities are required to have certificates pursuant to Section 7(c) of the Natural Gas Act and such authorizations are referred to as 7(c) Certificates. Section 3 of the Act requires import facilities to have authorization.

Appendix C: Steps Involved in FERC Pre-Filing

The FERC Pre-Filing process was developed to ensure that project sponsors consider all of the issues relevant to decision-making from the earliest phases of project development. A key element of the process is requiring project sponsors to engage the public and state, local and federal agencies.

The first phase of the pre-filing process includes the following steps.

- Consultation with the FERC staff on the nature of the project, the progress towards obtaining information required by pre-filing and efforts to identify independent third party environmental impact statement preparers.
- An initial filing that includes
    - Proposed schedule for the project
    - For LNG facilities, description of site zoning and availability
    - For other infrastructure, statement of why pre-filing is sought
    - Detailed project description, including location maps, plot plans of all facilities
    - Listing of federal and state agencies with permitting requirements, including, for LNG facilities, state governor's liaison for state and local safety considerations
    - Statement that such agencies are aware of the applicant's intention
    - Whether agencies have agreed to participate in pre-filing
    - How the applicant has factored in other agency schedules for issuance of permits and authorizations
    - When the applicant plans to file for other authorizations
    - A list of all other persons and organizations contacted
    - A description of outreach efforts with other agencies, stakeholders; work done on engaging project engineering, environmental studies, sub-contracting
    - Names of prospective third party contractors from which the FERC staff may choose to support its NEPA review
- Commitment to file a complete Environmental Report and complete application upon filing for the formal certificate
- Description of a Public Participation Plan to include schedules for public Open Houses and Scoping Meetings

- For LNG facilities, certification that proper filings have been made with the U.S. Coast Guard.

When the FERC staff accepts a request to initiate a pre-filing review, project sponsors must within a specific time line establish schedules for public open houses and meetings and provide the following:

- Enter into a contract with the third party environmental review contactor
- Contact all stakeholders not already informed, including affected landowners
- Develop stakeholder mailing lists
- File Resource Report #1: alternatives to the project
- Prepare monthly status reports of applicant activities, including surveys, stakeholder communications, and agency meetings
- Participate in FERC staff-sponsored site visits and public meetings to present project details
- Be prepared to respond to comments on project scope from the FERC staff's scoping comment period
- Submit draft Resource Reports (there are 12) and later revised Resource Reports (at least 60 days prior to filing application)[54]
- For LNG terminals, submit Resource Report 13 – detailed engineering and design documents for LNG facilities
- For LNG terminals, certify that all Coast Guard filings and consultations have been made regarding waterway safety

During this pre-filing phase, staff and the third party contractor undertake the following activities

- Advising the applicant and identifying other interested parties
- Conducting the environmental scoping process to which the applicant must respond (see above)
- Conducting site visits, evaluate alternatives, meeting with other agencies and stakeholder and participating in public information meetings
- Review draft Resource Reports
- Initiating the Draft EIS preparation

[54] Resource Reports and their required contents are listed in 18 CFR 380.12 "Environmental Reports for Natural Gas Applications."

Once the applicant files the formal application, FERC proceeds with the NEPA process of developing a Draft and Final EIS, obtaining public comment on the document, and a record upon which the Commission makes a decision. An essential part of this record, and the information used in developing EISs includes the applicants' submission of 12 Resource Reports (13 for LNG facilities). These include:

Resource Report 1 - General Project Description
Resource Report 2 - Water Use and Quality
Resource Report 3 - Fish, Wildlife, and Vegetation
Resource Report 4 - Cultural Resources
Resource Report 5 - Socioeconomics
Resource Report 6 - Geological Resources
Resource Report 7 - Soils
Resource Report 8 - Land Use, Recreation, and Aesthetics
Resource Report 9 - Air and Noise Quality
Resource Report 10 - Alternatives
Resource Report 11 - Reliability and Safety
Resource Report 12 - PCB Contamination
Resource Report 13 - Additional Information Relating to LNG Plants (engineering and safety)