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LIQUEFIED NATURAL GAS: "THE BIG PICTURE" FOR FUTURE DEVELOPMENT IN NORTH AMERICA

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I. INTRODUCTION

After several decades of relative inactivity, liquefied natural gas ("LNG") development is again in the forefront of United States energy policy.[1] Former Federal Reserve Chairman Alan

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1. Center For Energy Economics, Brief History of LNG,

Greenspan reinvigorated serious U.S. interest in 2003 when he announced the broad economic ramifications of LNG policy to a Senate committee: "[a]ccess to world natural gas supplies will require a major expansion on LNG terminal import capacity and development of the newer offshore regasification technologies."[2] This statement catalyzed developments that have escalated to a worldwide feeding frenzy. Energy Secretary Bodman remarked at a 2005 conference that "[t]his is an exciting time for the LNG industry because we are in the midst of a monumental economic transition" from many isolated markets to one "worldwide natural gas market."[3]

The Federal Energy Regulatory Commission ("FERC") has embraced LNG development through major policy changes. The FERC foresaw the likelihood of substantially increased prices for natural gas and focused on the potential to increase supplies quickly through imports of liquefied natural gas,[4] recognizing LNG imports as a partial solution to the nation's increased demand for natural gas.[5] This paper focuses on a number of security and safety, environmental, and economic regulatory issues associated with the changes in the law and administrative policies.

II. THE BACKDROP OF DEVELOPMENT OF THE LNG MARKET

In 2003, the Department of Energy's Energy Information Administration ("EIA") comprehensive report, *U.S. LNG Markets and Uses*, noted that LNG "is expected to play an increasingly important role in the natural gas industry and energy markets in the next several years."[6] J. Mark Robinson, FERC's Director of

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http://www.beg.utexas.edu/energyecon/lng/LNG_introduction_06.php (last visited Apr. 14, 2007).

2. *Testimony of Alan Greenspan, Chairman, The Fed. Reserve Board Before S. Comm. On Energy and Natural Resources*, 107th Cong. 2 (2003), *available at* http://federalreserve.gov/BoardDocs/Testimony/2003/20030710/default.htm.

3. Samuel Bodman, Sec'y, U.S. Dep't of Energy, Keynote Address at United States Energy Ass'n, Ctr. for LNG Conference at the Nat'l Press Club (June 16, 2005), http://www.energy.gov/news/1914.htm.

4. Press Release, Fed. Energy Regulatory Comm'n, FERC Chairman Welcomes Fed Chairman's Focus on LNG (June 11, 2003), *available at* https://www.ferc.gov/industries/lng/gen-info/06-11-03-wood.pdf.

5. *Id.*

6. ENERGY INFO. ADMIN., OFFICE OF OIL AND GAS, U.S. LNG MARKETS AND USES 1 (2003), *available at* http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2003/lng/lng2003.pdf [hereinafter U.S. LNG MARKETS AND USES]. This view was shared by Daniel Yergin, author of the highly acclaimed history of the petroleum industry *The Prize*, DANIEL YERGIN, THE PRIZE: THE EPIC QUEST FOR OIL, MONEY AND POWER (Simon & Schuster 1991), and Michael Stoppard, who co-authored an article describing the emerging global business of natural gas as potentially the next large

Energy Projects, testified before the Senate that industry estimates show LNG could increase to as much as twenty-one percent of the total U.S. natural gas supply by 2025.[7] Secretary Samuel Bodman has heralded "[t]he possibilities for augmenting U.S. natural gas production with LNG."[8] He stated that the U.S. has tripled its LNG imports over the past few years and that imported LNG could "help provide stability" to the U.S. natural gas market.[9] Higher U.S. natural gas prices in recent years and technological advances that have lowered costs for liquefaction and regasifying, shipping, and storing LNG have supported LNG reliance.[10]

LNG is natural gas that has been cooled to approximately -260° Fahrenheit for shipment and storage as a liquid, and as a result the gas is compacted to 1/600 of its volume in the gaseous state.[11] The physical qualities of a liquid also avoid certain limitations inherent in gas transportation and storage.[12] Large ocean-going ships hold up to approximately 130,000 cubic meters of LNG, the equivalent of about 2.8 billion cubic feet ("Bcf") of regasified LNG.[13] Stated another way, "one shipment holds the equivalent of five percent of the gas consumed in the United States on an average day."[14]

LNG has the advantage of allowing long-distance transportation of the liquid by ship to energy-hungry markets such as the United States and local distribution by trucks onshore, or upon regasification by natural gas pipelines.[15] This characteristic is useful for import-dependent countries, as well as

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"prize" open to the energy industry. Michael Stoppard & Daniel Yergin, *The New Prize*, FOREIGN AFFAIRS, Nov./Dec. 2003, at 103, 104. Yergin and Stoppard state that this "[n]ew global energy business . . . will have a far-reaching impact on the world economy, bringing new opportunities and risks, new interdependencies and geopolitical alignments." *Id.* at 103. Yergin and Stoppard conclude that "[t]he natural gas business is on the brink of profound change" and "is set to become global" but that—particularly in view of the requisite technological and investment requirements and the political risks—"the United States needs to embrace the LNG market to complete the transformation." *Id.* at 105, 114.

7. *Testimony of J. Mark Robinson, Director, Office of Energy Projects, Fed. Energy Regulatory Commission Before S. Subcomm. on Energy and Natural Resources*, 109th Cong. 2 (2005) [hereinafter *Robinson Testimony*].

8. Bodman, *supra* note 3.

9. *Id.*

10. U.S. LNG MARKETS AND USES, *supra* note 6, at 1.

11. PAUL PARFOMAK, CONG. RESEARCH SERV., LIQUEFIED NATURAL GAS (LNG) INFRASTRUCTURE SECURITY: ISSUES FOR CONGRESS 2 (2005), *available at* http://www.ncseonline.org/nle/crsreports/05mar/RL32073.pdf.

12. *Id.*

13. *Id.* at 4.

14. Yergin and Stoppard, *supra* note 6, at 107.

15. U.S. LNG MARKETS AND USES, *supra* note 6, at 4.

for monetization of stranded gas reserves that are often otherwise inaccessible to end-use markets or pipeline infrastructure.[16] The ability to store LNG allows for its use to meet peak natural gas demand as well as for use in certain "niche markets," such as propane replacement and in vehicles.[17] Generally, LNG is stored as a liquid in cryogenic tanks and then regasified by pumping the liquid through heated pipes.[18]

A critical factor underpinning the increased demand for LNG is its use in power generation. The intensification of demand for electricity worldwide, the relatively low greenhouse gas emissions from natural gas, the retirement of existing oil and coal plants, and the transportability of LNG make it a natural solution. In the U.S. alone, use of natural gas for electric power production has risen nearly forty percent since 1990, and ninety percent of new generating capacity is fueled by gas.[19]

Another significant and compelling cause of the increased focus on LNG is the general rise in U.S. natural gas prices in this decade. During the winter of 2000–2001, natural gas prices on the domestic spot market climbed above $10 per thousand cubic feet ("Mcf").[20] Average wellhead prices in 2004 were well above $5 per Mcf, despite sporadic dips.[21] After a spectacular run-up both in 2005 and during the first quarter of 2006, prices have settled at about $7.[22] EIA has estimated the "trigger prices" for the construction of new LNG plants to be $3.62 to $4.58 per million Btu ("MMBtu"), compared to less than $2.87 to $3.15 per MMBtu for expansion at existing LNG plants.[23] The factors in assessing LNG desirability include: the nature of the markets in a particular location; available pipeline capacity; the timing and extent of reliance on natural gas at peak times; the availability of alternative fuel sources; and other factors such as environmental

16. *Robinson Testimony*, *supra* note 7.

17. U.S. LNG MARKETS AND USES, *supra* note 6, at 4.

18. *LNG: An Idea Whose Time Has Come*, THE ENERGY INSIDER, June 25, 2003, at 2, *available at* http://www.enerdynamics.com/section05/documents/Insider62503.pdf.

19. Yergin and Stoppard, *supra* note 6, at 110.

20. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK, ISSUES IN FOCUS: REASSESSMENT OF LNG SUPPLY POTENTIAL 39 (2004), *available at* http://www.eia.doe.gov/oiaf/archive/aeo04/pdf/0383(2004).pdf [hereinafter 2004 ANNUAL ENERGY OUTLOOK].

21. PARFOMAK, *supra* note 11, at 3.

22. ENERGY INFO. ADMIN., OFFICE OF OIL AND GAS, NAT. GAS MONTHLY 8 tbl.4 (2007), http://www.eia.doe.gov/pub/oil_gas/natural_gas/data_publications/natural_gas_monthly/current/pdf/ngm_all.pdf.

23. 2004 ANNUAL ENERGY OUTLOOK, *supra* note 20, at 40. One million Btu is the equivalent of one Mcf of natural gas having a heating value of 1,000 Btu per cubic foot. *See* Greater Dickson Gas Authority, http://www.gdga.com/energy_cost.htm (last visited Apr. 14, 2007).

mitigation costs.

Still another factor contributing to increased demand for LNG is the development of improved technology in all phases of the LNG supply chain, including liquefaction, transportation, and regasification. LNG can now be produced, liquefied, landed and regasified in the United States at a cost of about $2.50 to $3.50 per MMBtu and perhaps as low as $1.70.[24]

These factors have already dramatically increased U.S. imports of LNG and the trend is expected to increase exponentially. LNG imports doubled from around 229 Bcf in 2002 to 507 Bcf in 2003.[25] The Office of Fossil Energy recently reported that imports of LNG increased 28.7% from 2003 to 2004.[26] The prior historic record for LNG imports was 253 Bcf in 1979, all imported from Algeria.[27] That year also marked the peak of natural gas pipeline curtailments and the run-up of prices due to shortage of supply. The record was finally broken in 2003.[28] The EIA predicts strong future growth, with LNG's share of net imports growing from 0.2 Tcf in 2001 to 2.1 Tcf by 2025.[29]

III. CHANGES IN LNG POLICY

The U.S. government made several important policy decisions in the last several years that reflect the clear intent to facilitate and increase the importation of LNG. First, Congress enacted and President Bush signed the Maritime Transportation Security Act of 2002.[30] This legislation amended the Deepwater Port Act of 1974 to include "offshore" natural gas facilities.[31]

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24. DAVID E. DISMUKES, CENTER FOR ENERGY STUDIES, LOUISIANA STATE UNIVERSITY, NATURAL GAS OUTLOOK AND ASSESSMENT OF ENERGY INFRASTRUCTURE (2006), http://www.enrg.lsu.edu/presentations/DISMUKES_GPSC_4.ppt.

25. ENERGY INFO. ADMIN., OFFICE OF OIL AND GAS, NAT. GAS MONTHLY 14 tbl. 6 (2006), http://www.eia.doe.gov/oiaf/analysispaper/global/uslng.html.

26. FOSTER ASSOC., INC., FOSTER NATURAL GAS REPORT 15 (2005).

27. ENERGY INFO. ADMIN., OFFICE OF OIL AND GAS, U.S. LNG MARKETS AND USES: JUNE 2004 UPDATE 4 (2004), http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2004/lng/lng2004.pdf [hereinafter U.S. LNG MARKETS AND USES JUNE 2004].

28. *Id*.

29. Press Release, Energy Info. Admin., New EIA Forecast Through 2025 Expects Growing Natural Gas Demand to Depend on New Sources of Natural Gas Supply (Nov. 20, 2002), http://www.eia.doe.gov/neic/press/press201.html (noting that the primary source of other gas imports is by pipeline from Canada).

30. Maritime Sec. Transp. Act of 2002, 46 U.S.C. § 2101 (2000 & Supp. 2005).

31. A "facility" is defined in the Act as "any structure or facility of any kind located in, on, under, or adjacent to any waters subject to the jurisdiction of the United States." Deepwater Port Act of 1974, Pub. L. No. 93-627, 88 Stat. 2126 (1975) (amended 2002) (to be codified as amended at 33 U.S.C. §§ 1501–1505, 1507–1518, 1520–1524 (2006)).

Significantly, it transferred jurisdiction of offshore natural gas facilities from FERC to the U.S. Maritime Administration and the U.S. Coast Guard.[32] Both were a part of the U.S. Department of Transportation ("DOT") at that time, however the Coast Guard has now become part of the Department of Homeland Security.[33]

The law encourages construction of new offshore LNG terminals by instituting two parallel policy approaches. First, it reduces regulatory hurdles in building new offshore LNG facilities by ending the time consuming FERC approval process and replacing it with a process where the Maritime Administration is responsible for reviewing the commercial aspects of the proposal and the Coast Guard is responsible for considering the safety, security, and environmental aspects.[34] The legislation also compels relatively quick government action. A decision is required within 356 days of receipt of an application for construction of an offshore LNG terminal.[35] Once the final public hearing on an application has been held, it must be either approved or denied within ninety days.[36] As acknowledged by the EIA, the ultimate impact of these provisions "has both streamlined the permitting process and relaxed regulatory requirements."[37]

The second important policy feature of the Maritime Security Transportation Act of 2002 is to provide greater financial security to developers of offshore LNG projects. Specifically, this is accomplished by allowing the owners of the offshore LNG terminal to actually own the capacity of the facility.[38] While this principle may appear obvious to a business unencumbered by government regulation, the long-standing FERC policy had been to require the owner of a LNG terminal to allow others to bid in an "open season" for up to 100 percent of the capacity of the facility. The terminal owner could only recover the costs of operating the facility plus a fair rate of return on its investment by charging the facility users for the services

32. 46 U.S.C. § 2101.

33. R. O'ROURKE, CONG. RESEARCH SERV., HOMELAND SECURITY: COAST GUARD OPERATIONS—BACKGROUND AND ISSUES FOR CONGRESS 2 (2003), *available at* http://fpc.state.gov/documents/organization/72451.pdf.

