

Natural Gas Transmission So You Want To Build A Pipeline ?

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Commission

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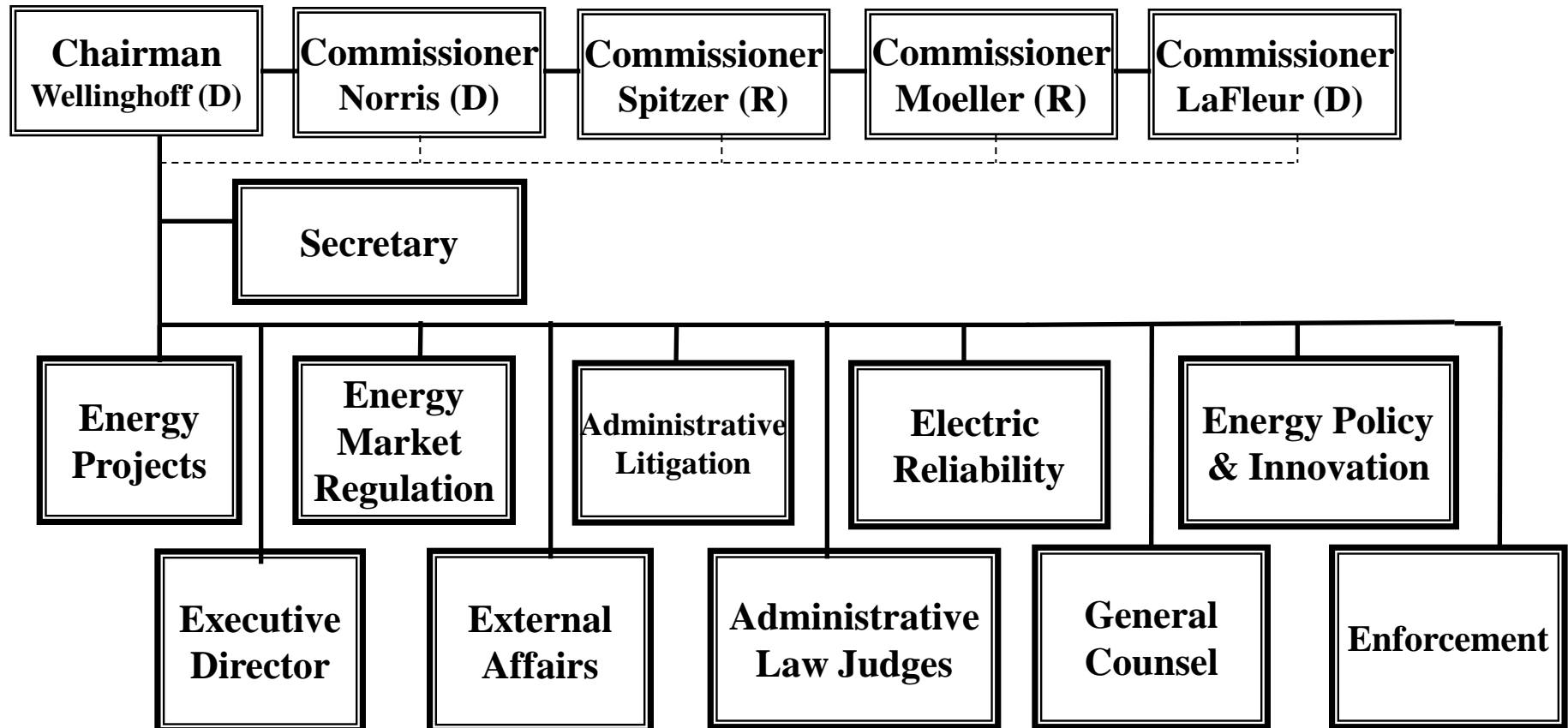
What Is FERC ?

- An Independent Regulatory Agency in the USA Federal Government
- Created by the Department of Energy Organization Act (1977)
- Federal Power Commission was the predecessor of FERC – FPC dates to 1920 establish for water power.



How is FERC Organized ?

- There are 5 Commissioners' positions
 - Nominated by the President, confirmed by the Senate, President designates Chairman
 - Each commissioner has a 5-year fixed term, staggered, with one term expiring each year
- The Chairman sets the monthly Commission agenda
 - Orders voted out by majority rule



FERC is an Independent Federal Regulatory Agency



- Political Party
 - No more than 3 commissioners from one political party
- President and Congress
 - No review of FERC's decisions by President, Department of Energy or other agencies
- Industry Participants
 - No private discussions of open cases
 - Restrictions on FERC employees: stock, gifts, future employment



FERC Program Offices

Office of Energy Projects

Natural Gas Pipeline Construction and Abandonment
Hydroelectric Projects (licensing, safety, compliance)
Environmental Reviews for Natural Gas and Hydro Projects
Electric Transmission Construction

Office of Energy Markets and Reliability

Natural Gas, Electric, and Oil Rates and Terms/Conditions of Service

Office of Energy Policy & Innovation - May '09

Policy reforms to address emerging issues

Office of Enforcement

Market Monitoring and Enforcement

Office of Electric Reliability

Electric System Reliability & Compliance

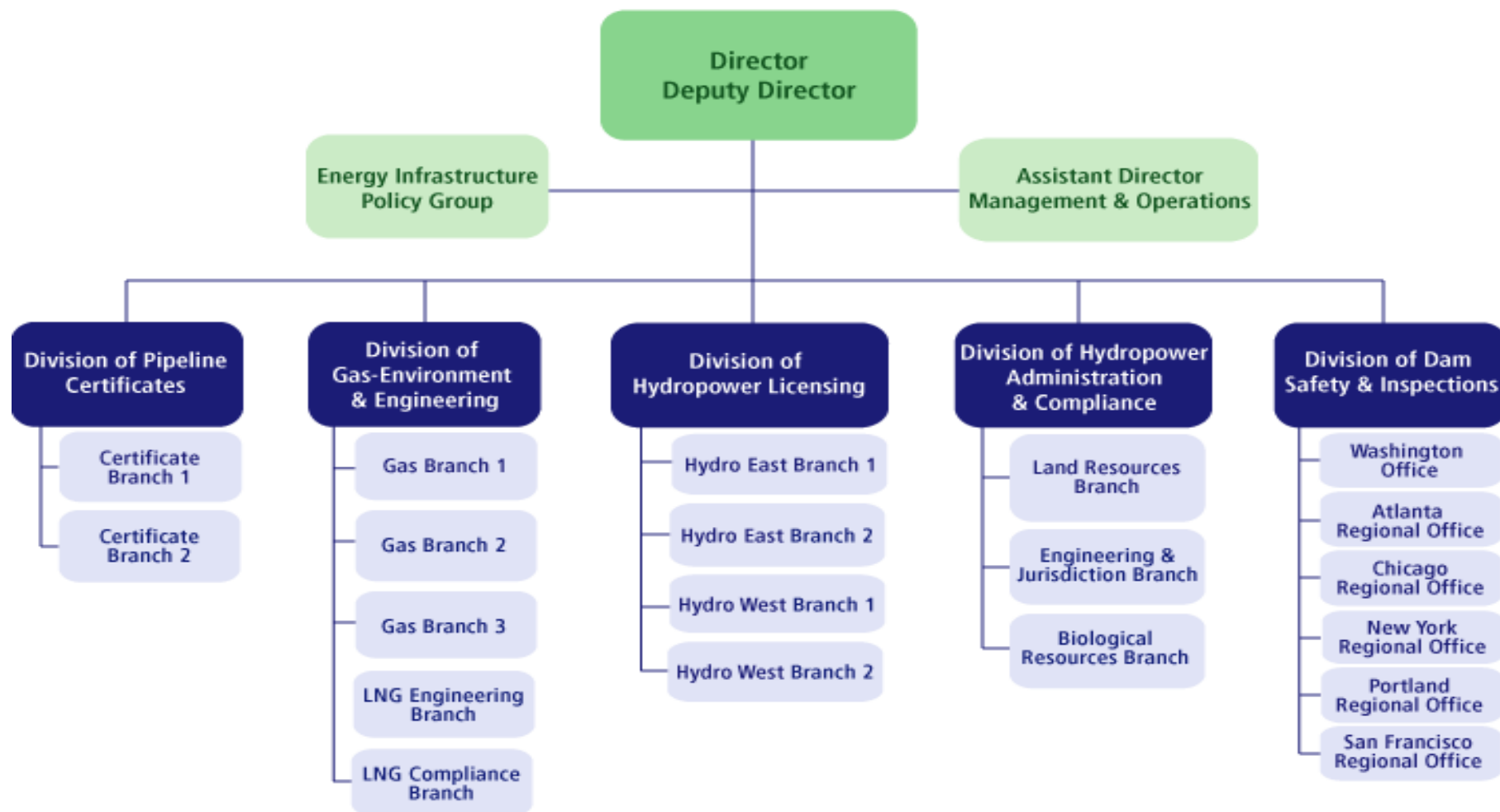
Office of Administrative Litigation

FERC Trial Staff

OEP Organizational Structure



Office of Energy Projects (OEP)



What Does FERC Regulate ?



