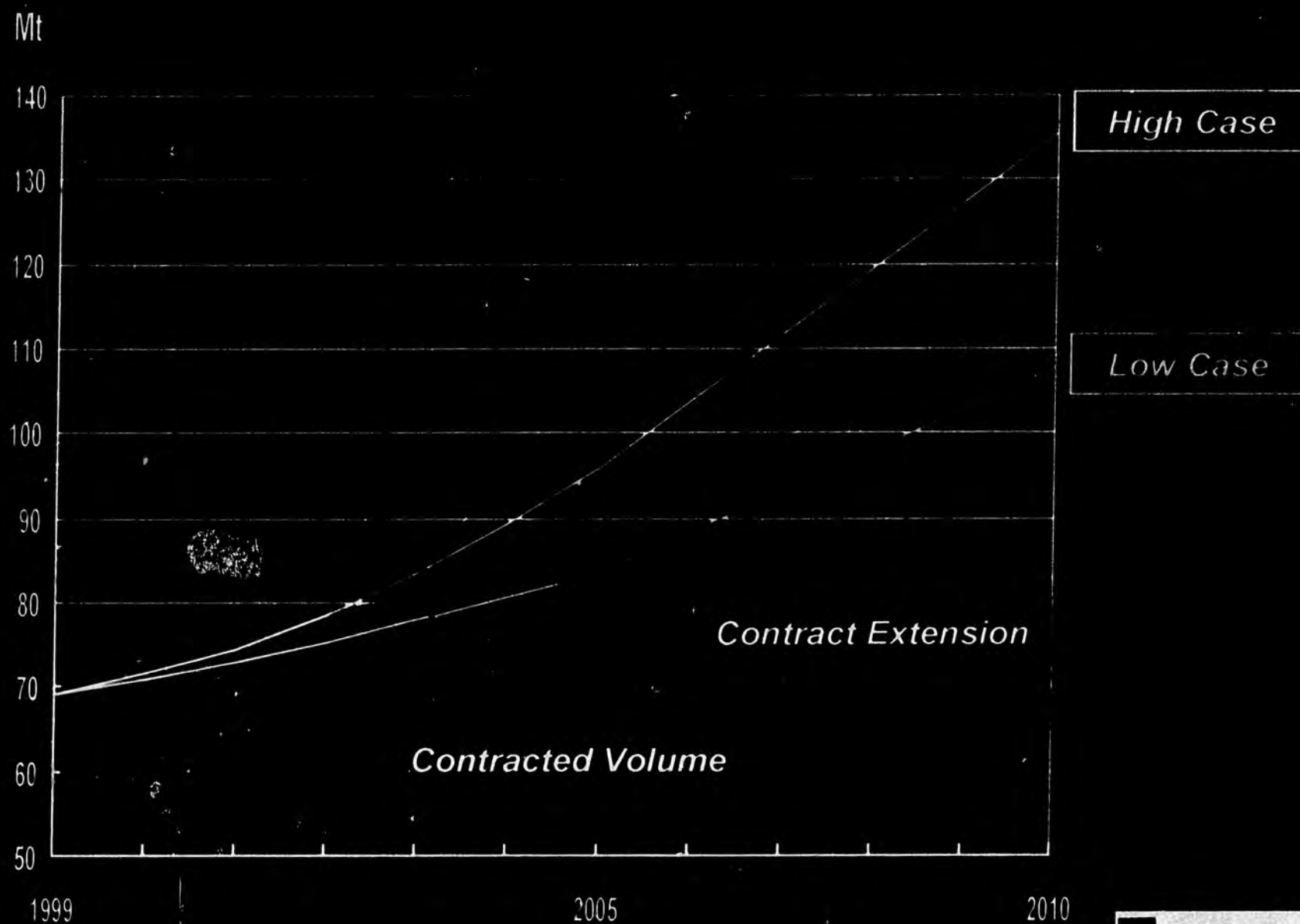


ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILES 8672

2922 SCOMM 128. HOUSE SPEC.COMM. ON OIL AND GAS, 2001-02

LNG Demand Outlook in the Asia and Pacific



Challenges of LNG in the Liberalized Market

*Energy
Mega-Competition*

*Inter-fuel
Competition*

*Gas to Gas
Competition*

*Competitive
Pricing*

*Increased
Flexibility*

*Increased Competitiveness
of LNG*

Market Oriented Pricing Mechanisms

- Decoupling from Oil Indexation?

