Is LNG in California’s Future?

Presented to
PREVENTION FIRST 2004
An Onshore and Offshore Pollution Prevention
Symposium & Technology Exhibition

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California Energy Commission
September 15, 2004
Today’s Talk

- California’s Energy Policy
- California’s Interest in Pipes and LNG
- Issues to Resolve and Actions Being Taken on LNG
- Government Coordination Models
- Future Work
- Concluding Remarks
California’s natural gas demand is increasing.
- Imports about 85% of state needs.
- Power generation accounts for as much as 40% of natural gas consumed in California and averages about 33%.
California’s Energy Policy

- California is at the end of a long, “leaky” pipeline network.
- Demand east-of-California continues to impact delivery capacity to California.
U.S. Natural Gas: Historical and Projected Demand and Supply

Historical

Projected

source: U.S. Energy Information Administration
California’s Energy Policy

- Natural gas

NYMEX Natural Gas Prices (May 11, 2004)
California’s Future Natural Gas Needs

General Observations

- Current supply/infrastructure is adequate
- Prices are higher than desired
- Demand for natural gas is growing
  - In spite of aggressive EE and renewables activity
- Additional import capacity is needed
- Prices will continue to increase
- Prices will become more volatile
California’s Energy Policy

- 2003 Energy Action Plan
- 2003 Electricity and Natural Gas Assessment Report
- 2003 Natural Gas Market Assessment Report

CEC Reports available at www.energy.ca.gov
State Energy Policies on Pipes

● 2003 IEPR
  - “It is paramount that California continues to develop additional interstate pipeline capacity…”

● 2003 Energy Action Plan
  - “Partner with governmental and other groups in western North America to pursue commonly held energy goals.”
  - “Support electric utilities and gas distribution companies entering into longer term contracts as a hedge against volatile and high spot market prices.”
State Energy Policies on LNG

- Governor Schwarzenegger has expressed an interest in LNG.

  - Recognizes LNG as a potential energy supply source.
  - Recognizes value of LNG to California.

- Energy Action Plan Commitment (CEC/CPUC/CPA)
  - “License and, where appropriate, fund construction of new energy facilities that are consistent with the reliability, economic, public health, and environmental needs of the state.”
Energy Policy Affecting LNG

- California Public Utilities Commission
  - Recently issued rulemaking on natural gas policies will include LNG contracting issues.
- Coordination Among State Agencies
  - CEC, CPUC, State Lands Commission, California Coastal Commission, others all committed to working together.
  - Agencies also coordinating with federal and local agencies.
Potential Value of LNG

- LNG identified as a supply option
  - New pipelines also identified

- LNG imports specifically analyzed

- LNG provides significant economic benefit to California
  - Potential overall price reduction
  - Supply diversity
  - Additional import capacity
Why the Sudden Interest for LNG on the West Coast?

- **Potential Benefits**
  - Delivery capacity, similar to a pipeline
  - Additional supply, similar to a gas field
  - Additional storage, similar to a local facility
  - Supply diversity, gas from a new, price-competitive source
  - Fuel diversity, liquid fuel for transportation
Potential Societal Risks of LNG

- Terminals:
  - High consequence / low probability events
  - Safety risks
  - Environmental risks

- Supplies:
  - Reduced control over supply source
  - Supply disruption could have significant impacts
West Coast LNG Proposals

Proposed and Announced West Coast LNG Terminals and Capacity (in MMcf/d)

- **Offshore, California**
  - Cabrillo Deepwater Port, BHP Billiton
    - 800 MMcf/d
  - Crystal Clearwater Port
    - Crystal Energy, Small Ventures, et. al.
    - 800 MMcf/d
- **Long Beach Harbor**
  - Long Beach LNG Facility
    - Sound Energy Solutions
    - 700 MMcf/d
- **Offshore Tijuana, Baja California**
  - Terminal GNL Mar Adentro de Baja California
    - Chevron Texaco
    - 700 MMcf/d
- **Ensenada, Baja California**
  - Energia Costa Azul
    - Sempra & Pacific LNG Consortium/Shell Group
    - 1,000 MMcf/d

*California Energy Commission*
*March 2004*
LNG Issues Needing Resolution

- Clarify natural gas quality standards
- Provide equal access to markets in California
- Define role of longer term purchase contracts
- Clarify potential pipeline upgrades
- Reduce uncertainty in terminal permitting
- Clarify international trade issues
- Provide additional public information
- Define public safety risks in more detail
Natural Gas Quality Standards