34. ENERGY INFO. ADMIN., OFFICE OF OIL AND GAS, 2002 AMENDMENTS TO DEEP WATER PORT ACT OF 1974 1 (2005), http://www.eia.doe.gov/oil_gas/natural_gas/analysis_publications/ngmajorleg/amendments.html [hereinafter AMENDMENTS TO DEEP WATER PORT ACT OF 1974].

35. *Id.*

36. 46 U.S.C. § 2101.

37. PARFOMAK, *supra* note 11, at 11.

38. 46 U.S.C. § 2101.

provided, a classic regulated-industry approach based on cost-of-service regulation.[39] The 2002 legislation allows the owner to keep all or some of the capacity of the offshore terminal and sell the rest to bidders who will pay the owner market-determined prices for the capacity and services.[40]

Shortly after President Bush signed the Maritime Transportation Security Act in November 2002, FERC applied that legislative philosophy to *onshore* LNG terminals. FERC significantly changed its policy concerning onshore LNG terminals in an order authorizing the Hackberry LNG terminal.[41] In the December 2002 *Hackberry* decision, FERC terminated the "open season" and "open access" requirements for new onshore LNG terminals, thereby bringing parity in regulatory approaches to all LNG terminals.[42] FERC's decision authorized Hackberry to provide services to its affiliates under market-based rates, rather than at regulated rates based on the costs of providing service including a return on investment, and it exempted the company from having to provide "open access" service to nonaffiliates through the facilities.[43] Former FERC Chairman Pat Wood III remarked that this policy resulted in "an unprecedented movement to develop LNG facilities in the U.S." by providing "financial certainty for companies looking to invest the billions of dollars required to develop LNG facilities."[44]

In the *Hackberry* order, FERC further explained the basis for its policy shift:

> Our decision to adopt a new policy for LNG import facilities reflects consideration of several factors. First, we note that the prices, terms, and conditions of service for first sales of natural gas, including sales of imported LNG, have been

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39. ENERGY INFO. ADMIN., OFFICE OF OIL AND GAS, FERC's HACKBERRY DECISION (2002) 1 (2005), http://www.eia.doe.gov/oil_gas/natural_gas/analysis_publications/ngmajorleg/ferc.html.

40. AMENDMENTS TO DEEP WATER PORT ACT OF 1974, *supra* note 34.

41. *See* Press Release, Fed. Energy Regulatory Comm'n, Commission Signals New Regulatory Approach in Louisiana LNG Project (Dec. 18, 2002), *available at* http://www.ferc.gov/press-room/press-releases/2002/2002-4/Dec18_hackberry.pdf. Sempra Energy LNG Energy Group owns the Hackberry LNG terminal and renamed it Cameron LNG. *See* U.S. LNG MARKETS AND USES JUNE 2004, *supra* note 27.

42. Hackberry LNG Terminal, L.L.C., 101 F.E.R.C. ¶ 61,294, at p. 62,176 (Dec. 18, 2002), *order on rehearing*, Cameron LNG, L.L.C., 104 F.E.R.C. ¶ 61,269 (2003), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=9608751.

43. U.S. LNG MARKETS AND USES JUNE 2004, *supra* note 27.

44. DEP'T OF ENERGY, OFFICE OF FOSSIL ENERGY, LIQUEFIED NATURAL GAS: UNDERSTANDING THE BASIC FACTS 19 (2005) (report prepared in collaboration with the National Association of Regulatory Utility Commissioners), *available at* http://fossil.energy.gov/programs/oilgas/publications/lng/LNG_primerupd.pdf.

> deregulated by statute. The sale of natural gas from these facilities would occur at, or downstream of, the tailgate of the LNG plant, where re-vaporized LNG would be delivered to Hackberry's pipeline. These sales of natural gas would be made in competition with other sales of natural gas produced in the Gulf Coast region in a deregulated competitive commodity market. The terminal's costs would be part of the costs of producing and delivering LNG to the Gulf Coast natural gas marketplace, and would be recovered only through the sales of natural gas in these or downstream markets. This approach may provide incentives to develop additional energy infrastructure to increase much-needed supply into the United States, while at the same time ensuring competitive commodity prices and open-access interstate pipeline grid. Given these facts, and because the entire risk of the project will be borne by Hackberry, there is no regulatory need to require a tariff and rate schedule as a condition of approving the LNG terminal under section 3.[45]

Additionally, because the natural gas pipeline transporting regasified LNG from the facilities remains subject to FERC regulations, including open access, imposing a similar requirement on the import facilities would be redundant.[46]

Indeed, in the *Hackberry* proceeding, FERC explicitly found that its treatment of the onshore facility proposed in that case was consistent with the recent legislation addressing *offshore* terminals:

> Section 106(d) of the Maritime Transportation Security Act specifically provides that the licensee of a deepwater port for natural gas (including LNG) may have exclusive use of the entire capacity of the deepwater port or facility for its own purposes, without being subject to the requirements of open access or common carriage. Our decision in this case relies on our discretionary authority under section 3 of the Natural Gas Act to apply a similar approach to onshore LNG facilities. We believe that a similar approach is warranted here because Hackberry is a new entrant solely bearing the risk of the project's success in introducing new imported LNG supplies into the Gulf Coast natural gas supply markets. No captive customers bear any of the costs or risks of cost recovery and the recovery of the fixed costs of LNG terminalling can be accomplished only through the sales of LNG at a competitive market prices. In addition,

45. *Hackberry*, 101 F.E.R.C. ¶ 61,294, at p. 62,179–80 (internal citations omitted).

46. *See id.* at p. 62,176.

onshore LNG facilities should be at competitive parity with offshore facilities.[47]

In mid-December 2003, the Bush Administration held a ministerial summit on the potential growth and need for LNG in the U.S. market. Energy ministers from several OPEC countries spoke, as well as ministers from non-OPEC countries and industry executives.[48] At the summit, the Bush Administration announced that up to thirteen LNG facilities will be needed to supply the U.S. market.[49] The Administration is looking to LNG to close the gap between domestic natural gas production and demand. As of June 2004, nearly thirty-five LNG terminals have been proposed, but analysts say most of those proposals are unlikely to be built due to the large amount of financial backing needed to construct a facility as well as the environmental, safety, and homeland security concerns.[50]

In September 2003, the Department of Energy announced its partnership with the National Association of Regulatory Utility Commissioners ("NARUC") to educate State regulators about LNG.[51] The partnership is designed to: (1) encourage dialogue among regulators, legislators, utility experts, environmental regulators, and other critical energy stakeholders to ensure the responsible development and deployment of LNG resources, including terminal, storage and transport facilities; (2) increase awareness of LNG opportunities within the regulatory and legislative communities; (3) address environmental and national security concerns; and (4) enhance LNG-related information flow between federal and state entities.[52]

In 2004, the Coast Guard issued a temporary interim rule

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47. *Id*. at p. 62,180. The Energy Policy Act of 2005 included a provision that codifies FERC's *Hackberry* policy. *See* Energy Policy Act of 2005, Pub. L. No. 109-58, §§ 311–312, 119 Stat. 594 (codified at 15 U.S.C.A. §§ 717–717c (West 2006)).

48. LNG Ministerial Summit (Dec. 16–18, 2003), http://www.usea.org/Prospective%20LNG%20Ministerial%20Summit%20Agenda%20-%2012-02-05.pdf. The author of this paper gave a presentation and overview of LNG issues at the Ministerial Summit.

49. Spencer Abraham, U.S. Sec'y of Energy, Keynote Address at the LNG Ministerial Summit (Dec. 17, 2003), *available at* http://www.pi.energy.gov/documents/lng_summit_2003_remarks.pdf.

50. U.S. LNG MARKETS AND USES JUNE 2004, *supra* note 27, at 7.

51. Dep't of Energy, *NARUC to Assist in Educating States, Public on Liquefied Natural Gas*, FOSSIL ENERGY TECHLINE, Sept. 10, 2003, http://fossil.energy.gov/news/techlines/2003/tl_naruc_lng1.html.

52. THE NAT'L ASS'N OF REGULATORY UTIL. COMM'RS P'SHIP, DEP'T OF ENERGY, LIQUEFIED NATURAL GAS: AN OVERVIEW OF THE ISSUES FOR STATE PUBLIC UTILITY COMMISSIONS ES-1 (2005), *available at* http://fossil.energy.gov/programs/oilgas/publications/lng/LNG_NARUC_state_utility_comm.pdf.

that revised regulations adopted in the Deepwater Port Act of 1974 and the Maritime Transportation Security Act of 2002.[53] As directed by the Maritime Transportation Security Act, the interim rule was issued to harmonize rules for offshore oil facilities and offshore natural gas facilities, including LNG facilities, now under the jurisdiction of the Coast Guard. It seeks comments on identifying industry standards or commonly accepted practices for the safe design, construction, and operation of a deepwater port.[54] The interim rule does not refer to industry standards, however it contains standards the Coast Guard believes are appropriate.[55] The Coast Guard issued its final rule on September 29, 2006, which incorporated, with some revisions, the regulations contained in the temporary interim rule.[56] The Coast Guard developed voluntary guidelines regarding the design, construction, maintenance and oversight of deepwater ports. The information is offered in the form of circulars posted on the Coast Guard's web site.[57]

At its February 11, 2004 meeting, FERC announced its Interagency Agreement on LNG safety and security with the Coast Guard and the DOT's Research and Special Programs Administration.[58] The agreement is intended to codify existing practices and to provide comprehensive, coordinated coverage of all issues related to the design, siting, and operation of LNG facilities, as well as the navigation of waters in the vicinity of such facilities.[59] The Agreement provides that FERC exercises authority over terminal siting and approval, as well as the approval and construction of gas pipeline facilities associated

53. Coast Guard—Temporary Interim Rule with Request for Comments, 69 Fed. Reg. 724 (proposed Jan. 6, 2004) (expired Oct. 1, 2006 and replaced by Final Rule issued Sept. 29, 2006).

54. *Id.* at 725.

55. *Id.*

56. *Id.* at 724; Coast Guard—Final Rule, 71 Fed. Reg. 189 (Sept. 29, 2006) ("In this final rule, the Coast Guard is permanently adopting, with revisions, the regulations contained in the temporary interim rule published at the beginning of 2004.").

57. Office of Operating and Envtl. Standards, U.S. Coast Guard, Deepwater Ports Standards Division, http://www.uscg.mil/hq/gm/mso/mso5.htm (last visited Apr. 10, 2007).

58. Press Release, Fed. Energy Regulatory Comm'n., Comm'n, Coast Guard, DOT Sign Interagency Agreement to Coordinate Review of LNG Terminal Safety, Security (Feb. 11, 2004), *available at* http://www.ferc.gov/press-room/press-releases/2004/2004-1/02-11-04-interagency.pdf.

59. 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 1 (2004), *available at* http://www.ferc.gov/industries/lng/safety/reports/2004-interagency.pdf [hereinafter INTERAGENCY AGREEMENT].

with LNG facilities.[60] DOT sets and enforces federal safety standards for the transport and storage of LNG. Its authority extends to siting, design, installation, construction, initial inspection, initial testing, operation, and maintenance of LNG facilities.[61] The Coast Guard has regulatory authority over matters related to navigation suitability, port safety, vessel engineering and safety standards, and review and compliance of LNG facility security plans.[62]

The Agreement states that FERC is the lead agency for preparation of the analysis and decisions required under the National Environmental Policy Act ("NEPA") for the approval of new facilities.[63] The NEPA agreement is intended to meet the needs of the Participating Agencies (FERC, the DOT and the Coast Guard) and other cooperating agencies so that any needed permits can be issued concurrently.[64]

The Participating Agencies agree to: (1) share the information they gather, consider, and rely on; (2) cooperate and provide input and feedback into any FERC studies to address safety and security issues; (3) cooperate in the inspection and operational review of facilities, as appropriate; (4) communicate informally throughout the process to ensure discussion and sharing of issues among all agencies; and (5) resolve disputes using existing dispute resolution methods and in accordance with existing statutory authorities.[65]

A major development occurred on August 8, 2005, when Congress passed The Energy Policy Act of 2005 ("EPAct").[66] The EPAct included several important LNG provisions.

First, it amended the Natural Gas Act to give FERC exclusive authority to approve or deny an application for the siting, construction, expansion, or operation of a LNG terminal.[67] However, it preserved states' rights to review LNG proposals under the Coastal Zone Management Act, the Clean Air Act, and the Federal Water Pollution Control Act and gave states new authority by requiring FERC to consult with state agencies on

60. *See id.* at 1–2.

61. *See id.* at 2.

62. *Id.*

63. *Id.*

64. INTERAGENCY AGREEMENT, *supra* note 59, at 1.

65. *Id.* at 3–4.

66. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (to be codified in scattered sections of 7 U.S.C., 10 U.S.C., 15 U.S.C., 16 U.S.C., 22 U.S.C., 26 U.S.C., 30 U.S.C., 40 U.S.C., 42 U.S.C. (2006)).

67. Energy Policy Act § 311(c).

safety issues.[68]

Second, the EPAct required FERC to make the LNG pre-filing process under the National Environmental Policy Act a mandatory procedure for new projects as well as for expansions.[69] The rule also applies to applicants seeking to modify existing facilities in cases where significant safety issues must be addressed.[70] FERC has conducted a voluntary pre-filing process for several years as a way to learn of potential new LNG projects and to provide notice to those with an interest in the projects, such as landowners and state and local officials.[71] The process also allows applicants to become aware of key issues regarding their projects that they can then address in the final applications.[72] FERC issued proposed regulations for public comment on August 29, 2005, the Final Rule was issued on October 7, 2005, and the regulation went into effect on November 17, 2005.[73] Applicants are now required to submit a detailed pre-filing application to FERC at least six months before filing a formal application.[74] The Rule emphasizes the EPAct's requirement that applicants cooperate with state and local agencies.[75]

Among other agency directives, the EPAct requires: (1) FERC to develop regulations governing its maintenance of a consolidated record of federal and state agency documents to be relied upon in court appeals of LNG orders;[76] (2) FERC to complete a Memorandum of Understanding ("MOU") with the Secretary of Defense to guarantee coordination of LNG facilities that could affect an active military installation;[77] and (3) DOE to hold at least three LNG forums within the next year in coordination with other agencies, including FERC.[78] The two

68. *Id.*

69. *Id.*

70. Regulations Implementing Energy Policy Act of 2005—Pre-Filing Procedures for Review of LNG Terminals, 70 Fed. Reg. 60,426, 60,426 (Oct. 18, 2005) (codified at 18 C.F.R. pt. 153, 157, 375).