Combination of

- Long-term Contracts

- Short-term Contracts

- Spot Cargoes

Cost Reduction in Transportation

- Swapping, Backhauling

SCOMM

128:7



ALASKA NORTH SLOPE LNG PROJECT

***Phillips Alaska
BP Exploration (Alaska)
Foothills Pipelines
Marubeni Corporation***

2/27/01

AGENDA

- Project Overview
- Market Essentials
- Stage 1 Focus / Results
- Stage 2 Plan

2/27/01



ANS LNG SPONSOR GROUP

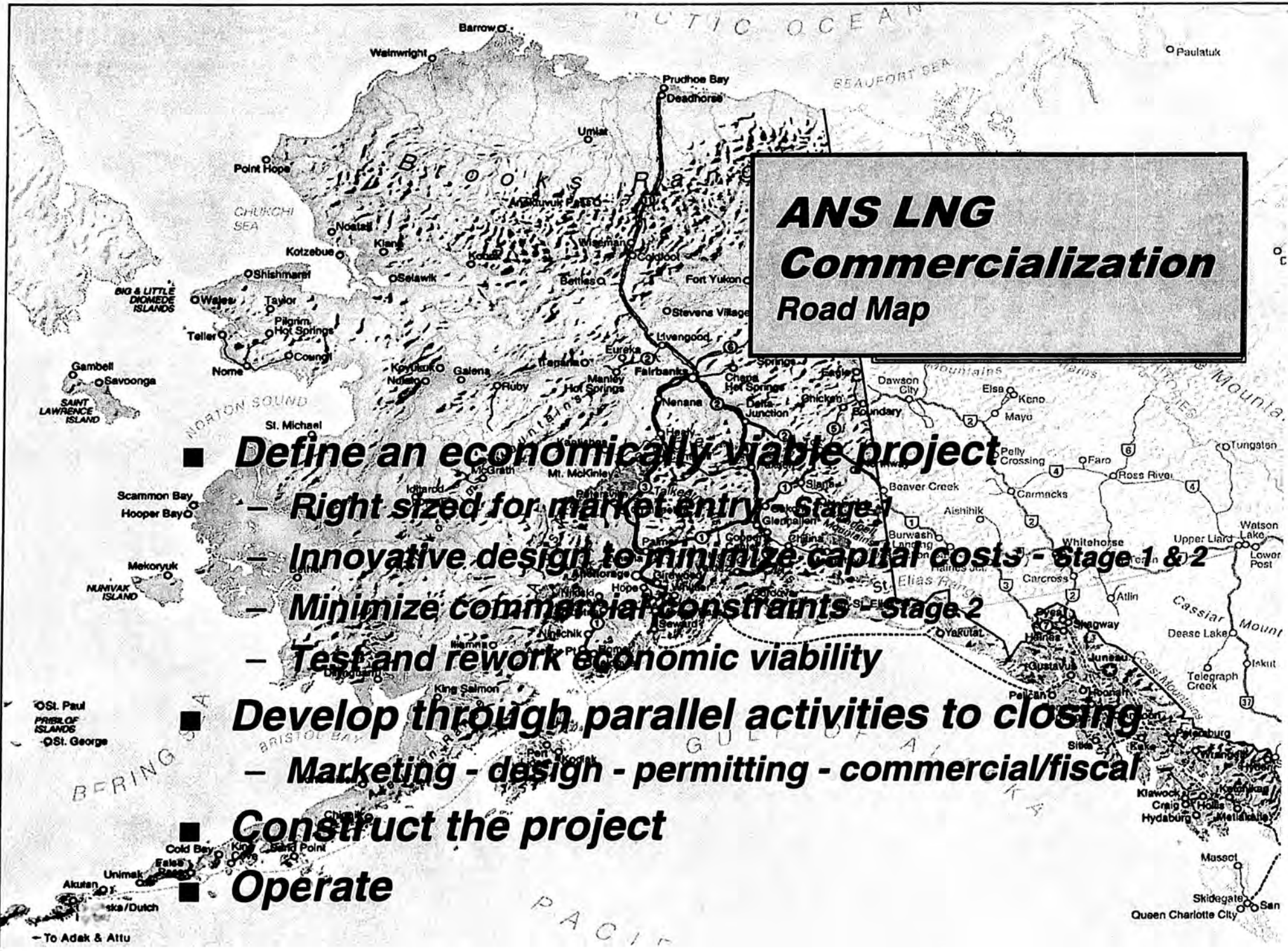
Review

- Initiated to attempt to develop an economic and commercially viable LNG project
- Arco solicited interest 1997-1998
 - Stranded Gas Act (HB393) facilitated formation
- Current Sponsors
 - Phillips Alaska ~ 30%
 - BP Exploration (Alaska) 26%