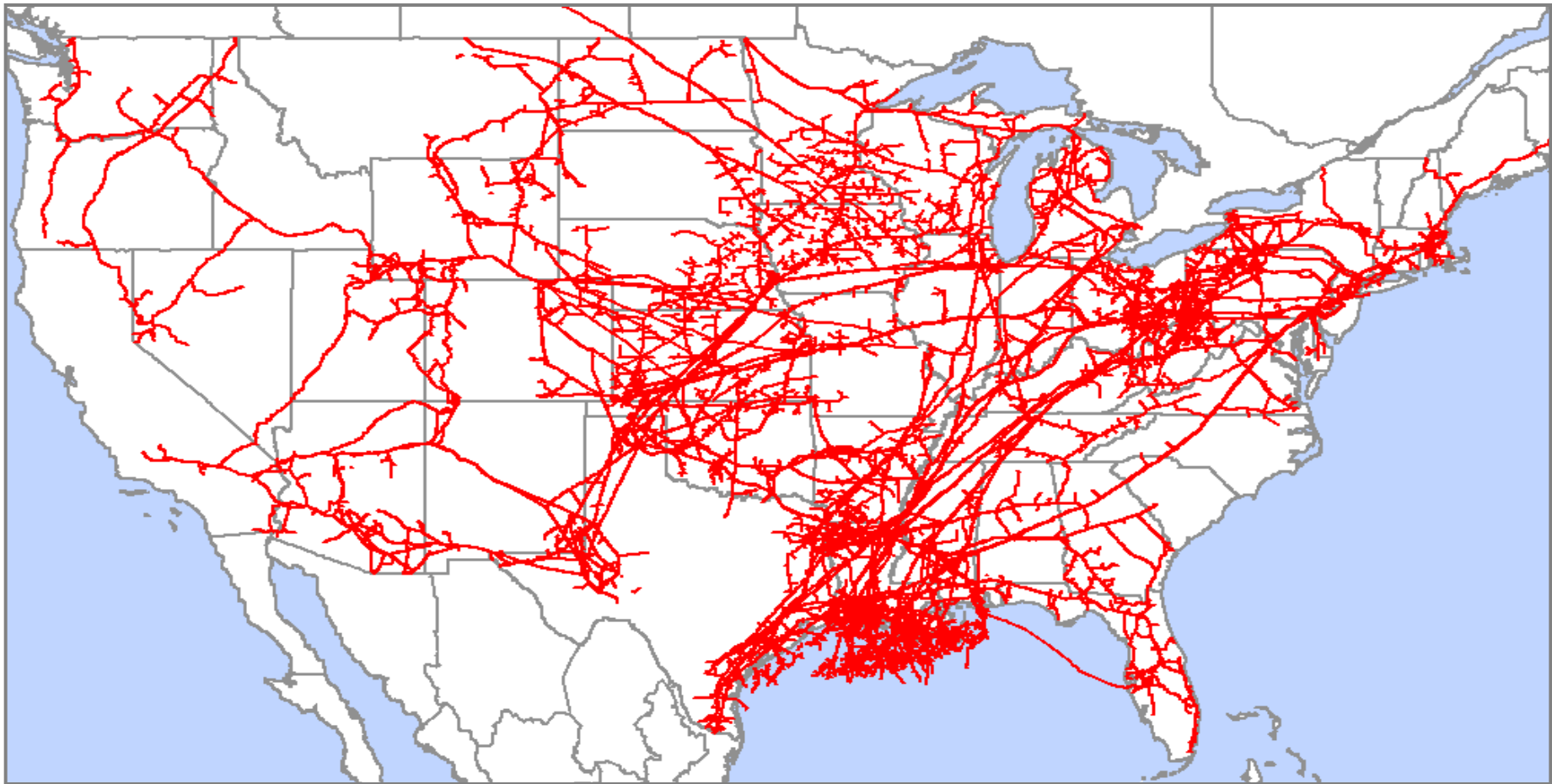
- *Natural Gas Industry*
 - Interstate transportation rates and services
 - Interstate gas pipeline and liquefied natural gas terminal construction and oversee related environmental matters
- *Electric Power Industry*
 - Interstate transmission rates and services
 - Wholesale energy rates and services
 - Corporate transactions, mergers, securities issued by public utilities

What Does FERC Regulate ? (con't)



- *Oil Pipeline Industry*
 - Interstate transportation rates and services of crude oil and petroleum products
- *Hydroelectric Industry*
 - Licensing of nonfederal hydroelectric projects
 - Oversee related environmental matters
 - Inspect nonfederal hydropower projects for safety issues

**In the United States, there are approximately
217,300 miles of interstate natural gas
transmission pipeline.**



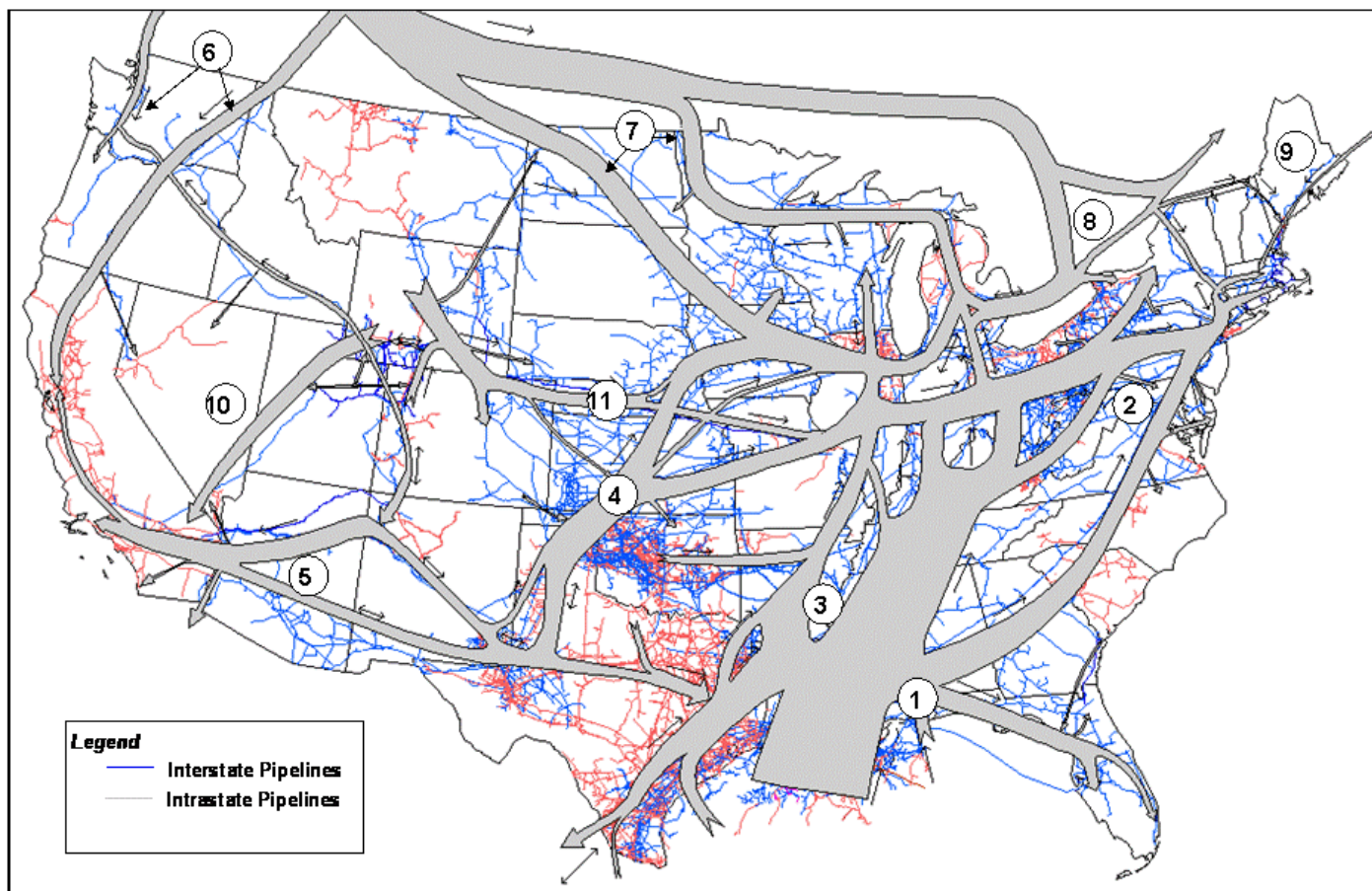
Source: Based on data from Ventyx Global Energy Decisions, Inc., Velocity Suite, April 2011, and EIA's Natural Gas Pipelines.

Major Interstate and Canadian Pipelines and Gas Production Areas, Including Shale



Source: Based on data from Ventyx Global Energy Decisions, Inc., Velocity Suite, March 2011, and EIA's Natural Gas Pipelines.