71. FED. ENERGY REGULATORY COMM'N, OFFICE OF ENERGY PROJECTS, AN INTERSTATE NATURAL GAS FACILITY ON MY LAND? WHAT DO I NEED TO KNOW? 2 (2006), *available at* http://www.ferc.gov/for-citizens/citizen-guides/citz-guide-gas.pdf.

72. *See id.*

73. Regulations Implementing Energy Policy Act of 2005, 70 Fed. Reg. at 60,426.

74. *Id.* at 60,439.

75. *Id.* at 60,433.

76. Energy Policy Act of 2005, Pub. L. No. 109-58, § 313, 119 Stat. 594 (codified at 15 U.S.C.A. 717n (West 2006)).

77. Energy Policy Act § 311.

78. Energy Policy Act § 317.

agencies have begun work on all three directives. In September 2005, FERC issued a Policy Statement on maintenance of a consolidated record in LNG proceedings.[79] A rulemaking is expected in the near future. FERC has initiated the process of developing an MOU with the Department of Defense.[80] In addition, the DOE has held three LNG forums that tackle the challenges facing the LNG industry by providing the public with information about LNG and the U.S. LNG industry and by promoting communication among government officials, industry representatives, experts, and the general public.[81]

IV. ENVIRONMENTAL AND SAFETY ISSUES ARISING FROM LNG FACILITIES

A. Environmental Issues

The siting, construction, and operation of a LNG terminal involves numerous environmental considerations. In approving a facility such as a LNG terminal, the pertinent federal agency (whether FERC, the Maritime Administration or the Coast Guard) must comply with NEPA.[82] NEPA requires that the approving agency undertake a review of the project to inform the public and other federal agencies about the potential adverse or beneficial environmental impacts and alternatives, and to recommend measures that would best mitigate any significant adverse impact on the environment.[83] Among the NEPA concerns to be addressed are the degree of erosion in and around the proposed facility, location near urban areas, disposal of displaced earth, displacement and disturbance of marine life, and risk of leak, explosion, or fire.[84] The agency also reviews the proposed

79. Consol. Record in Natural Gas Proceedings, 112 F.E.R.C. ¶ 61,334, at p. 62,487 (2005) (policy statement).

80. FED. ENERGY REGULATORY COMM'N, STATUS OF ENERGY POLICY ACT OF 2005 ACTIVITIES BY FEDERAL ENERGY REGULATORY COMMISSION 1 (2006), *available at* http://www.ferc.gov/legal/maj-ord-reg/fed-sta/status-epact-2005.pdf.

81. U.S. Dep't of Energy, LNG Forums, http://fossil.energy.gov/programs/oilgas/storage/lng/lng_forums.html (last visited Apr. 10, 2007).

82. Lauren H. O'Donnell and Chris M. Zerby**,** Fed. Energy Regulatory Comm'n, Address at the DOE LNG Forum L.A., The Siting and Review Process for Onshore and Near Shore LNG Facilities (Nov. 29, 2006), *available at* http://www.fossil.energy.gov/programs/oilgas/storage/lng/houston_p4n1_odonnell.pdf.

83. National Environmental Policy Act of 1969 § 102, Pub. L. No. 91-190, 83 Stat. 852 (1970) (to be codified at 42 U.S.C. §§ 4321, 4331–4335, 4341–4346, 4346a, 4346b, 4347 (2006)).

84. FED. ENERGY REGULATORY COMM'N OFFICE OF ENERGY PROJECTS, HANDBOOK FOR USING THIRD-PARTY CONTRACTORS TO PREPARE ENVIRONMENTAL DOCUMENTS FOR

location, studies its environmental effects and compares it with alternative locations.[85]

The approving federal agency, which conducts the environmental assessment of the project in consultation with other federal agencies, local government, and local citizens, generally reviews the NEPA issues as well. Local opposition is common to the construction of LNG terminals for a wide variety of reasons, including the impacts arising from the proximity of the terminal to homes, businesses, institutions, schools, and other infrastructure.[86] Key environmental laws, such as the Endangered Species Act and the Clean Air Act, are used to analyze additional environmental concerns.[87] For example, if a review reveals that an endangered species resides in or around the area of the project, or is known to frequent the area, the applicant must make every attempt to either relocate the project or provide mitigating measures to control the effects of the terminal upon the species and its habitat.[88]

It is important to note that the approving federal agency has ultimate decisional authority on approval of a LNG project. As stated by FERC in the *Cameron* order, state and local agencies may not use state or local laws to "prohibit or unreasonably delay the construction or operation of facilities approved" by FERC.[89] This is an essential building block of terminal regulation.

The *Cameron* order, issued on September 11, 2003, provides a good guide to FERC's process of reviewing environmental issues associated with a LNG terminal, as it is the first such

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NATURAL GAS FACILITIES AND HYDROPOWER PROJECTS 3-13 to 3-15 (2005), *available at* http://www.ferc.gov/industries/hydropower/enviro/tpc/tpc-handbook.pdf [hereinafter HANDBOOK FOR USING THIRD-PARTY CONTRACTORS].

85. *See id.* at 3-13.

86. DEP'T OF ENERGY/THE NAT'L ASS'N OF REGULATORY UTIL. COMM'RS P'SHIP, THE NEED FOR EFFECTIVE AND FORTHRIGHT COMMUNICATION PLANNING FOR LNG FACILITY SITING: A CHECKLIST FOR STATE PUBLIC UTILITY COMMISSIONS 11 (2005), *available at* http://www.fossil.energy.gov/programs/oilgas/publications/lng/LNG_NARUC_communication_lngfacsiting.pdf.

87. HANDBOOK FOR USING THIRD-PARTY CONTRACTORS, *supra* note 84, at 2-3.

88. *See id.* at 3-14.

89. *Cameron LNG*, 104 F.E.R.C. at pp. 61,889–90, (issuing certificates and granting reh'g sub nom.); Hackberry LNG Terminal, L.L.C., 101 F.E.R.C. ¶ 61,294 (Dec. 18, 2002). State and local siting authorities have at times created obstacles to the expeditious completion of natural gas pipelines, electric generation facilities, and hydroelectric projects, taking the position that they have jurisdiction in these matters. *See, e.g.*, Schneidewind v. ANR Pipeline Co., 485 U.S. 293 (1988); Nat'l Fuel Gas Supply v. Pub. Serv. Comm'n, 894 F.2d 571 (2d Cir. 1990); Iroquois Gas Transmission System, L.P., 52 F.E.R.C. ¶ 61,091 (July 30, 1990) and 59 F.E.R.C. ¶ 61,094 (Apr. 28, 1992).

terminal approved in over twenty years.[90] In *Cameron*, one party raised potential cultural and heritage issues required to be reviewed pursuant to the Natural Historic Preservation Act.[91] Specifically, the pipeline connecting the terminal with the larger pipeline grid passed close to a cultural site.[92] The party overseeing the site, Temple-Inland, Inc., raised concerns about potential archeological and heritage disturbances on the property and requested an alternate pipeline route.[93] FERC disagreed and determined that the proposed route would result in the least amount of environmental harm to the area.[94] However, FERC imposed a condition directing Cameron to dig on a narrow path across the area.[95] Cameron also agreed to create eighty-five acres of coastal marsh to offset the fifty-five acres that would be affected by the construction of the terminal.[96]

In addition to consideration of environmental issues under NEPA, the Dallas-based Region 6 office of the EPA has ruled that LNG regasification performed on floating vessels in the Gulf of Mexico is subject to EPA authority and will be held to the same clean air and clean water EPA regulations as fixed-structure LNG facilities.[97] This decision is subject to review by the EPA's Appeals Board.[98] It involved a proposal by El Paso Corporation for a deepwater port 120 miles offshore of Louisiana at which specially designed tankers would regasify LNG on the tanker with warm Gulf water and then offload the gas directly to pipelines for transportation onshore.[99]

An additional issue raising secondary environmental and safety concerns is the effect of the higher Btu content of LNG on pipeline facilities and home appliances. Existing pipeline tariffs specify a range of heating value per cubic foot in order to protect equipment and ensure the predictability of gas usage in direct

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90. *Cameron LNG, L.L.C.*, 104 F.E.R.C. ¶ 61,269.

91. *Id*. at p. 61,890 n.7.

92. *Id.* at p. 61,888.

93. *See id.*

94. *Id.*

95. *Cameron LNG, L.L.C.*, 104 F.E.R.C. at p. 61,888.

96. *Id.* at p. 61,889.

97. Letter from Charles J. Sheehan**,** Regional Counsel, Environmental Protection Agency Region 6, to Michael Cathey, Managing Director, El Paso Energy Bridge Gulf of Mexico, L.L.C., and Diana Dutton, Akin, Gump, Strauss, Hauer & Feld, L.L.P., at 9 n.3 (Oct. 28, 2003), *available at*http://www.epa.gov/region7/programs/artd/air/nsr/nsrmemos/20031028.pdf.

98. *See id.* at ll.

99. *See id.* at 2.

heat processes.[100] It has been estimated that the labor cost to modify a single utility for higher Btu gas is $20 million per 100,000 customers.[101] FERC is beginning to exercise its authority to review potential modifications to these existing tariffs and practices.[102] At its July 28, 2004 meeting, FERC took up the issue of "interchangeability."[103] The meeting included a presentation on natural gas interchangeability issues by a task force comprised of members of the Natural Gas Council, the North American Energy Standards Board, and others.[104] The task force developed a white paper and submitted it to FERC on February 28, 2005, indicating that consensus had been reached on some interchangeability items.[105] These consensus items are as follows:

- The BTU specification alone, as used in tariffs today, is not an adequate measure of interchangeability.[106]
- Interchangeability parameters represent the best measures for developing guidelines, specifications, and standards for interchangeability.[107]
- The Task Group will focus on selecting interchangeability parameters and criteria.[108]
- Guidelines are needed for application of interchangeability parameters.[109]
- The Wobbe Index (a number indicating the interchangeability of fuel gases based on heating value, useful for blending fuels) provides the most efficient, robust measure of gas interchangeability.[110]

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100. Mary O'Driscoll, *Industry Seeks Solution to Burning LNG Problem*, GREENWIRE, Feb. 19, 2004, at Vol. 10 No. 9.

101. *Id.*

102. *Id.*

103. Fed. Energy Regulatory Comm'n, 866th Commission Meeting (2004), *available at* http://www.ferc.gov/EventCalendar/Files/20040817120334-transcript.pdf.

104. *Id.* at 10.

105. NATURAL GAS COUNCIL PLUS INTERCHANGEABILITY WORK GROUP, FED. ENERGY REGULATORY COMM'N, WHITE PAPER ON NATURAL GAS INTERCHANGEABILITY AND NON-COMBUSTION END USE 10 (2005), *available at* http://www.ferc.gov/industries/lng/indus-act/issues/gas-qual/natural-gas-inter.pdf [hereinafter WHITE PAPER ON NATURAL GAS INTERCHANGEABILITY].

106. *See id.* at 16.

107. *See id.* at 17.

108. *Id.*

109. *Id.*

110. *Id.*

- There are limitations to the applicability of the Wobbe Index, and additional parameters may be required to address combustion performance and emissions limitations.[111]

- Gas interchangeability guidelines need to consider historical and regional gas compositional variability as well as future gas supplies.[112]

- The European experience in gas interchangeability highlights important issues for establishing U.S. interchangeability specifications and demonstrates significant differences from the U.S. situation.[113]

- The European experience suggests that the historical range of gases distributed in the U.S. may be used to establish interchangeability criteria.[114]

- The Task Group will continue to draw on relevant international experience.[115]

Final white papers on two gas interchangeability issues, liquid hydrocarbon dropout[116] and noncombustion end-use,[117] were submitted to the FERC on February 28, 2005.[118] In May 2005, FERC held a technical conference on gas interchangeability issues.[119] An industry group known as "Natural Gas Council Plus" submitted recommendations that FERC currently uses as a guideline in its decisions.[120] The Natural Gas Supply Association has petitioned for a rulemaking decision, but Chairman Kelliher has made known his preference for handling the issue on a case-by-case basis.[121] Energy Secretary Bodman has stressed the

111. WHITE PAPER ON NATURAL GAS INTERCHANGEABILITY, *supra* note 105, at 17.

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.*

116. NATURAL GAS COUNCIL PLUS LIQUID HYDROCARBON DROP OUT TASK GROUP, FED. ENERGY REGULATORY COMM'N, WHITE PAPER ON LIQUID HYDROCARBON DROP OUT IN NATURAL GAS INFRASTRUCTURE 1 (2005), *available at* http://www.ferc.gov/industries/lng/indus-act/issues/gas-qual/liquid-hydrocarbon.pdf.

117. WHITE PAPER ON NATURAL GAS INTERCHANGEABILITY, *supra* note 105.

118. Policy Statement on Provisions Governing Natural Gas Quality and Interchangeability in Interstate Natural Gas Pipeline Company Tariffs, 115 F.E.R.C. ¶ 61,325 at p. 62,158 (2006).

119. *Id.* at 62,159.

120. *Id.* at 62,158–59.