 - Foothills Pipelines 25%
 - Marubeni Corporation ~ 19%
- Sponsors completed an 18 month \$12 million engineering design effort in August of 2000 (Stage 1)
- Now focusing on many of the commercial aspects (Stage 2)
- Here today to update you on our past and ongoing efforts of these project stages

2/27/01



ALASKA NORTH SLOPE LNG PROJECT



ANS LNG Commercialization Road Map

■ **Define an economically viable project**

- Right sized for market entry - Stage 1
- Innovative design to minimize capital costs - Stage 1 & 2
- Minimize commercial constraints - Stage 2
- Test and rework economic viability

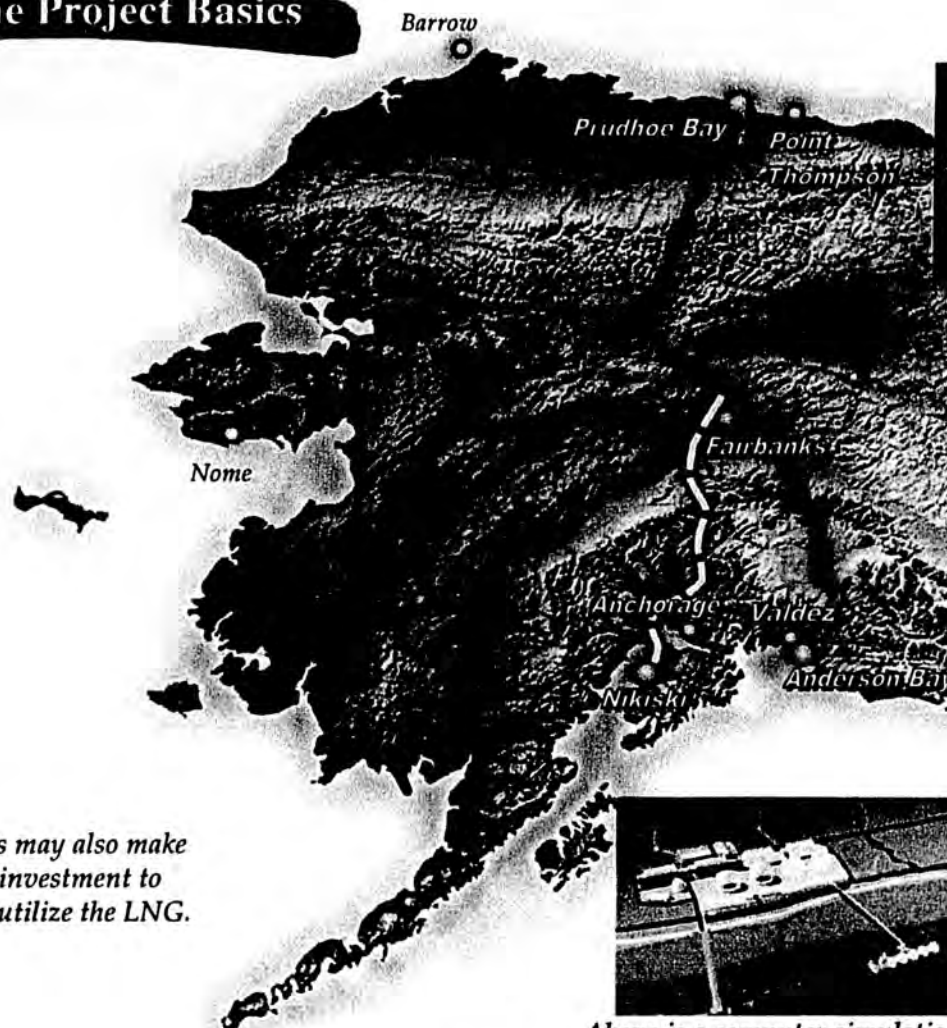
■ **Develop through parallel activities to closing**