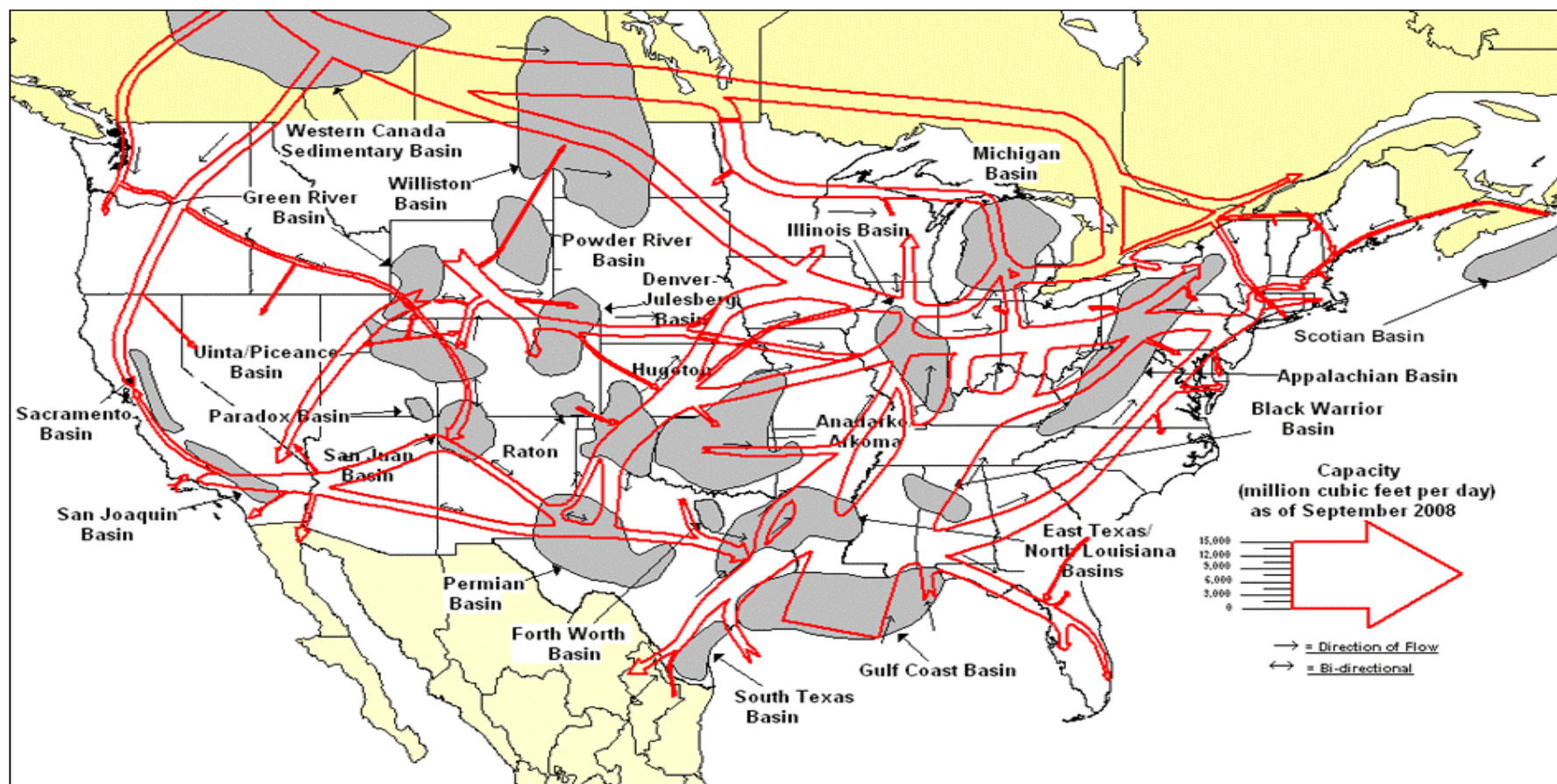
North American Gas Paths



1. Southwest to Southeast
2. Southwest to Northeast
3. Southwest to Midwest
4. Southwest to Panhandle to Midwest
5. Southwest to Western
6. Canada to Western
7. Canada to Midwest
8. Canada to Northeast
9. Eastern Offshore
10. Rocky Mountains to Western
11. Rocky Mountains to Midwest

Source: Energy Information Administration, Office of Oil and Gas, Natural Gas Division, GasTran Gas Transportation Information System.

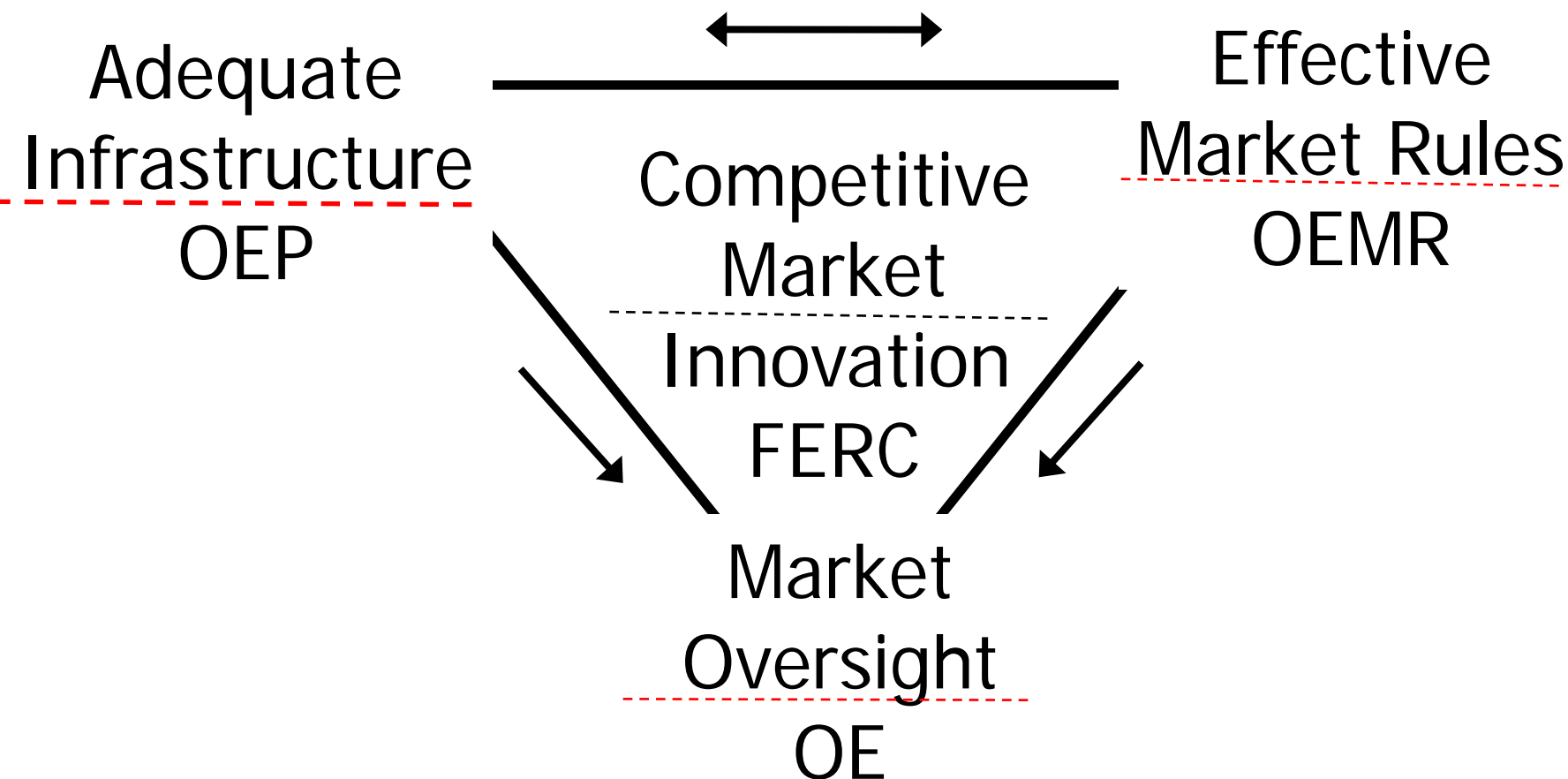
U.S. Natural Gas Supply Basins Relative to Major Natural Gas Pipeline Transportation Corridors



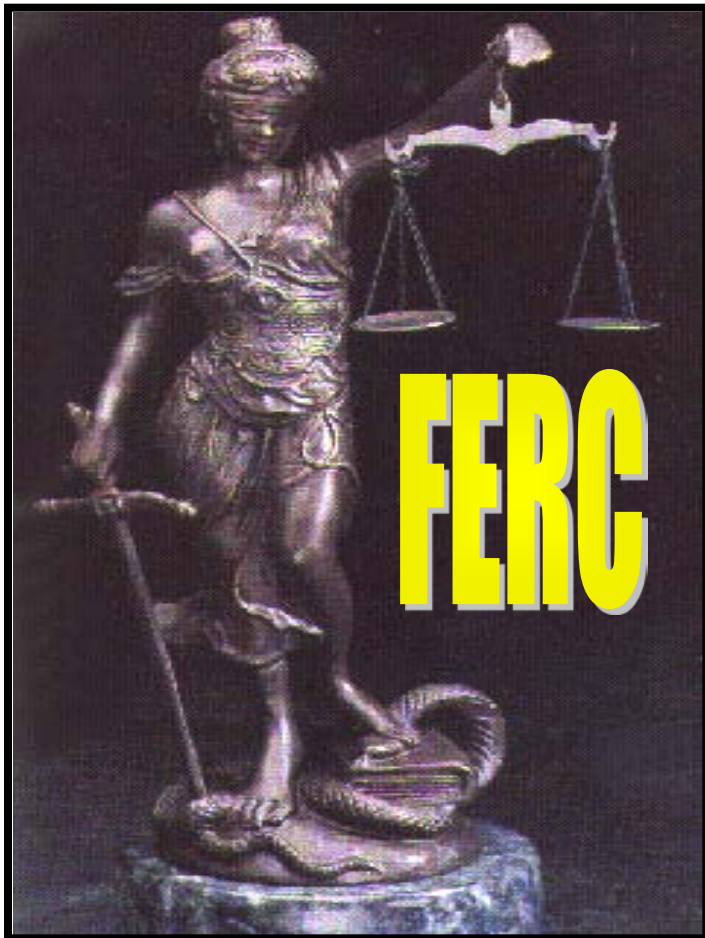
Source: Energy Information Administration, Office of Oil and Gas, Natural Gas Division, GasTran Gas Transportation Information System.

FERC

Helping Markets Work



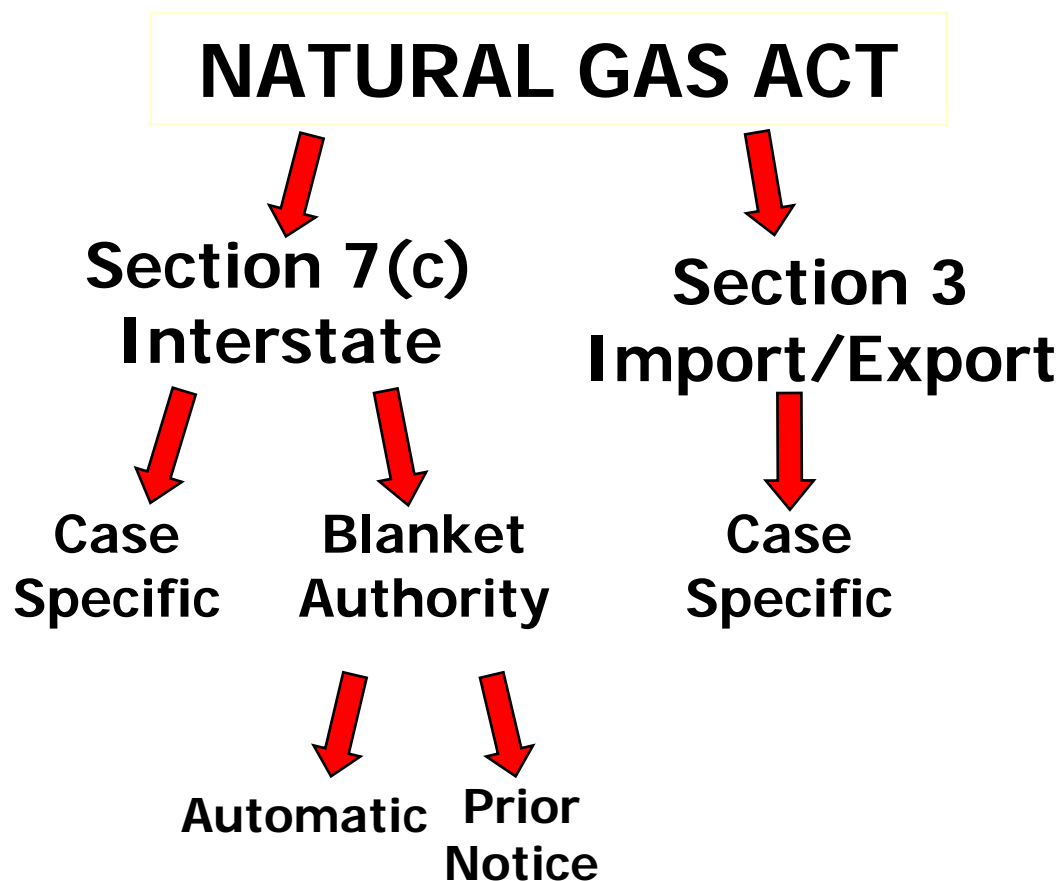
The Regulatory Process As A Balancing Act