121. *See, e.g.*, Jeff Beattie, *FERC Staff on LNG Costs: Split the 'Wobbe'*,

importance of dealing with gas compatibility and noted that several other countries have designed terminals that can handle the higher Btu gas.[122] The interchangeability issue will be prominent on the FERC's agenda and will directly impact LNG regasification facilities in the U.S.

B. Safety Issues—A Continuing Source of Concern in Some Communities

Despite the remarkably safe record in liquefying, shipping, unloading, and regasifying LNG, some communities continue to have concerns about the siting of LNG facilities in their vicinity. Concerns regarding the safety of LNG facilities will continue to be a part of the debate concerning whether LNG should be encouraged broadly via federal incentives. LNG hazards are usually traceable to one of three parts in the supply chain: tanker ships, marine terminals (for both liquefaction and regasification), or storage facilities.[123]

An explosion at a LNG liquefaction facility in Skikda, Algeria in 2004 killed twenty-seven people and injured many more, thereby serving as a catalyst for deeper analysis of LNG safety.[124] The FERC was so concerned that it dispatched an investigative team to Algeria to assess the causes and implications of the accident.[125] The U.S. LNG industry breathed a small sigh of relief when it was determined that a steam boiler was the cause of the explosion.[126] Steam boilers are used during the natural gas liquefaction process and therefore are not present at U.S. LNG terminals which are designed to revaporize LNG from a liquid back into a gas.[127]

Other accidents involving LNG have been limited to several incidents over the last six decades. In 1944, a LNG storage tank in Cleveland caught fire and 128 people in nearby residential

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ENERGY DAILY, Feb. 1, 2006, at 1.

122. Bodman, *supra* note 3.

123. Diane Lindquist, *Liquefied Natural Gas Is a Hot-Button Issue in U.S.*, SAN DIEGO UNION-TRIBUNE, Feb. 7, 2004, at C1.

124. PAUL PARFOMAK, CONG. RESEARCH SERV., LNG INFRASTRUCTURE SECURITY: BACKGROUND FOR CONGRESS 11 (2005) [hereinafter PARFOMAK II].

125. MIKE HIGHTOWER ET AL., SANDIA NAT'L LABS., GUIDANCE ON RISK ANALYSIS AND SAFETY IMPLICATIONS OF A LARGE LIQUEFIED NATURAL GAS (LNG) SPILL OVER WATER 159 (2004), *available at* http://www.uscg.mil/d1/units/seclis/broadwater/adobe/SANDIA%20REPORT.pdf.

126. *Robinson Testimony*, *supra* note 7.

127. *Id.*

areas were killed.[128] In 1973, an explosion occurred on Staten Island that killed forty workers engaged in maintenance on an empty tank.[129] An explosion in 1979 at Cove Point, one of the four existing LNG import terminals, killed one worker, injured another, and caused $3 million in damage.[130] This incident resulted in major design code changes that are now used industry-wide, and no serious incidents involving LNG have occurred in the U.S. since.[131]

An often voiced concern is the risk posed by LNG from "pool fires." These fires can burn on water and burn faster and hotter than either oil or gasoline.[132] The fear is the spread of fire as the LNG expands away from the source of a spill and evaporates. Because pool fires cannot be extinguished, they must burn out.[133] There have been no reports of large, accidental pool fires.[134] However, pool fires were identified as a "serious hazard" in a study of LNG issues prepared for Congress.[135]

On May 13, 2004, FERC released a report entitled, "Consequence Assessment Methods for Incidents Involving Releases from LNG Carriers."[136] The "key modeling issues addressed . . . [were]: (1) [r]ate of release of LNG from a ship; (2) [s]pread of an unconfined pool on water; (3) vapor generation for unconfined spills on water; (4) [t]hermal radiation from pool fires on water; (5) distance for flammable vapor dispersion following spills on water; (6) [r]apid phase transitions (RPTs); and (7) [e]ffects of thermal radiation on people and structures."[137] The report made some recommendations for estimating this information, while noting the problems and limitations associated with modeling and the inability to generate precise estimates.[138]

Critics questioned the report's conclusion that the lack of

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128. Jessica Resnick-Ault, *Who's Afraid of LNG*, THE PROVIDENCE J., Jan. 4, 2004, at A1. This accident was caused by a compromise in the design of the tank due to the shortage of stainless steel alloys during World War II. *Id.*

129. *Id.*

130. *Id.*

131. Diane Lindquist, *supra* note 123.

132. PARFOMAK, *supra* note 11.

133. *Id.*

134. *Id.*

135. PARFOMAK II, *supra* note 124.

136. FED. ENERGY REGULATORY COMM'N, CONSEQUENCE ASSESSMENT METHODS FOR INCIDENTS INVOLVING RELEASES FROM LIQUEFIED NATURAL GAS CARRIERS iii (2004), *available at* http://www.ferc.gov/industries/lng/safety/reports/cons-model.pdf.

137. *Id.*

138. *Id.*

data renders existing models inadequate[139] and faulted the report's failure to take the industry's safety record into account.[140] Nevertheless, a number of the less critical comments urged that the report should be regarded as the starting point for further investigation rather than the end result of the FERC inquiry.[141]

The Department of Energy has also looked at LNG safety issues. It commissioned a report to assess potential threats to a LNG ship, determine the consequences of a large LNG spill over water, and review prevention and mitigation measures.[142] Secretary of Energy Bodman stated that the Department of Energy was "heartened" by the conclusions of the Sandia Report that found "risks from accidental LNG spills are manageable with current safety policies and practices, while risks from intentional events can be significantly reduced with appropriate security, planning, prevention, and mitigation."[143]

After the incident in Algeria in 2004, the mayor of Fall River, Massachusetts, reiterated his opposition to the proposed Weaver's Cove LNG import terminal.[144] Notably, officials in another Massachusetts community—where a different LNG import terminal is under consideration—indicated continued support of providing a viable way to continue the proposed project while maintaining safety and improving the local economy.[145] The difference between the views of officials in the two communities reflects the continuing debate over the safety of LNG transportation and storage facilities.[146]

It is likely that these and similar debates will continue to arise before relevant federal agencies involved in the approval of LNG import projects and the full deployment of new LNG terminals, both onshore and offshore. In response to some of the

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139. FED. ENERGY REGULATORY COMM'N, RESPONSES TO COMMENTS ON CONSEQUENCE ASSESSMENT FOR INCIDENTS INVOLVING RELEASES FROM LIQUEFIED NATURAL GAS CARRIERS 5–6 (2004), *available at* http://www.ferc.gov/industries/lng/safety/reports/cons-model-comments.pdf.

140. *Id.* at 3–6. *See also* Francis J. Katulak, Distrigas of Mass. LLC, *Comments on Consequence Assessment Methods for Incidents Involving Releases from LNG Carriers*, *in* F.E.R.C ACCESSION NO. 20040601-0018 (2004).

141. *See*, *e.g.*, James A. MacHardy, Soc'y of Int'l Gas Tanker and Terminal Operators Ltd., *Comments on Consequence Assessment Methods for Incidents Involving Releases from LNG Carriers*, *in* F.E.R.C. ACCESSION NO. 20040526-5056 (2004).

142. *See* HIGHTOWER, *supra* note 125.

143. Bodman, *supra* note 3.

144. Jessica Resnick-Ault, *Blast Prompts Mayor to Protest LNG Plan*, THE PROVIDENCE J., Jan. 22, 2004, at C1.

145. *Id.*

146. *See, e.g.*, Mary O'Driscoll, *FERC Seeks Safety Information in Wake of Algeria Explosion*, GREENWIRE, Jan. 26, 2004, at Vol. 10 No. 9.

concerns, many U.S. projects and some of those being developed in other countries rely upon offshore siting. Nevertheless, several onshore facilities are already operating and many have been proposed.

In the FERC proceeding involving the recommencement of operations at the Cove Point LNG facility, local citizens voiced concerns about the safety of the terminal and the size of the tankers due to the terminal's proximity to a large nuclear power plant.[147] Nevertheless, FERC approved the application to restart the Cove Point facility with assurances from the Coast Guard regarding the safety of LNG tankers entering the Chesapeake Bay.[148] FERC noted that the Coast Guard has authority over tankers in the Chesapeake Bay, as well as the docking of tankers at the facility, and the Office of Pipeline Safety in the DOT has jurisdiction over the security and safety of Cove Point's onshore LNG pipelines and other facilities.[149] It stated that the Coast Guard was undertaking a reevaluation of its rules and regulations over tanker operations but that FERC "can influence neither the outcome nor the timing" of the reevaluation; therefore, FERC could move forward to approve the project.[150] There was much fanfare when the first shipment of gas arrived in Cove Point from Russia's Gazprom in 2005.[151]

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147. *See*, *e.g.*, Marie Andrews & Barbara Fetterhoff, League of Women Voters of Calvert County, Md., *Comments on Docket No. C01-76-000 and Docket No. CP01-77-000*, *in* F.E.R.C. ACCESSION NO. 20010709-0132 (2001).

148. The Coast Guard has jurisdiction over oil and gas deepwater facilities, as well as tankers, and is responsible for the protection and security of LNG tankers that enter all U.S. harbors. 14 U.S.C.A. § 2; 33 U.S.C.A. § 1501. It closely monitors LNG tanker movement in and out of Boston Harbor and has interrupted shipments in periods of high terror alerts. Jeff Montgomery, *Lique'ed Natural Gas Shipment is Concern*, NEWS J., Dec. 28, 2003, at A119. After Sept. 11, 2001, the Coast Guard undertook a comprehensive review of its rules regarding deepwater ports. U.S. GOV'T. ACCOUNTABILITY OFFICE, COAST GUARD CHANGES TO DEEPWATER PLAN APPEAR SOUND, AND PROGRAM MANAGEMENT HAS IMPROVED, BUT CONTINUED MONITORING IS WARRANTED 1 (2006), *available at* http://www.gao.gov/new.items/d06546.pdf.

149. Cove Point LNG Limited Partnership, 97 F.E.R.C. ¶ 61,276, at p. 62,262 (2001). In 1985, FERC and the DOT formalized a Memorandum of Understanding regarding the respective responsibilities of FERC, the Coast Guard and the DOT's Office of Pipeline Safety over LNG safety matters. DEP'T OF TRANSP., MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF TRANSPORTATION AND THE FEDERAL ENERGY REGULATORY COMMISSION REGARDING LIQUEFIED NATURAL GAS TRANSPORTATION FACILITIES (1985), *available at* http://ops.dot.gov/library/mous/1985_DOT_FERC.pdf. In February 2004, FERC entered into an Interagency Agreement with DOT and the Coast Guard. See discussion *supra* Part III.

150. *Cove Point LNG*, 97 F.E.R.C. at p. 62,263.

151. Gazprom is the Russian natural gas monopoly. *Update: Gazprom Tanker Makes First Liquefied Natural Gas Delivery to U.S.*, RIAN NOVOSTI, Sept. 2, 2005, *available at* http://en.rian.ru/business/20050902/41283661.html.

During the Cove Point proceeding, several agencies, including FERC, the Coast Guard, the DOT, and the Nuclear Regulatory Commission held a nonpublic technical conference in November 2001 to discuss a potential terrorist attack on Cove Point or the nearby Calvert Cliffs nuclear plant.[152] At the meeting, all the agencies in attendance gave an overview of their jurisdiction over the facilities, explained measures taken or to be taken to guard against an attack, and how each agency is coordinating with Cove Point and Calvert Cliffs.[153] The agencies stated that no further action was required by FERC to ensure the security of the facilities.[154]

In the *Cameron* proceeding, FERC heard concerns regarding the cryogenic aspects of the terminal and storage facilities, as well as concerns about gas spills, explosions, radiation, vapor clouds, and terrorist attacks against the storage tanks and tankers.[155] Cameron's certificate was conditioned on compliance with conditions recommended by the DOT's Office of Pipeline Safety to provide safeguards against thermal radiation and other LNG spill dangers, and FERC's Director of the Office of Energy Projects was authorized to order any and all necessary steps to ensure reliability and safety.[156] Specifically, FERC stated that:

> significant non-scheduled events, including safety-related incidents (LNG or natural gas releases, fires, explosions, mechanical failures, unusual overpressurization, major injuries) shall be reported to the Commission's staff *within 48 hours*. In the event an abnormality is of significant magnitude to threaten public or employee safety, cause significant property damage, or interrupt service notification shall be made immediately without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency procedure.[157]

Other LNG terminals have also faced safety issues. To reach the Everett terminal in Massachusetts, a tanker must pass through Boston Harbor, one of the busiest harbors in the U.S. Post September 11, 2001, LNG tankers must now be inspected,

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152. *Cove Point LNG*, 97 F.E.R.C. ¶ 61,276, at p. 62,261.

153. *Id.* at p. 62,262–63.

154. *Id.* at p. 62,263.

155. *Cameron LNG*, 104 F.E.R.C. at p. 61,889.

156. *Cameron LNG*, 104 F.E.R.C. at p. 61,889, 61,894 (listing thirteen events that would constitute a reportable incident, such as fire, explosion, property damage over $10,000, death or injury requiring hospitalization, etc.).

157. *Cameron LNG*, 104 F.E.R.C. at p. 61,894 (Condition 36) (emphasis added).

and a safety zone of 500 feet wide, two miles ahead and one mile behind, is required before a LNG tanker is allowed to unload its cargo.[158] The Gulf Coast does not face such extreme measures because it lacks a large population center directly on the coastline and is home to offshore drilling rigs, wells, and several commercial shipping lanes.