- State gas quality standards
  - Pipeline Quality (CPUC)
  - CNG Vehicles (CARB)

- Differing standards in other states

- Worldwide LNG Btu content too hot
  - NOx emissions too high

- Little flexibility in standard
Actions Underway

- Natural gas quality standards
  - Joint research study on emissions—SoCalGas
  - ARB reconsidering standard
  - Looking for LNG developer commitment
    - LNG gas conditioning at import terminal
    - LNG gas conditioning at export terminal
  - Natural Gas Working Group
  - FERC Technical Conference
  - ARB resolution expected by early next year
Potential Pipeline Upgrades for LNG

- In-state pipe system not designed for significant flows from West or South

- Flows from Baja
  - Can use existing pipe/Ehrenberg hub
  - Limited new capacity
  - Significant flows require pipe upgrades

- Flows from California coast
  - Require some downstream pipe upgrades
Actions Underway

- Potential pipeline upgrades
  - CPUC proceeding last year
    - Defined options
    - Defined preliminary costs
  - NG Infrastructure Workshop last December
  - CPUC NG OIR addressing issue
  - www.cpuc.ca.gov
Equal Access to Markets

- In-state pipe network designed to receive gas from East and North.

- Regulatory rules originally designed for pipelines and domestic supply sources.

- Delivery points and acceptance rules need reexamination.
Actions Underway

• Equal Access to Markets
  - NG Infrastructure Workshop last December
  - CPUC Natural Gas OIR
    - Specifically addressing LNG access
    - Draft decision on Phase I now out for review
Longer Term Purchase Contracts

- LNG terminals are capital intensive.
- Investors need longer term assurance.
- California has a mixed history on long term contracts.
  - Risks of overpaying
  - Risks of buying too much
- Can ratepayer protection be balanced with investors’ needs?
Actions Underway

- Longer term purchase contracts
  - Energy Action Plan
  - CPUC NG OIR
  - Long term vs. longer term
  - Portfolio approach to contracts
  - Preliminary guidance next year
Uncertainty in Terminal Permitting

- No single stop permitting agency
- Many agencies involved
- Local communities very concerned about safety risks
- LNG is “new” to California
Actions Underway

- Uncertainty in terminal permitting
  - California established the LNG Interagency Permitting Working Group
  - Agency review is now coordinated
  - FERC/USCG and State working closely together

Public information available at www.energy.ca.gov/Lng
Clarify International Trade

- NAFTA addressed US exports of NG to Mexico, not imports

- Need symmetry in trade

- Need certainty in long term trade policies
Actions Underway

- Clarify international trade
  - Border Governor’s Conference will address issue
  - Stanford University conducting research
  - Energy Commission will be discussing this issue with our Mexican colleagues
  - Initiating discussions with US DOE
Public Information

- LNG is “new” to California
- Public agencies need objective information
- Local communities need objective information
Actions Underway

- Public information
  - Training session for public agency staff
  - LNG Website—www.energy.ca.gov/lng
  - Educational presentations for public
  - Project permitting websites
    - www.ferc.gov
    - www.slc.ca.gov
    - www.cabrilloport.ene.com
Issues Needing Resolution

- These issues can be resolved from a technical perspective.
Government Coordination Model

• Natural Gas Working Group
  ✤ All state agencies involved in natural gas
  ✤ Meets regularly
  ✤ Exchange information
  ✤ Alerts for upcoming issues
  ✤ Helped expedite pipeline permitting
  ✤ Notification to Governor’s Office for action when needed
  ✤ Chaired by California Energy Commission
Government Coordination Model

- CEC/CPUC Collaboration
  - Close communication at Commission level
  - Close communication at staff level
  - Frequent meetings
  - CEC providing analytical support in a collaborative approach
Government Coordination Model

- California’s LNG Interagency Permitting Working Group
  - Established in May 2003
  - Mission: to coordinate among potential permitting agencies and provide an effective response to future LNG permit applications
  - Includes federal/state/local agencies
  - Declared intent to work together
  - Declared intent to prepare joint fed/state environmental documents
  - Meets regularly
  - Chaired by California Energy Commission
Future Work

- 2005 IEPR
  - Natural Gas Assessment
  - Initial workshops already started
  - Western Gas Assessment
  - Energy Assessment of LNG
  - LNG Fact Sheets
CONCLUSIONS

- California’s infrastructure is adequate for now.
- Additional infrastructure will soon be needed.
- Demand for additional gas is growing.
- California governmental agencies are working together to attract new investment and supplies.
Thank you.

Questions?