**AGENCIES
COMPETITORS
CAPTIVES
CUSTOMERS
LANDOWNERS
PIPELINES**



Natural Gas Act





Natural Gas Act

- Blanket Certificate
 - Automatic Authorization
 - Cost of facilities is less than \$ 10.6 million
 - Facilities are “eligible” facilities
 - 45-day landowner notification / waived
 - Prior Notice
 - Cost is between \$ 10.6 and \$ 30.2 million
 - 60-day notice period prior to construction
 - Facilities are “eligible” facilities



Natural Gas Act

- Case Specific Section 7(c) Certificate
 - Conduct a full review of proposal including engineering, rate, accounting, and market analysis
 - Conduct an environmental review by preparing an Environmental Assessment or an Environmental Impact Statement



Imports/Exports

- Any entity that proposes to site, construct and operate or modify facilities used to import or export gas must file an application pursuant to Section 3 of the NGA and file for the issuance of a Presidential Permit.
- In order to obtain a Presidential Permit, the Commission must "consult" with the Secretaries of State and Defense prior to its issuance.



Imports / Exports

- The owner of the gas must apply to the Office of Fossil Energy, Department of Energy (DOE/FE) for Section 3 authority as well.
- Jurisdictional pipelines that filed for Section 3 authorization to site, construct, and operate border facilities will **not** be the same party that applies for Section 3 authority from DOE/FE.



North Baja Project Border Facilities



Major Pipeline Construction Projects





Project Evaluation

How Does FERC Evaluate All
Of These Major Projects ?

What Criteria Are Used in
This Evaluation ?

PL99-3-000

Certificate Policy



- New Certificate Policy Statement issued on September 15, 1999.
- Clarification of Certificate Policy Statement issued on February 9, 2000.
- Clarification issued on July 26, 2000.
- Policy applied to facts of each case.

Prior Policy Problems



- The reliance on percentage of capacity under long-term contracts to show demand.
- The pricing of new facilities.

PL99-3-000

Certificate Policy



Goals

- Foster Competition
- Consider Captive Customers
- Avoid Unnecessary Physical Impacts
- Achieve Optimal Amount of Facilities
- Encourage Complete Record
- Expedite Review Time

PL99-3-000

Certificate Policy



- Apply Threshold Cost Test
 - Subsidization = Incremental Rates
 - No Subsidization = Rolled-in Treatment
 - System improvements for existing customers = Rolled-in Treatment

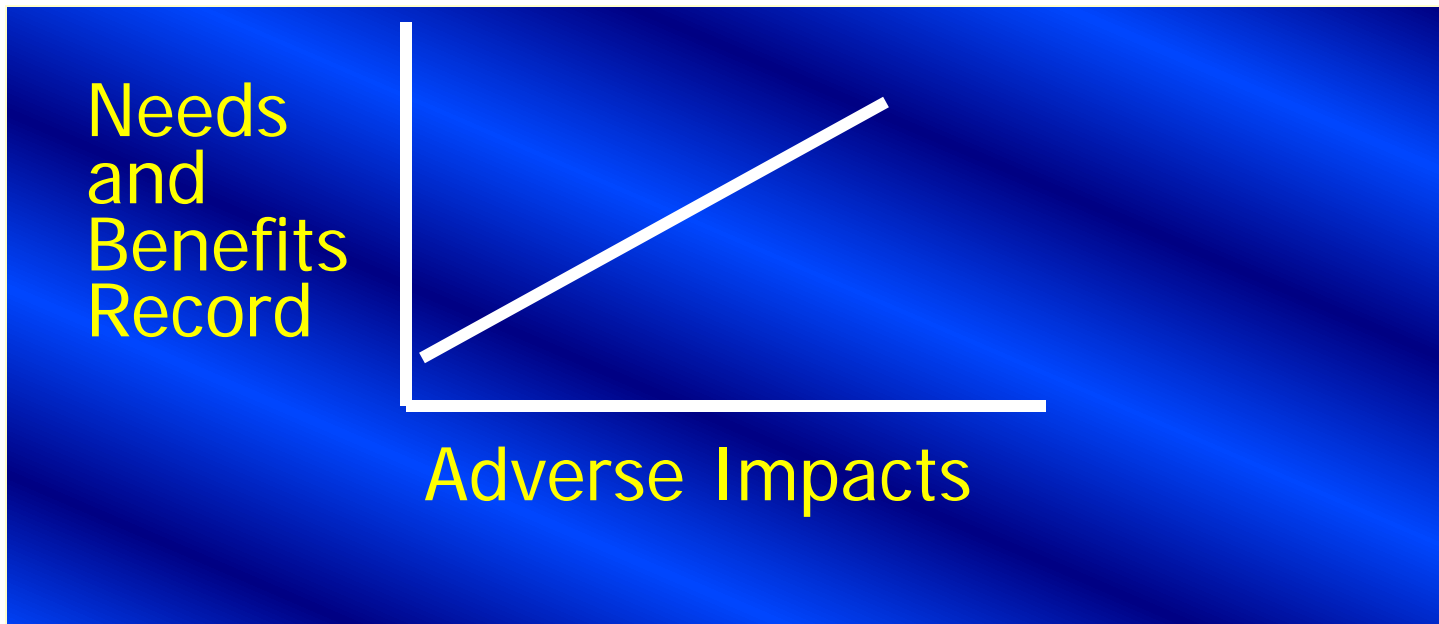
PL99-3-000

Certificate Policy





- Develop Record
 - Adverse Impacts on
 - Existing Customers and Pipelines
 - Landowners
 - Communities
 - Specific Benefits
 - Need and Market
 - Condemnation Impact
 - Initial Rate Derivation and Tariff Sheets