FERC applications to authorize the Weaver's Cove terminal in Massachusetts and the KeySpan upgrade in Rhode Island were fiercely protested based on the potential for a terrorist attack on the facilities and the tankers.[159] Opponents also cited proximity to citizens' property as an additional concern.[160] FERC has issued orders on both projects.[161] Following FERC's recommendations, FERC concluded that Weaver's Cove could meet safety standards provided certain mitigation measures proposed by the applicant were implemented.[162] The order provides a blueprint for FERC policy regarding LNG safety, particularly with respect to harbor safety. The KeySpan project, however, was rejected based on FERC's findings that the project as proposed would not meet federal safety standards for earthquake and fire protection.[163] It is the first instance in which an existing LNG facility was reviewed under updated safety standards and the first time FERC has withheld approval for an application to construct a LNG facility. In its January 20, 2006 order denying rehearing requests on KeySpan, FERC stated that "[w]e believe our holding is correct because it is based on the need to maintain the impressive safety record of the LNG industry and the reasonable and responsible steps that we take to ensure safety in determining whether a LNG import terminal is in the public interest."[164]

The canceled Long Beach terminal project generated many questions regarding the safety and security of the facility.[165] State

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158. Joseph R. Laplante, *In Everett, LNG Terminal is a Natural Fit*, THE STANDARD-TIMES, Oct. 9, 2005, at A1, *available at* http://www.southcoasttoday.com/daily/10-05/10-09-05/a01lo484.htm.

159. *See, e.g.*, Michael Lynch, *Crowd Airs LNG Fears*, EAST BAY NEWSPAPERS, Sept. 3, 2004, *available at* http://www.eastbayri.com/story/281405753917387.php.

160. *Id.*

161. *See infra* Part V.B.

162. Weaver's Cove Energy, LLC, 112 F.E.R.C. ¶ 61,070, at p. 61,545 (July 15, 2005).

163. Keyspan LNG, LP, 114 F.E.R.C. ¶ 61,054, at p. 61,151 (Jan. 20, 2006).

164. *Id.* at p. 61,153.

165. *See*, *e.g.*, David R. Baker & Mark Martin, *New Fuel Battle Ignited in State Intense Debate Over Liquefied Natural Gas Terminals Along Coast*, SAN FRANCISCO CHRONICLE, Jan. 23, 2005, at B1. *See also* Gary Polakovic, *Long Beach Energy Project Halted*, L.A. TIMES, Jan. 23, 2007, *available at* http://www.latimes.com/news/local/

and local authorities stressed that it was essential to consider how well *this* facility would withstand an earthquake, as safety considerations for proposed LNG terminals are complex and site-specific and Long Beach is located in an area of high seismic activity.[166]

Many LNG terminal safety plans and other similar documents are no longer made public due to security concerns, absent a showing of need.[167] These documents are considered to be "critical infrastructure" documents, and FERC will not make them publicly available.[168] In the past, a typical application detailed the location of the terminal, the route of any pipelines or other facilities related to the terminal, and the safety guidelines, emergency response details, and other data pertaining to the terminal—all of which are in retrospect understood to be sensitive information.

FERC has, however, made efforts recently to provide the public with information on LNG projects and quell concerns over safety by creating an informational guide for citizens and dedicating a portion of its web site exclusively to the LNG industry.[169] In a recent interview with an energy publication, the then Secretary of the Interior, Gale Norton, stated that LNG safety and security issues can be reconciled and that policy makers must work with the public in order to gain support for siting and construction of facilities that are badly needed to meet increasing U.S. demand for natural gas.[170]

V. UNITED STATES LNG FACILITIES

A. Active Terminals

A few active LNG import terminals on the United States mainland have been authorized by FERC:[171]

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la-me-lng23jan23,1,5297930.story?ctrack=1&cset=true.

166. *Id.*

167. Critical Energy Infrastructure Information, 102 F.E.R.C. ¶ 61,190, at p. 61,125 (2003).

168. *Id.*

169. *See*, *e.g.*, FERC, Liquefied Natural Gas, http://www.ferc.gov/industries/lng.asp (last visited Apr. 10, 2007).

170. Joel Kirkland, *LNG, Pipe Infrastructure, Land Access Challenges Can Be Overcome, Says Norton*, INSIDE FERC, Jan. 30, 2006, at 1.

171. Because of their limited function or geographical isolation, I exclude discussion of the Kenai, Alaska terminal (jointly owned by Conoco-Phillips and Marathon Oil) that, since 1969, has exported LNG to Japan, and the Puerto Rico LNG import terminal located at Guayanilla Bay. *See* U.S. LNG MARKETS AND USES JUNE 2004, *supra* note 27, at 3 n.3.

(1) The Everett Terminal in Massachusetts was the first LNG import terminal in the U.S., commencing operations in 1971.[172] It receives LNG from Algeria, Trinidad, and Australia and is owned by Distrigas of Massachusetts, a subsidiary of SUEZ Energy North America.[173] Everett Terminal provides approximately twenty percent of New England's annual natural gas needs.[174] Everett has a storage capacity of 3.5 Bcf and a pipeline sendout capacity of 0.44 Bcf/d, with an additional 0.09 to 0.10 Bcf/d sendout capacity by truck.[175]

(2) The Cove Point Terminal in Maryland on Chesapeake Bay was re-activated in 2003 by Dominion Resources.[176] It receives LNG from Trinidad, Nigeria, Norway, Venezuela, and Algeria.[177] In April 2005, Cove Point filed an application for authorization to expand the existing terminal by: (1) adding two new storage tanks to increase send-out capability and storage; and (2) constructing five new pipelines totaling approximately 161 miles.[178] The pipelines will be located in Maryland and Pennsylvania and will deliver additional capacity to pipeline connections in Virginia and Pennsylvania.[179] Cove Point currently has storage capacity of 7.8 Bcf; the proposed expansion would increase storage capacity by 14.6 Bcf.[180] In October 2005, FERC Staff issued a draft Environmental Impact Statement ("EIS") finding limited environmental impacts.[181] If approved, the facilities are expected to go into service in late 2008.[182]

(3) The Elba Island facility near Savannah, Georgia, is

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172. U.S. LNG MARKETS AND USES, *supra* note 6, at 5.

173. SUEZ Energy North America, Our Companies—SUEZ LNG NA, http://www.suezenergyna.com/ourcompanies/lngna.shtml (last visited Apr. 10, 2007).

174. *Id.*

175. U.S. LNG MARKETS AND USES, *supra* note 6, at 5.

176. *Id.*

177. U.S. LNG MARKETS AND USES JUNE 2004, *supra* note 27, at 5.

178. Letter from Anne E. Bomar, Managing Dir., Transmission Rates and Regulation, Dominion Resources, Inc., to Margalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n (Apr. 15, 2005), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10505026:0. *See also* FED. ENERGY REGULATORY COMM'N, STAFF OF FERC ISSUE DRAFT ENVIRONMENTAL IMPACT STATEMENT ON COVE POINT EXPANSION PROJECT, *available at* http://www.ferc.gov/industries/lng/enviro/eis/10-28-05-eis.asp [hereinafter DRAFT EIS COVE POINT].

179. *Id*.

180. U.S. LNG MARKETS AND USES JUNE 2004, *supra* note 27, at 5.

181. *See* DRAFT EIS COVE POINT, *supra* note 178.

182. *East Coast LNG Import Capacity Expanding Despite Local Opposition*, LNG EXPRESS, Dec. 1, 2005, at 35, *available at* http://www.zeusdevelopment.com/epubs/lngx/lngx051201.pdf.

owned by Southern LNG, a subsidiary of El Paso Corporation,[183] and receives its LNG from Trinidad.[184] This facility reopened in November 2001 and received one cargo that had been diverted from the Distrigas facility due to concerns following the September 11 attacks.[185] Southern LNG and Elba Express Co. have recently submitted a pre-filing application[186] with FERC for a two-phased expansion that would add over eight Bcf of storage and 900 million cubic feet per day ("MMcfd") of deliverability by 2012.[187]

B. Recent Projects at FERC

Currently, approximately forty LNG terminals have either been proposed to FERC or are being considered by the industry.[188] Below are summaries of some of the more prominent projects before FERC. Given the high level of activity in the LNG industry this information serves only to give a snapshot of the industry at this time.

(1) Tractebel Calypso Pipeline, LLC: Tractebel Calypso applied to construct a twenty-four-inch pipeline connecting a to-be-built LNG gasification terminal near Freeport, Grand Bahamas with a regasification terminal in Broward County, Florida, to provide LNG to new natural gas fired power plants in Florida.[189] On May 1, 2003, FERC's Preliminary Determination on Non-Environmental Issues accepted Tractebel's application, subject to review of environmental considerations.[190] The final certificate was issued March 24, 2004.[191]

183. U.S. LNG MARKETS AND USES, *supra* note 6, at 2–5.

184. U.S. LNG MARKETS AND USES JUNE 2004, *supra* note 27, at 6.

185. U.S. LNG MARKETS AND USES, *supra* note 6, at 3.

186. See discussion of FERC's new pre-filing regulations in Part III, *supra*.

187. FED. ENERGY REGULATORY COMM'N, SOUTHERN LNG, INC. AND ELBA EXPRESS COMPANY, L.L.C.; NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT AND U.S. COAST GUARD LETTER OF RECOMMENDATION FOR THE PROPOSED ELBA III PROJECT, REQUEST FOR COMMENTS ON ENVIRONMENTAL ISSUES, AND NOTICE OF PUBLIC COMMENT MEETINGS (2006), *available at* http://www.epa.gov/fedrgstr/EPA-IMPACT/2006/March/Day-30/i4654.htm.

188. FERC, Existing and Proposed North American LNG Terminals, http://www.ferc.gov/industries/lng/indus-act/terminals/exist-prop-lng.pdf (updated Oct. 19, 2006) (last visited Apr. 10, 2007).

189. Tractebel Calypso Pipeline, L.L.C., 103 F.E.R.C. ¶ 61,106, at p. 61,330 (May 1, 2003), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=9688856.

190. *Id.* at pp. 61,330–31.

191. Tractebel Calypso Pipeline, L.L.C., 106 F.E.R.C. ¶ 61,273 (Mar. 24, 2004), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10098925.

Most of the order addresses environmental concerns.[192] Offshore construction procedures, including horizontal directional drills underneath reefs along the pipeline route, will substantially reduce impacts to the reefs and hardbottom areas.[193] Tractebel will also selectively relocate coral and large sponges in order to minimize impacts on sensitive marine hardbottom habitats and organisms.[194] The 6.5 mile segment of onshore pipeline will be constructed so as to reduce the need to establish new rights-of-way.[195]

The approval certificate includes certain environmental conditions that: (1) require the pipeline to provide vessel and equipment-specific weather contingency procedures establishing the protocol for stopping construction, demobilizing equipment and vessels, and securing and abandoning pipeline segments under rough sea conditions; (2) prohibit the pipeline from using drilling mud or additives toxic to marine or aquatic organisms and from using corrosion inhibitors, biocides, oxygen scavengers, or other additives in hydrostatic test water without prior written approval; (3) require the pipeline to file an updated near-shore construction monitoring plan before beginning construction; and (4) require the pipeline to file a pre-installation video survey plan for deepwater corals and provide a post-construction monitoring plan to evaluate potential impacts of the pipeline on deepwater resources.[196]

The order rejected a suggestion from the Environmental Protection Agency ("EPA") that if both Ocean Express and Tractebel Calypso are built, that they be constructed as a single pipeline or share a single path.[197] FERC concluded that a single pipeline would pose both safety and environmental impacts and a co-located path would essentially double the environmental impact regardless of the location. In an order discussed briefly at the meeting, the FERC required Florida Gas to incorporate gas quality standards in its tariff in order to address allegations of unreasonable interconnection conditions imposed by the pipeline.[198] The subsequent compliance filing sparked protests

192. *See id.*

193. *Id.* at p. 61,972.

194. *Id.* at p. 61,974.

195. *Id.* at p. 61,972.

196. *Tractebel Calypso Pipeline, L.L.C.*, 106 F.E.R.C. at p. 61,973.

197. *Id*. at p. 61,974.

198. *See* AES Ocean Express, L.L.C. v. Fla. Gas Transmission Co., 107 F.E.R.C. ¶ 61,276, at p. 62,276–77 (June 18, 2004), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10172058.

regarding gas quality and interchangeability standards and the parties are currently in settlement negotiations.[199] The disputes in the original complaint over temperature and hourly flows have been settled.[200]

(2) Cameron LNG, LLC (formerly d/b/a Hackberry LNG Terminal, L.L.C.):[201] The Hackberry application was for authorization to construct and operate a LNG terminal in Louisiana and a 35.4 mile pipeline from the terminal to a compressor station of Transcontinental Gas Pipe Line Corporation.[202] Several parties voiced opposition to the adjacent LNG pipeline, citing environmental risks.[203] In May 2003, Dynegy Midstream Services sold the project to Sempra Energy LNG Group and the project was renamed Cameron LNG.[204]

On September 11, 2003, FERC issued the certificates.[205] Cameron must notify FERC of any changes or disruptions that occur with construction of the terminal that veer outside of the proposal accepted by FERC.[206] On December 9, 2004, Cameron filed an application to amend its previous authorization to expand its facilities to accommodate larger tankers,[207] and the Commission recently approved the amendment.[208] Cameron has begun construction on the terminal; construction on the pipeline is scheduled to begin in the fourth quarter of 2007.[209]

As noted above, FERC significantly changed its policy on LNG imports in this case.[210] Under the authorization, Cameron is permitted to provide LNG terminalling service at the rates, terms, and conditions agreed upon with its customers but is not required to offer firm or open-access terminalling service or

199. *See id.*

200. *See* Fla. Gas Transmission Co.,109 F.E.R.C. ¶ 61,357 (Dec. 22, 2004) (hourly flows), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10347061; Fla. Gas Transmission Co., 110 F.E.R.C. ¶ 61,148 (Feb. 14, 2005) (temperature), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10410143.

201. *Cameron LNG*, 104 F.E.R.C. at p. 61,886.

202. *See Hackberry LNG*, 101 F.E.R.C. ¶ 61,294, at p. 62,176, *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=9608751.

203. *See Cameron LNG*, 104 F.E.R.C. at p. 61,888.

204. *Id.* at p. 61,887

205. *Id.* at p. 61,890.

206. *Id.* at p. 61,890.

207. *See* Cameron LNG, L.L.C.,111 F.E.R.C. ¶ 61,018, at p. 61,046 (Apr. 13, 2005), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10493540.

208. *Id.* at p. 61,048.

209. Sempra LNG, Cameron LNG Project Overview, http://www.sempralng.com/Pages/Terminals/Cameron/default.htm (last visited Apr. 14, 2007).

210. *Cameron LNG*, 104 F.E.R.C. at p. 61,887.

maintain a tariff and rate schedule for that service.[211] FERC thereby terminated its prior policy that LNG import terminal applicants offer an "open season" on available terminal capacity, and allocate such capacity on an "open access" basis.

(3) Freeport LNG Development, L.P.:[212] Freeport applied in March 2003 to construct a LNG terminal on Quintana Island near Freeport, Texas.[213] The application notes that terminal access will only be provided for third parties, i.e., the terminal will be the middleman between shippers of LNG and those who buy and transport the LNG.[214] It also notes that the terminal will be used solely for intrastate LNG shipping purposes inside Texas, and thus, will not be engaged in interstate transportation that is subject to FERC regulation.[215] The terminal is to be used for commerce between Texas and foreign countries, which is outside interstate commerce.[216] Several intrastate pipelines will form interconnecting pipelines to the meter station.[217] Shippers using the Freeport Terminal will be required to obtain authorization from the Department of Energy's Office of Fossil Energy to import LNG.[218] ConocoPhillips announced that it is buying a fifty percent ownership interest in the project and will participate in the construction of the facility.[219]

In February 2004, Dow Chemical Co. signed a twenty-year terminal use agreement for up to 500 million cubic feet ("MMcf") per day of capacity.[220] On November 7, 2003, FERC issued a Draft Environmental Impact Statement that recommended sixty-two mitigation measures for the project, including environmental inspection and complaint resolution plans, noise mitigation procedures, a ship maneuverability study, and numerous measures to ensure plant safety.[221] A public hearing on the EIS

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211. *Id.*

212. Freeport LNG Dev., L.P., 107 F.E.R.C. ¶ 61,278, at p. 62,294 (June 18, 2004).

213. *Id.* at p. 62,294.

214. *See* FED. ENERGY REGULATORY COMM'N., FREEPORT LNG DEVELOPMENT, L.P.: NOTICE OF APPLICATION ENVIRONMENTAL IMPACT STATEMENT, 68 Fed. Reg. 17,930–31, *available at* 2003 WL 1867826 (Apr. 14, 2003).

215. *Id.*

216. *Id.* at 17,931.

217. *Id.*

218. *Id.*

219. *Freeport LNG Dev., L.P.*, 107 F.E.R.C. at p. 62,300.

220. *Id.* at 62,295.

221. *See* FED. ENERGY REGULATORY COMM'N, DRAFT ENVIRONMENTAL IMPACT STATEMENT, FREEPORT LNG PROJECT, 68 Fed. Reg. 64,616–17 (Nov. 14, 2003), *available at* http://www.epa.gov/fedrgstr/EPA-IMPACT/2003/November/Day-14/i00216.htm.

was held in December 2003.[222] On April 6, 2004, FERC announced the preparation of a Draft General Conformity Determination to assess the potential air quality impacts associated with the construction and operation of the terminal and pipeline.[223] The project would be located in an area designated as a severe ozone nonattainment area.[224] A final Environmental Impact Statement ("FEIS") was issued on May 28, 2004, and FERC issued an order authorizing construction and operation on June 18, 2004.[225] In its environmental and safety analysis, FERC, for the first time, applied a new study that evaluated the consequences of tanker spills and concluded that requirements imposed by the Brazos River Pilots Association and the U.S. Coast Guard, along with the design of the ships, would reduce the potential of a hazardous event.[226] Construction began on January 18, 2005, and the terminal is scheduled to begin service in late 2007.[227]

(4) Weaver's Cove Energy, LLC; Mill River Pipeline, LLC:[228] In December 2003, applications were filed to build a LNG terminal on the Taunton River near Fall River, Massachusetts and a pipeline (to be built by Weaver's affiliate, Mill River) to deliver the regasified natural gas to the Algonquin Gas Transmission System located nearby.[229] The project, which would have an average vaporization capacity of 0.4 Bcf/day, includes a terminal, a 200,000 cubic meter capacity LNG storage tank, and docking berths.[230]

On April 14, 2004, FERC denied requests to issue a decision on nonenvironmental issues on applications by Weaver's Cove to site, construct and operate a LNG terminal in Fall River, Massachusetts, and by Mill River to provide lateral service for

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222. *See* FED. ENERGY REGULATORY COMM'N, L.P.: NOTICE OF MEETING ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE FREEPORT LNG PROJECT, 68 Fed. Reg. 65,275 (Nov. 19, 2003), *available at* http://www.epa.gov/fedrgstr/EPA-IMPACT/2003/November/Day-19/i00299.htm.

223. *Freeport LNG Dev., L.P.*, 107 F.E.R.C. at p. 62,297.

224. *Id.*

225. *Id.* at pp. 62,296, 62,300.

226. *Id.* at p. 62,298–300.

227. *Freeport LNG Receives FERC Authorization for LNG Terminal* Expansion, RIGZONE NEWS, Sept. 22, 2006, *available at* http://www.rigzone.com/news/article.asp?a_id=36449.

228. *Weaver's Cove Energy, LLC*, 112 F.E.R.C. at 61,527.

229. *Id.* at p. 61,527–28.

230. FED. ENERGY REGULATORY COMM'N, NOTICE OF STATUS CHANGE OF ENVIRONMENTAL REVIEW AND EXPIRATION OF SCOPING PERIOD FOR THE PROPOSED WEAVER'S COVE LNG PROJECT, 69 Fed. Reg. 1714 (Jan. 12, 2004), *available at* http://www.epa.gov/fedrgstr/EPA-IMPACT/2004/January/Day-12/i035.htm.

pipeline interconnections with Algonquin.[231] Service is presently scheduled to begin in 2007.[232] The Commission noted the distinction between applications filed under section 7 of the Natural Gas Act ("NGA"), which requires a finding that the proposal is in the public convenience and necessity, and this application filed under section 3 of the NGA, where approval is to be granted unless the proposal is "not consistent with the public interest" and the applicant has no power of eminent domain.[233] Additionally, because Weaver's Cove filed its application under the *Hackberry* standards, open access service is not required.[234] The Commission further determined that the Mill River project, while requiring section 7 approval, would not benefit from the preliminary determination process and that all outstanding environmental and safety issues can be addressed in the final order.[235] Environmental review of the proposal began in July of 2003.[236] At a July 28, 2004 meeting, FERC determined that the Weaver's Cove Facility would have only "limited adverse effects" on the environment in a Draft Environmental Impact Statement.[237] A FEIS was issued in May 2005.[238] FERC found that environmental impacts could be mitigated if the company disposes of dredged soil and prevents erosion on the property.[239] FERC also took into account a Coast Guard security plan to ensure public safety.[240]

On July 15, 2005, FERC issued an order authorizing construction of the LNG facility and the laterals on the condition that numerous safety measures are undertaken.[241] FERC and the U.S. Coast Guard undertook an unprecedented process of coordinating with local agencies and port stakeholders to develop a safety plan for the tankers.[242] The plan became the basis for the

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231. *See* Weaver's Cove Energy, LLC, 107 F.E.R.C. ¶ 61,022, at pp. 61,092–93 (Apr. 14, 2004) *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10116042.

232. *Id.* at p. 61,092.

233. *Id.* at pp. 61,092–93.

234. *Id.* at p. 61,093.

235. *Id.* at p. 61,094.

236. *Weaver's Cove Energy, LLC*, 107 F.E.R.C at 61,093–94.

237. FED. ENERGY REGULATORY COMM'N, NOTICE OF AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT AND THE DRAFT GENERAL CONFORMITY DETERMINATION FOR THE PROPOSED WEAVER'S COVE LNG PROJECT (July 30, 2004), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10212981.

238. *Weaver's Cove Energy, LLC*, 112 F.E.R.C at p. 61,540.

239. *Id.* at p. 61,550–51.

240. *Id.* at p. 61,541.

241. *Id.* at p. 61,527–28.

242. *Id.*

Coast Guard's guidelines for determining whether a waterway is suitable for LNG traffic.[243] The project continues, however, to face intense opposition by city and state officials who now assert that recent legislation preventing demolition of a historic bridge will block the project because tankers will not be able to pass under the bridge.[244] FERC rejected this argument and others in its order on rehearing issued on January 24, 2006.[245] Weaver's Cove issued its own response to the project's opponents by announcing that it could use smaller tankers and run them more frequently.[246] The City of Fall River, the attorneys general of Massachusetts and Rhode Island, and the Massachusetts Energy Facility Siting Board filed a petition for review of FERC's orders with the U.S. Court of Appeals for the First Circuit in Boston.[247]

(5) Corpus Christi LNG, LP, and Cheniere Corpus Christi Pipeline Co.:[248] These applications were filed on December 22, 2003 by Corpus Christi LNG and its pipeline affiliate to construct a terminal near Corpus Christi, Texas, along with related facilities to connect with intrastate and interstate pipelines.[249] The project would have an installed capacity of 2.88 Bcf/d and would import, store, and vaporize on average 2.6 Bcf/d.[250] On April 18, 2005, FERC issued an order authorizing the project.[251] The order noted FERC's continued reliance on its *Hackberry* policy by stating that "[t]he Commission has chosen to exercise a less intrusive degree of regulation for new LNG import terminals, and does not require the applicant to offer open-access service or to maintain a tariff or rate schedules for its terminalling service."[252] However, FERC maintains the authority

243. *Weaver's Cove Energy, LLC*, 112 F.E.R.C at p. 61,541.

244. *Weaver's Cove Energy, LLC.*, 114 F.E.R.C. ¶ 61,058 at. p. 61,163, 61,168 .

245. *See Weaver's Cove Energy, LLC*,114 F.E.R.C. at p. 61,168.

246. Letter from R.G. Shearer, Chief Executive Officer, Weaver's Cove Energy, to Captain Roy A. Nash., U.S. Coast Guard (Feb. 02, 2006), *available at* http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=10949053.

247. Letter from Michael L. Miozza to Magalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n (Jan. 28, 2006), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10960130 (submitting a notice of filing that was made in the First Circuit Court of Appeals re Weaver's Cove Energy LLC and Weaver's Cove LNG Project in Fall River, Massachusetts under CP04-36-000 et al.).

248. Corpus Christi LNG, L.P., Cheniere Corpus Christi Pipeline Company, 111 F.E.R.C. ¶ 61.081, at p. 61,374 (Apr. 18, 2005) (Docket Nos. CP04-37-000, CP04-44-000 thru CP04-45-000).

249. *Id.*

250. *Id.*

251. *Id.*

252. *Id.* at p. 61,376.

to investigate complaints regarding undue discrimination or anticompetitive behavior.[253]

As for environmental concerns, FERC found the project to be "environmentally acceptable" as long as Corpus Christi followed the environmental mitigation measures outlined in the FEIS.[254] FERC coordinated with five other federal agencies in developing the FEIS which considered impacts on the following: geology, soils and sediments, water resources, wetlands, vegetation, wildlife, essential fish habitat, threatened and endangered species, land use, socioeconomics, transportation, cultural resources, air quality, noise, and safety.[255] The FEIS also considered the project's purpose and need, cumulative impacts, and alternatives.[256] While the order encouraged Corpus Christi to work with state and local agencies, it made clear that those entities could not put up unreasonable roadblocks to the construction or operation of the project.[257] Corpus Christi received FERC authorization to start initial site preparation in December 2005.[258]

(6) Sound Energy Solutions:[259] Sound Energy Solutions ("SES"), a subsidiary of Mitsubishi, filed an application for the Long Beach Project on January 26, 2004, after undergoing FERC's pre-filing process for environmental review.[260] The proposal has since failed, however it would have included construction of a LNG terminal at the Port of Long Beach, California along with storage facilities and a maximum send out capacity of one Bcf/d.[261] The project, named SES Terminal, L.L.C., was to be a joint venture with ConocoPhillips.[262] The facilities

253. *Corpus Christi LNG*, 111 F.E.R.C. at p. 61,376.

254. *Id.* at p. 61,381.

255. *Id.* at p. 61,380.

256. *Id.*

257. *Id* at p. 61,381.

258. FED. ENERGY REGULATORY COMM'N, AUTHORIZATION TO COMMENCE INITIAL CONSTRUCTION (2005), *available at* http://www.elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10905538.

259. Sound Energy Solutions, 106 F.E.R.C. ¶ 61,279, at p. 62,014 (Mar. 24, 2004) (Docket No. CP04-58-000).

260. *Id. See also* Gary Polakovic, *Long Beach Energy Project Halted*, L.A. TIMES, Jan. 23, 2007, *available at* http://www.latimes.com/news/local/la-me-lng23jan23,1,5297930.story?ctrack=1&cset=true.

261. *Id.*; FED. ENERGY REGULATORY COMM'N, NOTICE OF AVAILABILITY/COMPLETION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT, DRAFT GENERAL CONFORMITY DETERMINATION, AND DRAFT PORT MASTER PLAN AMENDMENT FOR THE PROPOSED LONG BEACH LNG IMPORT PROJECT (Oct. 7, 2005), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10837110:0.