PL99-3-000 Certificate Policy

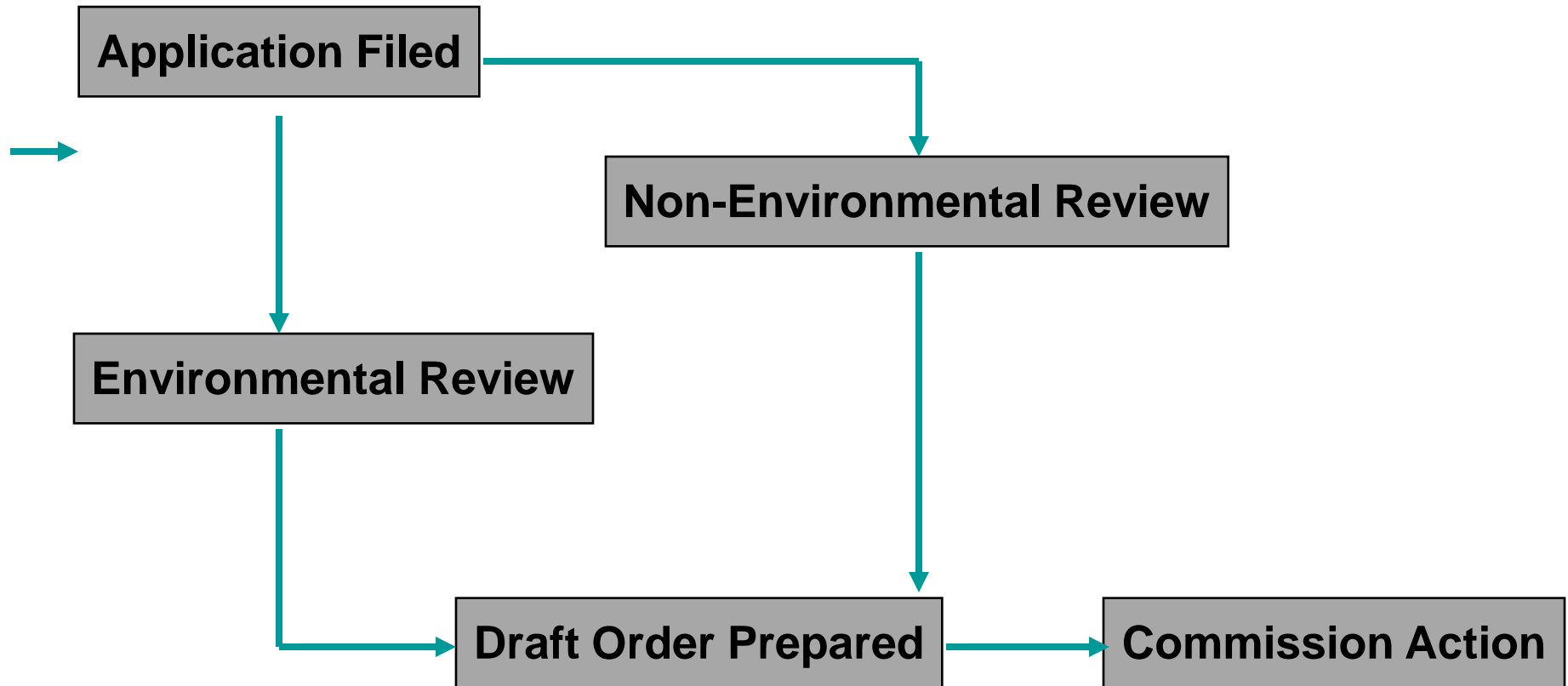


- Balance Benefits and Impacts
- Complete Traditional Environmental Process

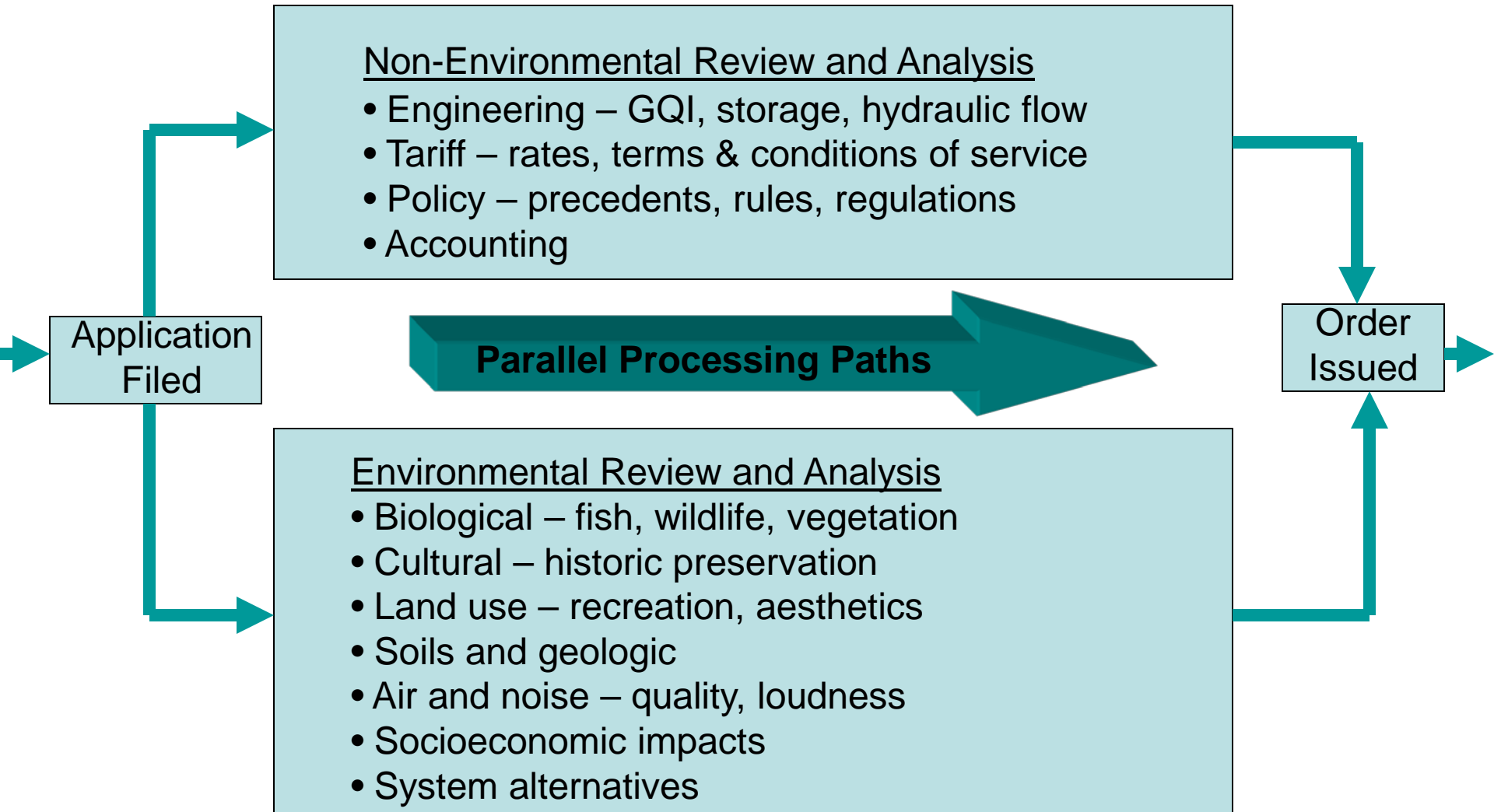
Balancing Interests

People Like...		But They Also Want...
Due Process		Expedited Process
Smaller Government		Effective Government
Less Regulation		Assurance of Fair Markets
Market-dictated Outcomes		Protection from Market Dysfunctions, Unexpected Risk, and Unjust Rates
Protection for the Environment and Property Interests		Ample Supplies of Low-cost Energy

Dual Paths of Review



Certificate Process Overview



The Environmental Process



FERC's Environmental Review Process Makes a Special Effort to be Accessible to All Affected Parties, Especially Landowners.

Opportunities for Public Involvement



The FERC Process:

- Issue Notice of the Application
- Project Sponsor Sends Landowner Notification Package
- Issue Notice of Intent to Prepare the NEPA Document (i.e., scoping)
- Hold Scoping Meetings

Public Input:

- File an Intervention; register for e-subscription
- Contact the project sponsor w/questions, concerns; contact FERC
- Send letters expressing concerns about environmental impact
- Attend scoping meetings

Opportunities for Public Involvement



The FERC Process:

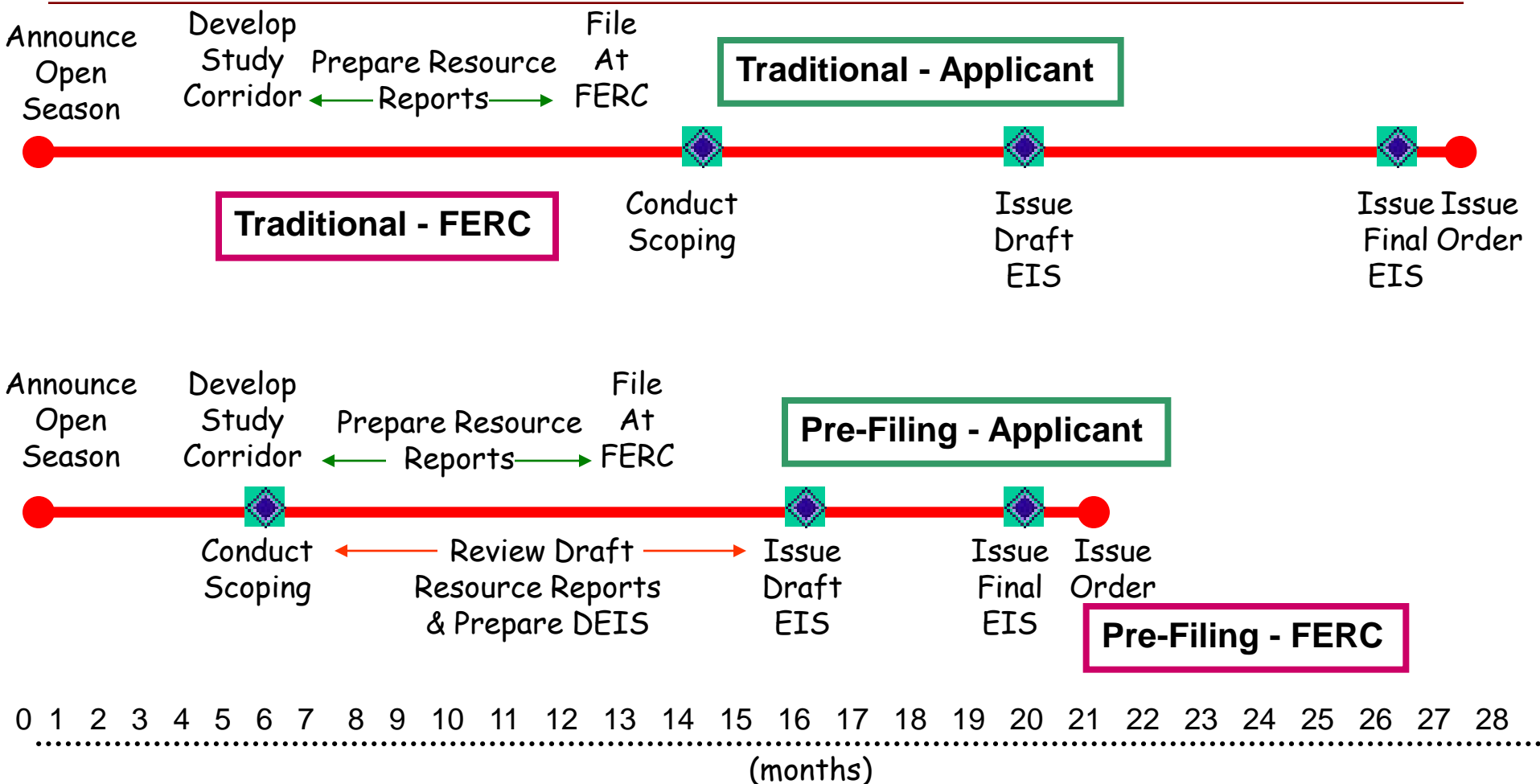
- Issue Notice of Availability of the DEIS
- Hold Public Meetings on DEIS
- Issue a Commission Order

Public Input:

- Comments on the adequacy of DEIS
- Attend public meetings to give comments on DEIS
- Intervene / request for Rehearing