262. Press Release, ConocoPhillips, ConocoPhillips and Mitsubishi Enter Into a Joint

would have been capable of receiving from 102 to 146 ships per year, depending on the size of ship and market demand.[263] The Port of Long Beach was to keep some of the LNG in liquid form for vehicle use and regasify the remaining LNG for commercial use.[264] The applicants originally hoped to start operations in 2009,[265] but met with strong public opposition due to safety concerns.[266]

FERC and the California Public Utilities Commission ("CPUC") began a jurisdictional debate over the Long Beach Project shortly after the application was filed.[267] If the CPUC gained jurisdiction, SES would have been required to obtain a certificate from that commission and SES would be regulated as a public utility under California law.[268] California regulators noted that the project did not involve interstate natural gas transportation or sales, and that SES proposed an interconnection with an intrastate pipeline also exempt from FERC jurisdiction.[269] FERC's jurisdictional claim was based on section 3 of the NGA, which requires a FERC order to import or export natural gas.[270]

In a March 24, 2004 declaratory order, FERC rejected the CPUC's jurisdictional claims and asserted its own jurisdiction over the terminal, relying on the provision in section 3(a) that "the Commission is to grant import/export applications 'with such modification and upon such terms and conditions as the

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Development Agreement for LNG Import Terminal (May 17, 2005), *available at* http://www.pr.com/press-release/1441.

263. SOUND ENERGY SOLUTIONS, APPLICATION FOR AUTHORITY TO SITE, CONSTRUCT, AND OPERATE LNG IMPORT TERMINAL FACILITIES (Jan. 26, 2004), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10054926:0.

264. *Sound Energy Solutions*, 106 F.E.R.C. at p. 62,014–15.

265. Press Release, ConocoPhillips, *supra* note 262.

266. *See generally* Letter from Dorothy Golz & Helmut Golz, to Margalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n (Dec. 5, 2005), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10910814:0 (Docket No. CP04-58-000).

267. *Sound Energy Solutions*, 106 F.E.R.C. at p. 62,014–18; Order Instituting Investigation into the Proposal of Sound Energy Solutions to Construct and Operate a Liquefied Natural Gas Terminal at the Port of Long Beach, Order Closing Proceeding, 2005 WL 4052298 (Cal.P.U.C. Nov. 18, 2005), *available at* http://www.cpuc.ca.gov/word_pdf/FINAL_DECISION/51367.pdf (noting that during the jurisdictional debate, the Energy Policy Act of 2005 was passed granting the FERC exclusive authority to approve LNG projects, which mooted the CPUC's arguments, however the CPUC was still allowed to participate in the FERC's hearings for SES) [hereinafter Port of Long Beach Orders].

268. *Id.*

269. *Id.*

270. *Id.*

Commission may find necessary and appropriate.'"[271] FERC also distinguished *Energy Terminal Services*, a 1981 case asserting that section 3 jurisdiction need not preempt state law controlling terminal siting.[272] It stated that this case has effectively been reversed by *National Fuel Gas Supply Corp. v. Public Service Commission of New York*,[273] which held that "[b]ecause FERC has authority to consider environmental issues, states may not engage in concurrent site-specific environmental review."[274]

On June 9, 2004, FERC denied rehearing of its prior order, which asserted the Commission's exclusive jurisdiction over the siting, construction, and operation of a LNG terminal planned for the Port of Long Beach by Sound Energy.[275] FERC also clarified the prior order and reiterated its desire to work cooperatively with the CPUC and other state and local authorities on the project.[276] FERC reinforced that if it approved the proposal, Sound Energy could proceed without obtaining additional certificate authorization from the CPUC.[277]

Most of the FERC order addressed the various legal arguments raised by the CPUC, including FERC's authority under section 3 of the NGA and the effect of the Energy Policy Act of 1992 on that authority. Regarding preemption, the Commission stated that "[t]here is nothing remarkable about an energy project simultaneously being subject to various regulatory requirements promulgated by different federal, state, and local authorities."[278] The Commission provided the following clarifications:

- The outcome of the proceeding will not impact state agencies that have been delegated authority to act pursuant to federal law, and the Commission anticipates relying on their efforts to ensure compliance.[279]
- FERC does not seek jurisdiction over ships bringing LNG to the terminal. Instead, the oversight of tanker traffic will be shared by the Coast Guard, the Port Authority, and the state Office of Spill Prevention and Response, among

271. *Sound Energy Solutions*, 106 F.E.R.C. at p. 62,017.

272. *Id.* at p. 62,018.

273. National Fuel Gas Supply Corp. v. Public Service Commission of New York, 894 F.2d 571 (2d Cir. 2004).

274. *Sound Energy Solutions*, 106 F.E.R.C. at p. 62,018.

275. Sound Energy Solutions, 107 F.E.R.C. ¶ 61,263, at p. 62,157 (June 9, 2004).

276. *Id.*

277. *Id.* at 62,174.

278. *Id.* at 62,168.

279. *Id.* at 62,172

others.[280]

- If Long Beach constructs, owns and operates the line interconnecting the proposed terminal with SoCalGas' pipeline, that line will be exempt from FERC's section 3 jurisdiction because a "municipality" is not a "person" under section 3 of the NGA.[281]
- FERC regulations and guidelines contemplate that an applicant will interact with state local agencies before submitting a FERC application for such a project, and Sound Energy has done this. However, if FERC authorizes the project, then state and local requirements may be preempted to the extent that they "undermine the force and effect of that authorization."[282]

FERC made clear in an August 5, 2004 order that it would not become involved in the Coastal Zone Management Act ("CZMA") deliberations on the SES LNG project,[283] and clarified different facets of its declaration of jurisdiction over the controversial project.[284]

FERC asserted that it had exclusive jurisdiction over the project proposed for Long Beach and made clear that the sponsor would not have to separately seek a certificate from the CPUC. In the face of the CPUC's continued challenge to FERC's jurisdiction, FERC attempted to ameliorate the tenor of its jurisdictional stance by stating that federal, state, and local agencies "share" certain regulatory responsibilities to assess and authorize the proposed project.[285]

The California Coastal Commission ("CCC") was particularly concerned about its federally delegated authority under the Coastal Zone Management Act. FERC addressed the concern by endorsing the CCC's assertion that the CZMA and Natural Gas Act "are laws of equal dignity and should be read to complement rather than preempt one another."[286] Additionally, FERC noted that preemption would be inapplicable in CZMA consistency cases, because the CZMA provides that objections are properly appealed to the Department of Commerce.[287]

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280. *Id.*

281. *Sound Energy Solutions*, 107 F.E.R.C. at p. 62,173.

282. *Id.*

283. Sound Energy Solutions, Order Clarifying Prior Order, 108 F.E.R.C. ¶ 61,155, at pp. 61,872–73 (Aug. 5, 2004).

284. *See id.*

285. *Id.* at 61,872.

286. *Id.* at 61,873.

287. *Id*.

In asserting its exclusive jurisdiction, FERC reiterated that SES did not need to "apply to the CPUC for a state certificate of public convenience and necessity for its proposed project."[288] FERC's orders were appealed to the Ninth Circuit,[289] however, Congress settled the jurisdictional issue by giving FERC exclusive authority over LNG projects in the EPAct.[290] Shortly thereafter FERC's Motion to Dismiss, which was supported by the Petitioners, was granted and the CPUC closed their proceedings. [291]

With the jurisdictional issue resolved, the project moved forward. In October 2005, FERC and the Port of Long Beach issued a joint draft EIS finding the project environmentally acceptable.[292] FERC has since been reviewing comments filed by the public and government agencies on the draft EIS and asked SES to provide additional information on the project in order to aid in preparation of a final EIS.[293] The FERC allowed the final EIS to be prepared with the help of the Port of Long Beach ("POLB"), as the lead agency conducting the environmental review required under the California Environmental Quality Act ("CEQA")[294]. However, the Long Beach Board of Harbor Commissioners, which manages the POLB, voted on January 22, 2007 to end the POLB environmental review required under the CEQA, killing the SES project at Long Beach[295].

(7) KeySpan LNG, L.P.: KeySpan sought authorization to upgrade and expand its Providence, Rhode Island facility by converting it to a LNG terminal capable of receiving marine deliveries and augmenting the facility's existing vaporization

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288. *Id*.

289. Joseph Kelliher, *Post-PUHCA Era to Spur Investment in Electric, New Statute Vitiates LNG Cases,* INSIDE FERC*,* Aug. 22, 2005, at 3.

290. *Id*.

291. Port of Long Beach Orders, *supra* note 267.

292. *See* FED. ENERGY REGULATORY COMM'N, LONG BEACH LNG IMPORT PROJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT ES-16 (2005), *available at* http://www.ferc.gov/industries/lng/enviro/eis/10-07-05-eis.asp.

293. Letter from Michael Boyle, Chief, Gas Branch 1, Office of Energy Projects, Fed. Energy Regulatory Comm'n, to Thomas E. Giles, Executive Vice President, SES Terminal, LLC (Feb. 1, 2006), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10941840:0.

294. SES Terminal, LLC v. The Port of Long Beach, No. BS107298 (L.A. Super. Ct. filed Feb. 08, 2007), *available at* http://www.energy.ca.gov/lng/documents/long_beach/2007-02-13_SES_WRIT_PETITION.PDF; *See also* Press Release, Port of Long Beach, Port Commissioners Vote to Halt LNG Project (Jan. 22, 2007), *available at* http://www.polb.com/civica/filebank/blobdload.asp?BlobID=3620 [hereinafter Port of Long Beach Press Release].

295. Port of Long Beach Press Release, *supra* note 294.

system.[296] The proposed terminal would have connected to Algonquin Gas Transmission's existing pipeline system.[297] This project was strongly opposed by state and local officials due to its proximity to Providence and three major hospitals.[298] FERC issued a Final Environmental Impact Statement in May 2005, concluding that the project as proposed would not meet federal earthquake and fire protection standards.[299] It was the first instance in which an existing LNG facility was reviewed under updated safety standards.[300]

In the FEIS, FERC reviewed the project's impact on geology, soils and sediments, groundwater, surface water, aquatic resources, vegetation and wildlife, threatened and endangered species, land use, recreation, visual resources, socioeconomics, cultural resources, air quality, noise, reliability, and safety.[301] The FEIS found that with proper mitigation measures, the project would have minimal environmental impact.[302] KeySpan and Algonquin were directed to comply with a host of federal, state, and local regulations and programs, including those of the U.S Coast Guard, U.S. Army Corps of Engineers, the Rhode Island Department of Environmental Management, and the City of Providence to lessen the project's negative environmental impacts.[303] FERC also sought the input of several state and federal agencies in developing the FEIS and directed KeySpan and Algonquin to coordinate with several local entities to develop plans, such as those for traffic and emergency response.[304] KeySpan responded that it was not financially feasible to bring the facility into compliance.[305]

On July 5, 2005, FERC issued an order finding that the

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296. KeySpan LNG, L.P., Order Denying Authorization Under Section 3 and Dismissing Certification, 112 F.E.R.C. ¶ 61,028, at p. 61,233 (July 5, 2005).

297. *Id.*

298. *See* Timothy Barmann, *Report Cites Danger From KeySpan Plans*, THE PROVIDENCE J., June 18, 2005, http://www.projo.com/business/content/projo_20050618_lng18x.1f32f46.html.

299. FED. ENERGY REGULATORY COMM'N, KEYSPAN LNG FACILITY UPGRADE PROJECT: FINAL ENVIRONMENTAL IMPACT STATEMENT ES-2 (2005), *available at* http://www.ferc.gov/industries/lng/enviro/eis/05-20-05-eis.asp [hereinafter KEYSPAN FEIS].

300. Press Release, Fed. Energy Regulatory Comm'n, FERC Affirms Its Approval of Weaver's Cove LNG; Stands By Its Rejection of KeySpan LNG in Providence (Jan. 19, 2006), *available at* http://www.ferc.gov/press-room/press-releases/2006/2006-1/01-19-06-C-1.asp [hereinafter FERC Weavers Cove/KeySpan Press Release].

301. *See* KEYSPAN FEIS, *supra* note 299.

302. *Id.* at ES-17.

303. *Id.*

304. *See id.*

305. *Id.* at ES-2, ES-17.

project would not be consistent with the public interest.[306] KeySpan argued in their request for hearing, amongst other things, that FERC erred in applying new safety standards to the project and that safety determinations are within the sole jurisdiction of the Department of Transportation.[307] FERC flatly rejected these arguments in a subsequent order issued on January 20, 2006.[308] In a monthly public meeting held in January, the FERC Chairman stressed the need for increased gas supply in New England and stated that FERC's rejection of the project was without prejudice to KeySpan filing an amended application that included an upgrade of the existing facilities to address the safety concerns.[309]

(8) Cheniere Energy, Inc. and Cheniere Creole Trail Pipeline Co.: On May 23, 2005, Cheniere Energy and Cheniere Creole Trail submitted applications to FERC to site, construct, and operate a LNG terminal and associated natural gas pipeline in Cameron Parish, Louisiana.[310] On June 15, 2006, the FERC authorized the Cheniere Creole Trail LNG terminal and required that construction be completed by 2010.[311] The proposed LNG terminal will have a regasification capacity of 3.3 Bcf/d, two unloading docks that can accommodate up to 250,000 cubic meter LNG ships and four 160,000 cubic meter tanks designed to hold over 13 Bcf-equivalent LNG.[312] The terminal is expected to be the largest in the United States.[313]

(9) Broadwater Energy, LLC and Iroquois Gas Transmission System: On January 30, 2006, Broadwater Energy filed an application with FERC to construct and operate a LNG terminal in Long Island Sound with a send-out capacity of approximately one Bcf/d and storage capacity of eight Bcf that would provide enough heat for four million homes for one year.[314] The project would connect via underwater pipeline with Iroquois Gas

306. *KeySpan LNG, L.P.*, 112 F.E.R.C. at p. 61,233.

307. Keyspan LNG, L.P., Order Dismissing and Denying Request for New Hearing, 114 F.E.R.C. ¶ 61,054, at p. 61,152 (Jan. 20, 2006).

308. *Id*.

309. FERC Weavers Cove/KeySpan Press Release, *supra* note 300.

310. Creole Trail LNG, L.P., Order Granting Authority Under Section 3 of the Natural Gas Act and Issuing Certificates, 115 F.E.R.C. ¶ 61,331, at p. 62,219 (June 15, 2006).

311. *Creole Trail, LNG, L.P.*, 115 F.E.R.C. at 62,230–31.

312. *Creole Trail, LNG, L.P.*, 115 F.E.R.C. at 62,219.

313. FERC, Existing and Proposed North American LNG Terminals, *supra* note 188.

314. Press Release, Broadwater Energy LLC, Broadwater Advances Project Review with Filing of FERC Application (Jan. 30, 2006), *available at* http://www.broadsided.org/pdf/Broadwater_Files_Application_with_FERC-01-30-06.pdf.

Transmission.[315] Broadwater is proposing to build a Floating Storage Regasification Unit that will provide the terminal with a high level of protection from extreme wind and waves.[316] Broadwater tentatively plans to have the facility operating in late 2010.[317]

Officials representing Connecticut and New York, as well as environmentalists, vehemently oppose the project.[318] The Connecticut Attorney General spoke out against the facility as posing a "clear and present danger to [Connecticut's] security and environment."[319] In addition, both the Connecticut Attorney General and New York state senators accused Broadwater of providing the public misleading information about the project's safety and expressed great concern over the fact that Broadwater withheld certain details about the project.[320] Connecticut Governor Jodi Rell requested that FERC require the Connecticut Department of Environmental Protection to review the project for consistency under the state's coastal zone management plan.[321]

On November 17, 2006, FERC and the Coast Guard issued a draft EIS that recommended seventy-nine mitigation measures for the project, including providing an emergency response plan to the Coast Guard and increased reporting of any safety or security events to FERC[322]. The comments were to end in January of 2007, however, FERC has not yet issued a FEIS.[323]

(10) Vista del Sol LNG Terminal LP; Vista del Sol Pipeline LP: Vista del Sol LNG and Vista del Sol Pipeline, affiliates of ExxonMobil, filed applications in August 2004 to construct a LNG facility near Gregory, Texas, in San Patricio County.[324] The

315. *Id.*

316. *Id.*

317. *Id.*

318. *See* John Rather, *Beset by Opposition, Broadwater Bets On Washington and Time*, N.Y.TIMES, July 3, 2005, at 14LI.

319. Foster Assocs. Inc., *Broadwater LNG Files Application with FERC; Connecticut Attorney General Renews Attack,* FOSTER NATURAL GAS REPORT, Feb. 3, 2006, at 26.

320. Press Release, Conn. Attorney General's Office, Attorney General Says Fed Secrecy Order Prevents Evaluation Of Broadwater, Calls On FERC To Rescind Order Or Reject Project (Jan. 11, 2006), *available at* http://www.ct.gov/ag/cwp/view.asp?A=2341&Q=308510.

321. Press Release, Conn. Dep't of Envtl. Prot., Governor Rell Steps Up Battle to Give Connecticut Strong Say in Broadwater Licensing Process (Mar. 2, 2006), *available at* http://www.ct.gov/dep/cwp/view.asp?A=2712&Q=324708.

322. *See* FED. ENERGY REGULATORY COMM'N, DRAFT ENVIRONMENTAL IMPACT STATEMENT, BROADWATER LNG PROJECT, (Nov. 17, 2006), *available at* http://elibrary.ferc.gov/idmws/file_list.asp.

323. *Id.* As of February 28, 2007, FERC has not issued a FEIS.

324. Vista del Sol LNG Terminal, L.P., Vista del Sol Pipeline, L.P., Order Issuing

proposed facilities would import, store, and vaporize about 1.1 Bcf per day with a peak capacity of 1.4 Bcf per day.[325] FERC issued an order approving the project in June 2005.[326]

(11) Golden Pass LNG Terminal LP; Golden Pass Pipeline LP: The Golden Pass project was proposed by ExxonMobil in 2004.[327] The LNG terminal will be located in Jefferson County, Texas, and will send gas to Texas and Louisiana.[328] Golden Pass will import LNG from Qatar according to the terms of a twenty-five year agreement between ExxonMobil and Qatar Petroleum.[329] Noting the importance of LNG imports in meeting U.S. demand for gas, FERC approved the project in an order issued July 6, 2005.[330] Construction will take place in two phases, the first providing one Bcf of capacity per day and the second increasing capacity to two Bcf per day with a peak capacity of 2.7 Bcf per day.[331] The order requires that the facility be operational within five years.[332]

(12) Ingleside Energy Center, LLC; San Patricio Pipeline, LLC: Ingleside, a subsidiary of Occidental Chemical Corporation, filed a proposal in October 2004 to construct and operate a LNG terminal on the northeast shore of Corpus Christi Bay near Ingleside, Texas.[333] The facility will be able to distribute one Bcf of vaporized LNG per day.[334] The project is considered innovative due to a design feature that will decrease the Btu level of the gas stream, thereby making the gas available to a wider range of customers.[335] It is also being touted for its environmentally

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Certificate and Granting Authorization Under Section 3 of the Natural Gas Act, 111 F.E.R.C. ¶ 61,432, at p. 62,794–95 (June 20, 2005).

325. *Id.*

326. *Id.* at p. 62,803.

327. Golden Pass LNG Terminal, L.P., Golden Pass Pipeline, L.P., Order Granting Authorization Under Section 3 of the Natural Gas Act and Issuing Certificates, 112 F.E.R.C. ¶ 61,041, at pp. 61,298, 61,312 (July 6, 2006).

328. *Id.* at p. 61,298.

329. *Id.* at p. 61,299.

330. *Id.* at p. 61,298.

331. *Id.*

332. *Id.* at p. 61,311.

333. FED. ENERGY REGULATORY COMM'N, INGLESIDE ENERGY CENTER LNG TERMINAL AND PIPELINE PROJECT: FINAL ENVIRONMENTAL IMPACT STATEMENT ES-7 (2005), *available at* http://www.ferc.gov/industries/lng/enviro/eis/06-10-05-eis.asp [hereinafter INGLESIDE FEIS].

334. *Id.* at ES-1.

335. Press Release, Fed. Energy Regulatory Comm'n, Commission Authorizes Ingleside Energy Center, Proposed LNG Terminal Near Corpus Christi, TX (June 21, 2005), *available at* http://www.ferc.gov/press-room/press-releases/2005/2005-3/07-21-05-C-8.asp.

friendly features.[336] The facility will conserve approximately sixteen MMcf per day of gas by using waste heat from an existing Occidental Chemical plant to vaporize LNG and will conserve as much as two million gallons of water per day by using the cold energy from the LNG terminal to cool the chemical plant.[337] The facility is expected to be operational in 2008.[338]

C. U.S. Pre-Filing Projects

Several LNG projects are currently in "pre-filing" at FERC.[339] As noted in Part III, the EPAct made the pre-filing process mandatory.[340] Applicants are required to submit a detailed proposal at least six months before their formal application.[341] Once an application is filed, FERC *ex parte* rules prohibit communications between applicants and FERC staff on substantive matters.[342]

(1) Docket No. PF05-10: Northern Star Natural Gas, LLC proposed a project at Bradwood Landing in Clatstop County, Oregon with a pipeline extending into Cowlitz County, Washington.[343] Northern Star filed a formal application on June 5, 2006.[344]

(2) Docket No. PF06-10: Cameron LNG, LLC proposed an expansion of its terminal near Hackberry, Louisiana.[345] Cameron

336. Ingleside Energy Center, Project Information, Project Advantages, http://www.inglesideenergycenter.com/Project_Information3/Project_advantages.htm (last visited Apr. 14, 2007).

337. *Id.*

338. INGLESIDE FEIS, *supra* note 333, at 2-29.

339. Fed. Energy Regulatory Comm'n, Pre-Filing Pipeline and LNG Projects FY 2006, http://www.ferc.gov/industries/gas/indus-act/pre-filing/fy-2006.pdf (last visited Apr. 14, 2007).

340. Regulations Implementing Energy Policy Act of 2005, Pre-Filing Procedures for Review of and Other Natural Gas Facilities, 112 F.E.R.C. ¶ 61,232, at p. 62,137 (Aug. 26, 2005). *See also* Energy Policy Act of 2005, Pub. L. No. 109-58, § 311(c), 119 Stat. 594 (codified at 15 U.S.C.A. § 717 (West 2006)).

341. *Id.*

342. Statement of Administrative Policy on Separation of Functions, 101 F.E.R.C. ¶ 61,340, at pp. 62,407, 62,410 (Dec. 20, 2002).

343. Letter from J. Mark Robinson, Dir., Office of Energy Projects, Fed. Energy Regulatory Comm'n, to William Garrett, President, N. Star Natural Gas, LLC (Mar. 7, 2005), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10435073:0.

344. BRADWOOD LANDING LLC, APPLICATION OF BRADWOOD LANDING LLC FOR AUTHORITY TO SITE, CONSTRUCT AND OPERATE LIQUEFIED NATURAL GAS IMPORT TERMINAL FACILITIES (2006), *available at* http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11051063.

345. Letter from J. Mark Robinson, Dir., Office of Energy Projects, Fed. Energy Regulatory Comm'n, to Dale Kelly-Cochrance, Vice President, Budgets & Planning,

filed a formal application on July 18, 2006.[346]

(3) Docket No. PF06-11: Quoddy Bay L.L.C. proposed a terminal in Washington County, Maine.[347] A formal application was filed on December 15, 2006 and service is planned to begin in the winter heating season of 2009 and 2010.[348]

(4) Docket No. PF06-13: Downeast LNG, Inc. proposed a terminal also in Washington County, Maine.[349] Downeast filed a formal application on December 22, 2006.[350]

(5) Docket No. PF06-14: Southern LNG and Elbe Express Co. proposed the Elba Island, Georgia Expansion Project.[351] Southern filed it's formal application on September 29, 2006.[352]

VI. CONCLUSION

Analysts correctly recognize that the "natural gas business is on the brink of profound change" and "is set to become global," but that "the United States needs to embrace the LNG market to complete the transformation."[353] With each month that passes, it is clear that the U.S. is joining the rest of the world in the "embrace" of LNG as a global commodity that can provide substantial assistance in both meeting the growing demand for natural gas and maximizing the use of this relatively clean-burning fuel to minimize adverse environmental consequences as

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Cameron LNG, LLC (Dec 22, 2005), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10912246:0.

346. CAMERON, LNG, LLC, ABBREVIATED APPLICATION OF CAMERON LNG, LLC, FOR AMENDMENT TO SECTION 3 AUTHORIZATION (Jul. 18, 2006), *available at* http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11090735.

347. Press Release, Quoddy Bay LNG, Quoddy Bay LNG Project Moves Forward, (Feb. 15, 2007), *available at* http://www.quoddylng.com/news.html (last visited Apr. 14, 2007).

348. Press Release, Quoddy Bay LNG, Quoddy Bay LNG First to File Federal Application for Import Terminal, (Dec. 15, 2006), *available at* http://www.quoddylng.com/news.html (last visited Apr. 14, 2007).

349. Letter from Robert C. Wyatt, Downeast LNG, Inc., to Margalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n (Jan. 5, 2006), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10922057:0.

350. Edward French, *Quoddy Bay, Downeast LNG file with FERC*, THE QUODDY TIDES, Dec. 22, 2006, http://quoddytides.com/lng12-22-06.html.

351. Letter from James D. Johnston, Senior Counsel, Southern Natural Gas, to J. Mark Robinson, Dir., Office of Energy Projects, Fed. Energy Regulatory Comm'n (Jan. 5, 2006), *available at* http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=10937643:0.

352. FED. ENERGY REGULATORY COMM'N., SOUTHERN LNG, INC., ELBA EXPRESS COMPANY, L.L.C, AND SOUTHERN NATURAL GAS CO.; NOTICE OF APPLICATIONS (2006), *available at* http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11152774.

353. Yergin & Stoppard, *supra* note 6, at 114.

compared to other fossil fuels.[354] As noted by Energy Secretary Bodman, however, several industry and economic issues such as development of a spot-price market mechanism must be addressed to create a truly robust global market.[355]

The U.S. is in the initial stages of a rapid increase in the importation of LNG. This increase is triggered by the combination of: (1) increased use of natural gas as a relatively clean-burning fuel for new and upgraded electric power generating plants; (2) a steady increase in the price of domestically-produced natural gas; (3) the development of greatly improved technology throughout the LNG supply chain so that the delivered cost of LNG to the marketplace is much lower than in the past; and (4) the granting of expedited approvals and less onerous regulation of the rates for service at LNG terminals. The end result is that dozens of new LNG import projects have either been initiated or are under consideration in the U.S. as well as Mexico and Canada.[356] Of these projects, a significant percentage will survive to serve energy needs in the decades ahead. Complexities and impediments will certainly arise as a result of instability in some exporting countries, shifts in gas markets, increased competition world-wide for LNG supply, concern over port security issues, and other unpredictable political, social, environmental or other issues.

The current surge of interest in the importation of LNG into the U.S. will be tempered by the twin factors of environmental impact and safety. LNG provides the superior attribute of lessening harmful emissions as compared to coal and oil, especially in electric power plants.[357] Nevertheless, a LNG import and regasification facility has its own impacts upon the local environment. Balancing the needs of the country for additional clean burning energy supplies with local environmental and safety concerns will require adept and sensitive regulation by all those who are responsible for these important issues.

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354. *Id*.

355. Bodman, *supra* note 3.

356. FERC, Pre-Filing Pipeline and LNG Projects FY 2006, http://www.ferc.gov/industries/gas/indus-act/pre-filing/fy-2006.pdf (last visited Apr. 14, 2007).

357. *See* ENERGY INFO. ADMIN., OFFICE OF OIL AND GAS, NATURAL GAS 1998: ISSUES AND TRENDS 57–59 (1998), *available at* http://www.eia.doe.gov/oil_gas/natural_gas/analysis_publications/natural_gas_1998_issues_and_trends/it98.html.