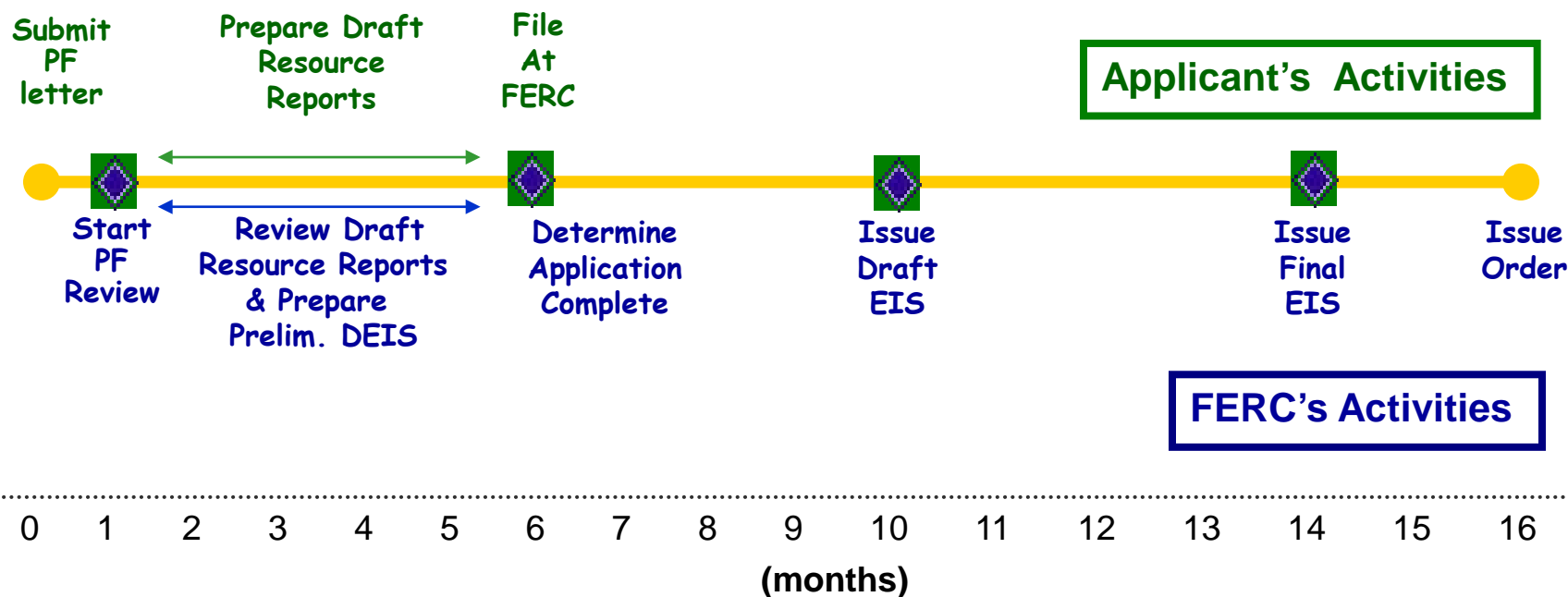


Traditional vs. Pre-Filing Process





Timeline for Pre-Filing Process





Benefits of Pre-Filing

- More interactive NEPA process, no shortcuts
- Earlier, more direct involvement by FERC, other agencies, landowners
- Goal of "no surprises"
- Time savings realized only if we are working together with stakeholders
- FERC staff is an advocate of the Process, not the Project!



Common Environmental Issues

- Wetlands and Waterbodies
- Agricultural and Residential Areas
- Archeological and Historical Resources
- Endangered Species
- Landowner Concerns
- Safety



Construction Impacts

- Erosion and sedimentation
- Soil layer mixing
- Restrictions on and conflicts with property use
- Loss or change of habitat
- Increased or decreased accessibility
- Wildlife / habitat protection time windows

Right-of-Way Workspace & Pipe String





Pipe Bends & Slopes





Side Booms – In the Ditch



Protecting and Recovering Archeological Resources



Construction in Populated Areas



Residential Construction



Open-cut River Crossing





Dry Crossing of Stream





Horizontal Directional Drill



Avoiding Sensitive Resources





Wetland Construction



Preservation and Restoration of Stream Banks



Construction within a Transmission Line Corridor





Topsoil Segregation



Erosion Control - Slope Breakers





Slope Stabilization





Compressor Station



Major Pipeline Projects



Certificated
Currently Pending
Pre-filing
On The Horizon

Projects Certificated



Differing Purposes for Certificated Pipelines

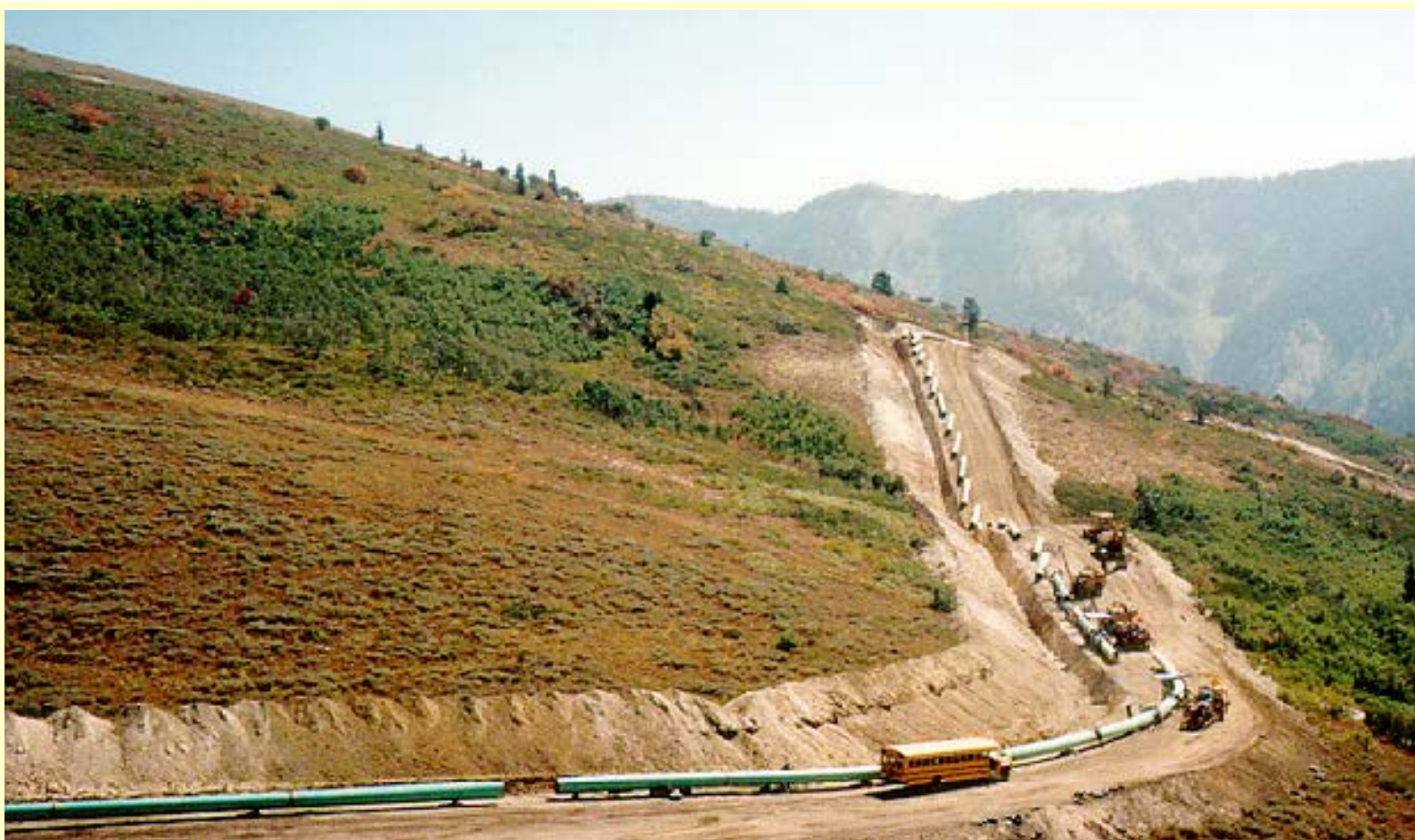


- Typical long-line from new supply
- Replacement pipeline projects
- Short, high capacity pipelines to deliver regasified LNG to grid
- Short, high capacity pipelines to deliver underground storage to grid

Currently Pending Projects



On The Horizon



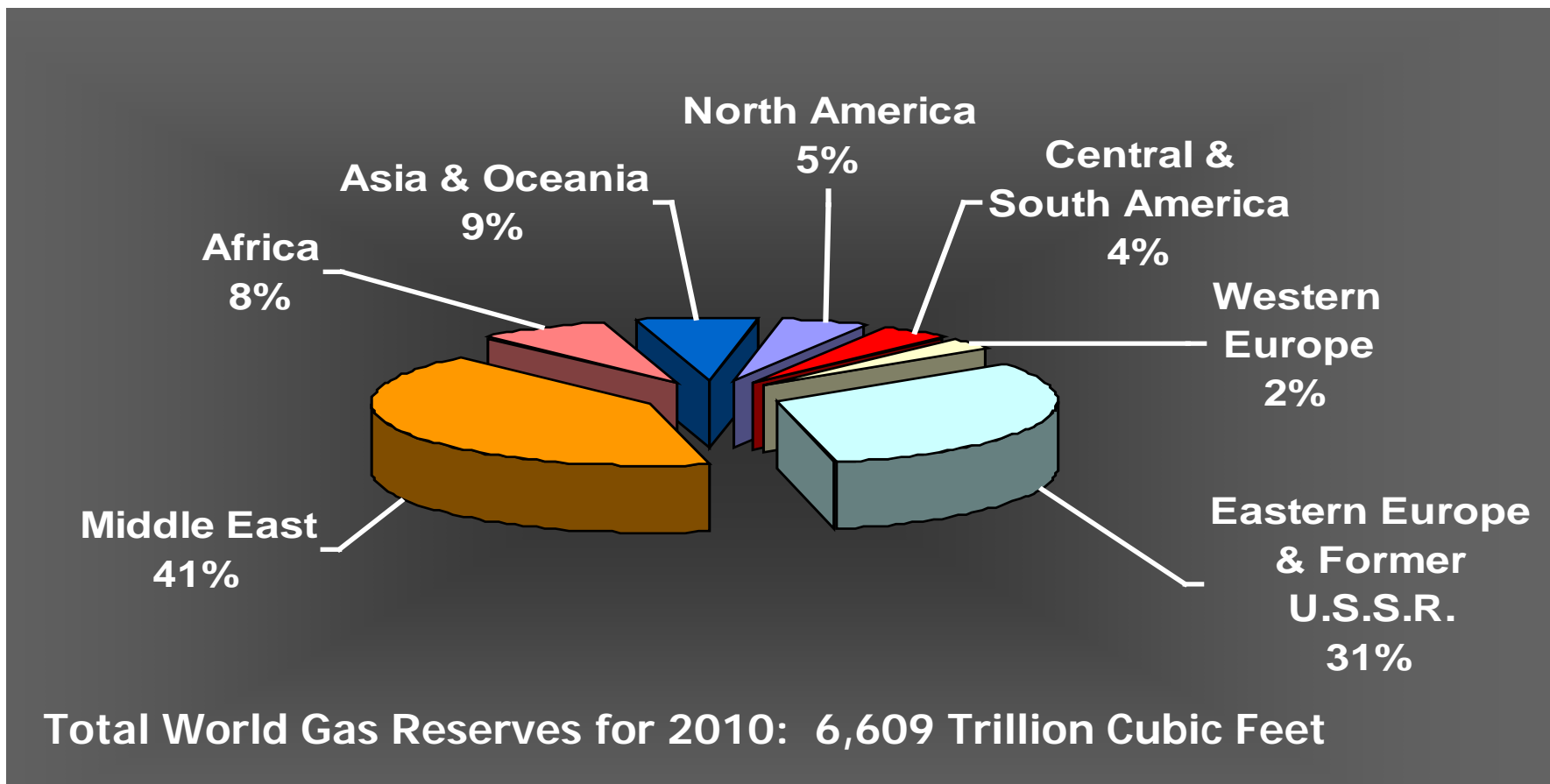
Storage





A Look at Liquefied Natural Gas (LNG)

How Much Natural Gas Is Out There ?



Source: BP Statistical Review of World Energy June 2011- Table Proved Reserves of Natural Gas

Imports

What Is LNG ?



- LNG is natural gas cooled to its liquid at 259° Fahrenheit and 1/600 of its gaseous volume.
- LNG is commonly stored and shipped at slightly above atmospheric pressure – overseas by ship and locally by truck.
- LNG is odorless, colorless ; it neither explodes nor burns as a liquid.

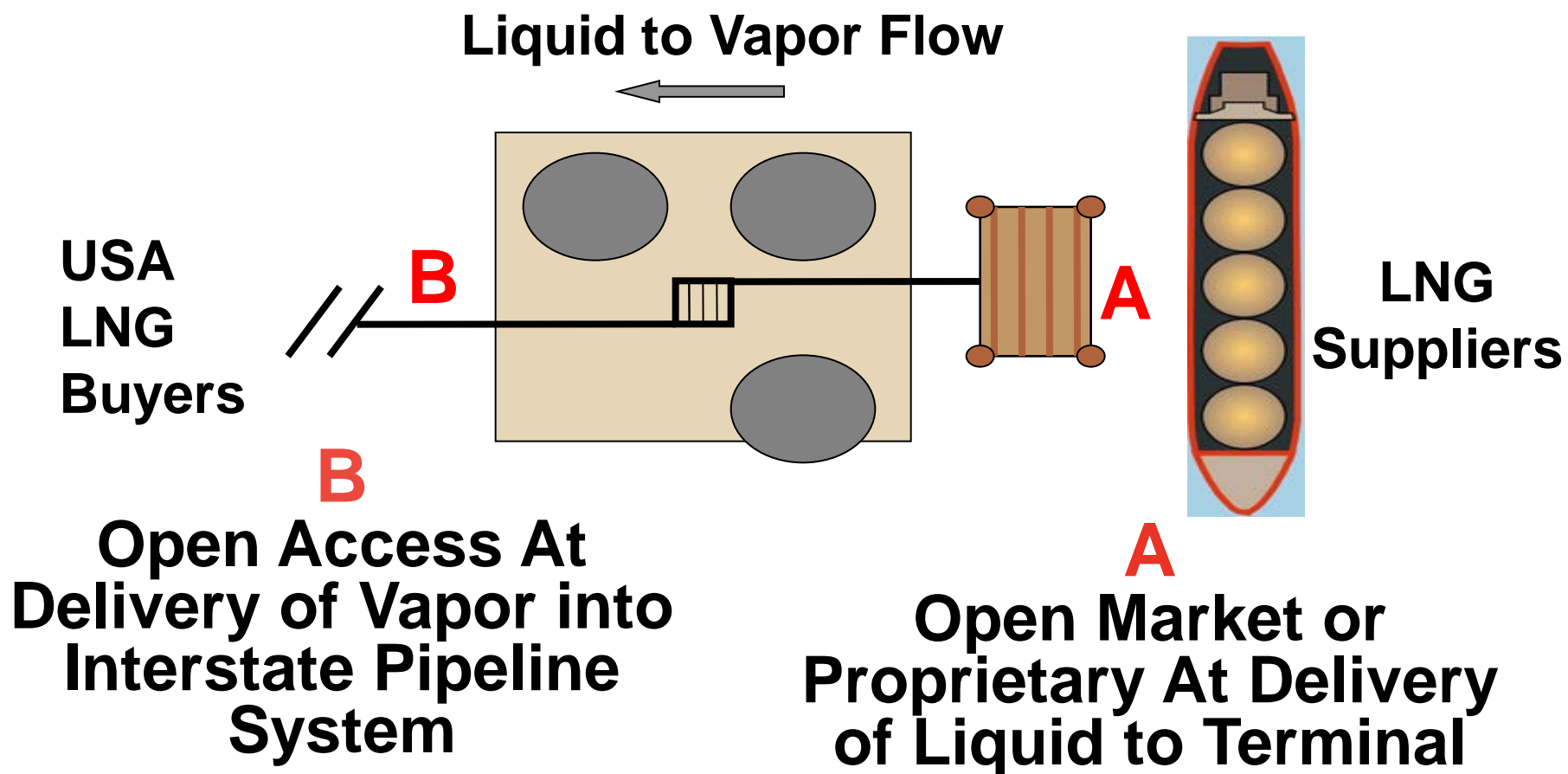
Imports

What Is LNG ?



- LNG vapors are flammable only in concentrations of 5% to 15% with air and will not explode in an unconfined environment - the ignition temperature is more than 500° Fahrenheit higher than gasoline.
- In the past 40 years there have been more than 33,000 LNG ship voyages without a significant accident or cargo spillage.

Hackberry Decision (December 2002)

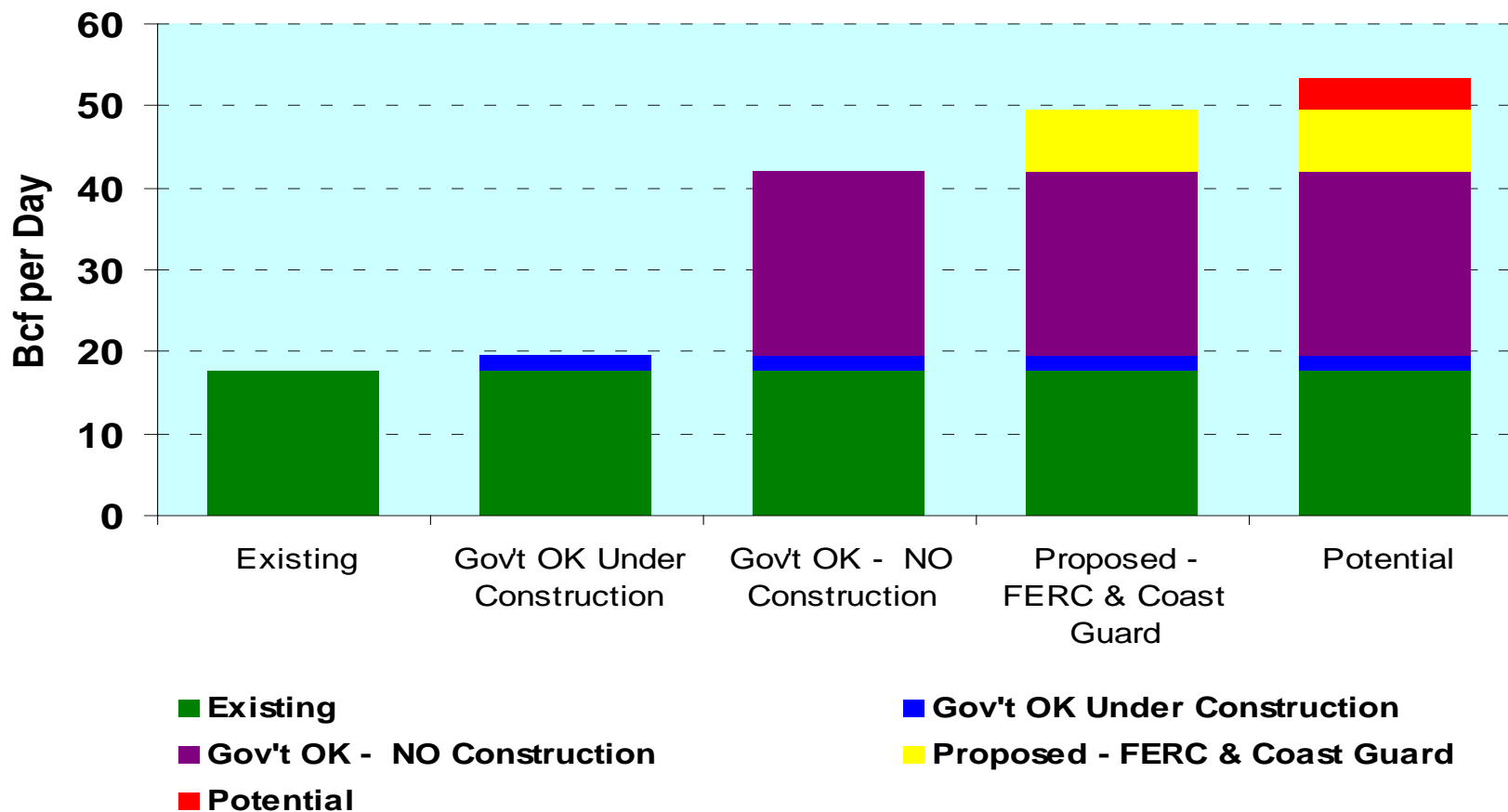


Benefits of the New LNG Policy

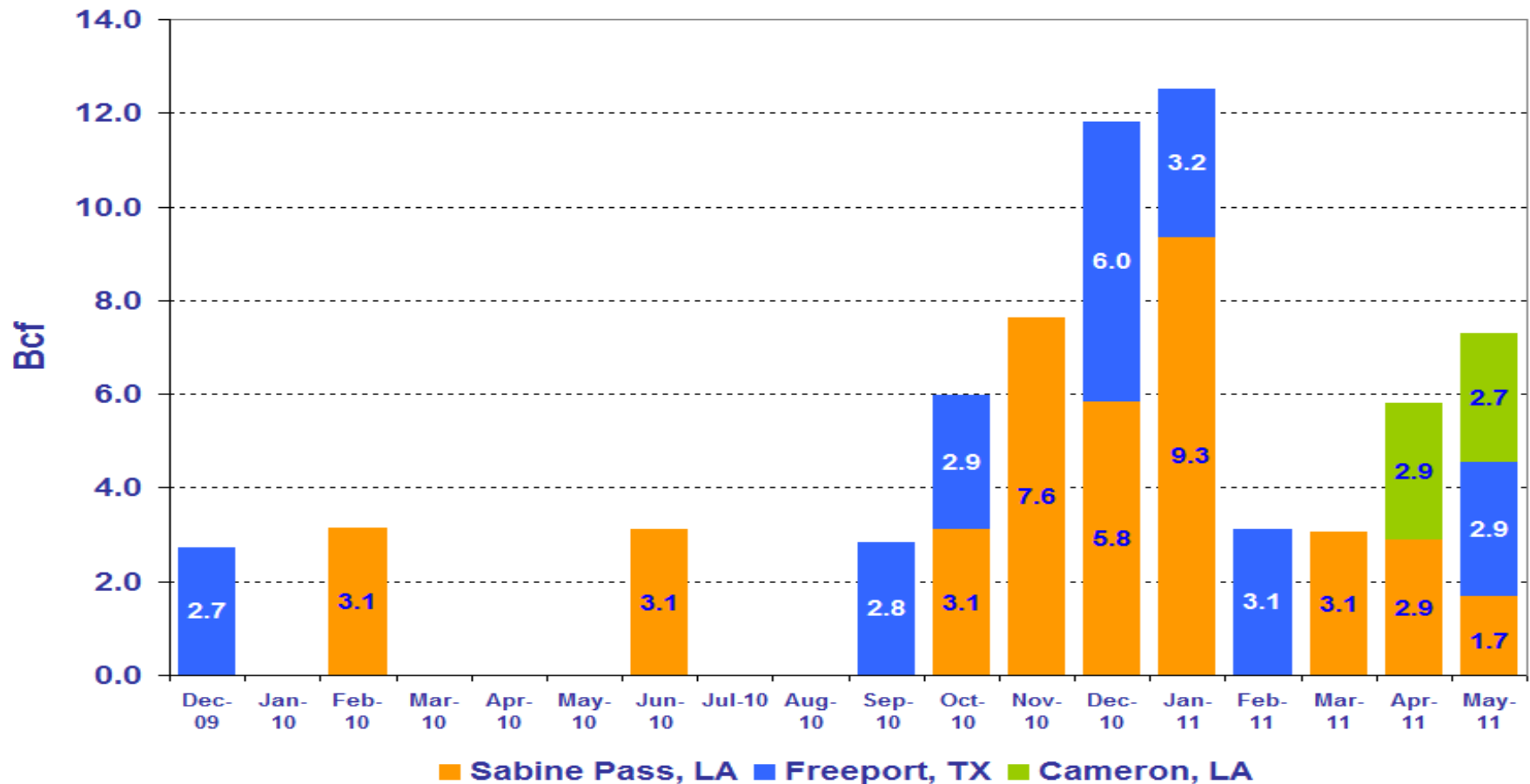


- Stimulates development of new LNG terminals
- Accommodates various business models
- Increases gas supplies to the U.S.
- Maintains FERC's responsibility for environmental and safety reviews.

Maximum No. American LNG Deliverability Growth

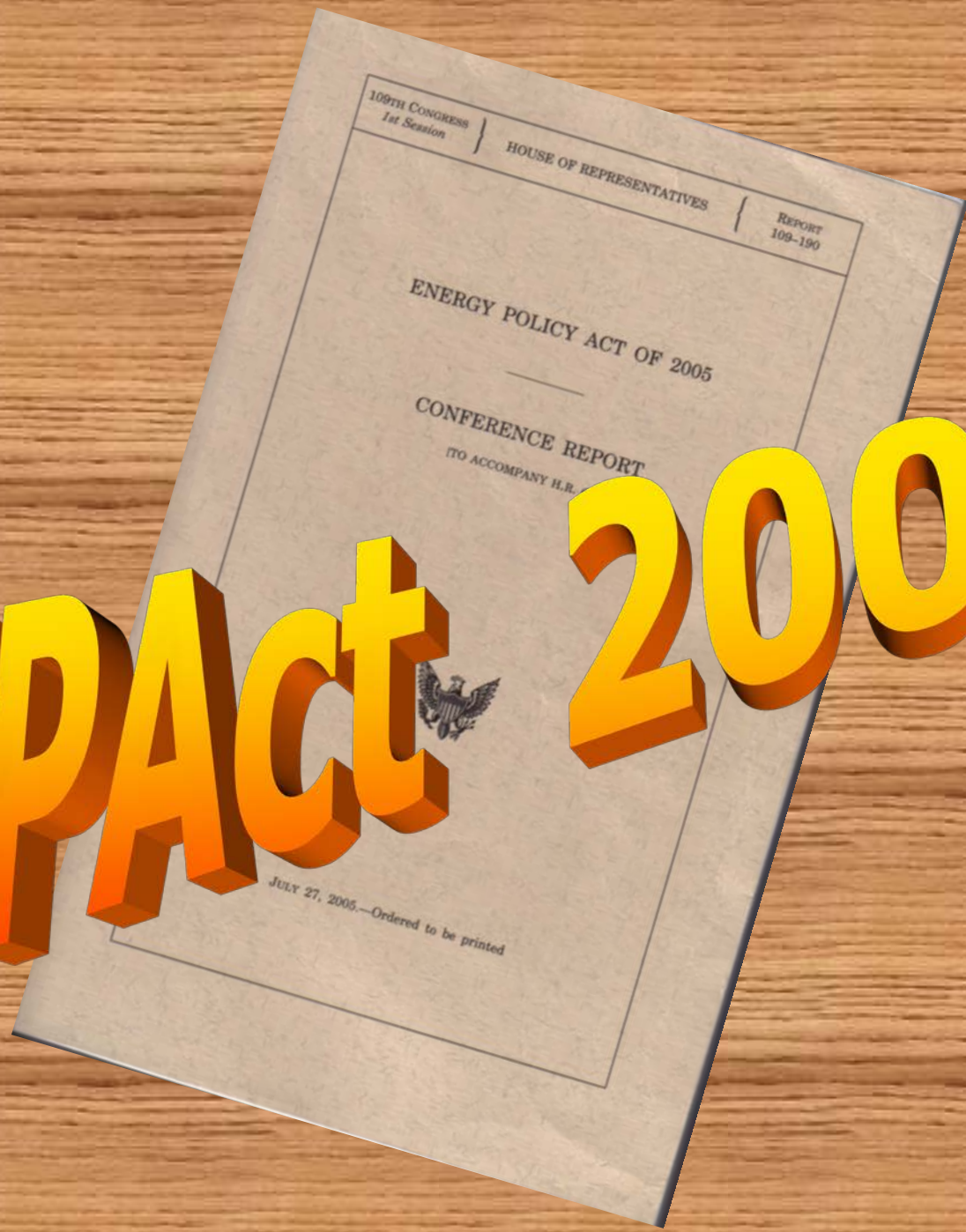


LNG Re-Export Volumes by Terminal



Source: LNG volumes from Fossil Energy.

EPAct 2005



Energy Policy Act of 2005



- LNG (Sec. 311)
 - FERC is lead decisional agency
 - Pre-filing is mandatory
 - Regulations issued on October 7th
 - Hackberry Policy is now codified
 - Project sponsor can adopt open access, but cannot be required to be open access
- Storage with *Market Based Rates* approvable even if market power is present (Sec. 312)

Gas Project Scheduling/Coordination



- Section 313 - Process Coordination
 - Revised Sections 15 and 19 of NGA
 - FERC acts as lead agency; sets schedule
 - FERC maintains consolidated record
 - Streamlines judicial review
 - Order No. 687 issued by FERC on October 19, 2006
 - Final rule sets schedule/consolidation procedures
 - When filed, applicant must ID all needed Federal authorizations
 - 90 days after notice date, FERC issues notice of schedule or EA
 - 90 days after EA or EIS is the deadline for other agencies
 - 30 days after deadline expiration, each agency must file a copy of decision & index of the record for the FERC record system.

Energy Policy Act of 2005



- Process Coordination (Sec. 313)
 - FERC is lead agency for all Section 7 & 3 filings.
 - Establishes processing schedule
 - FERC record is the one record upon which all appeals of Federal actions are based
 - Judicial Streamlining
 - All appeals must be heard in Federal appeals court in the region where facility is to be located
 - Violation of schedule to be heard in US Court of Appeals for the District of Columbia

Energy Policy Act of 2005

Selected Activities



- LNG Pre-filing Rulemaking
 - Issued October 7, 2005; effective November 17, 2005
- LNG Forums with DOE and Other Agencies
 - Boston, LA and Astoria, Oregon
- MOU with Defense on LNG Facilities
- Alaska Progress Report – Every 6 Months
- Lead Agency
 - Policy Statement issued September 26, 2005
 - NOPR under construction
- Storage Final Rule
 - Issued June 19, 2006; effective July 27, 2006



Learn at Home

- Good learning resource for gas pipelines & storage
- Interactive or 76 page pdf version
- http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/index.html



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