- Marketing - design - permitting - commercial/fiscal

■ **Construct the project**

■ **Operate**

The Project Basics



LNG buyers may also make substantial investment to handle and utilize the LNG.

The LNG is loaded onto ships (much like large Thermos® bottles) for transport to East Asian Markets.

Above is a computer simulation of the potential Nikiski LNG plant and marine terminal site.

In the LNG Plant, gas from the pipeline is chilled to -259°F (-160°C) so that it forms a safe, clean, liquefied natural gas (LNG).



Gas from the North Slope is to be purchased and routed to a nearby gas conditioning facility where impurities and carbon dioxide are removed.

The purified gas is then to be transported by pipeline system to an ice-free port in South Central Alaska.

Sites at both Anderson Bay – at the Port of Valdez, and Nikiski – in the Cook Inlet, are viable options.



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ALASKA NORTH SLOPE LNG PROJECT

AGENDA

- Project Overview
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- Stage 2 Plan

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MARKET UNDERSTANDING

Sponsor Group Expertise

- **MARKET UPDATES AND INPUTS ARE PERPETUAL**
 - From well established, experienced and knowledgeable sources

- **Marubeni**
 - ✦ Japanese trading company, doing business throughout East Asia and the world
 - ✦ *Continuous feedback* through ANS LNG Market Liaison office
 - Providing significant input and updating to our market analysis

- **Phillips**
 - ✦ 30 years marketing to Asia (from Alaska)
 - Continual LNG market negotiations
 - Coordinated through international LNG group
 - ✦ Offices in Asia including: Tokyo, Taiwan and China (ongoing feedback)

- **BP**
 - ✦ Ongoing worldwide LNG marketing experience
 - ✦ Offices in Asia (ongoing feedback)

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ALASKA NORTH SLOPE LNG PROJECT

LNG FUNDAMENTALS

- 2 fundamental elements needed for Alaskan LNG to move forward
 - **Commercial viability**
 - ✦ Right sized and sufficiently advanced project
 - ✦ Competitive with other new projects
 - **A market that is ready for gas from the new Alaska LNG project**
 - ✦ Requires additional new demand
 - 1st - incremental expansions - existing LNG projects
 - Then - most competitive new LNG projects
 - Providing secure supply
 - Delivering when the market is ready

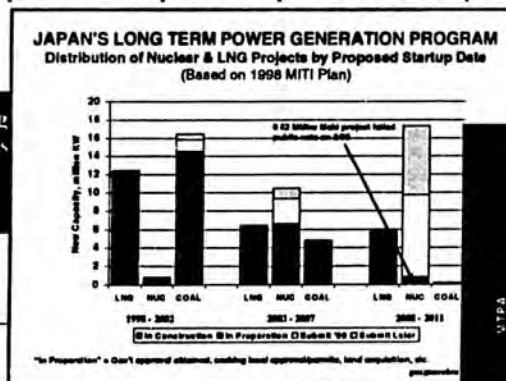
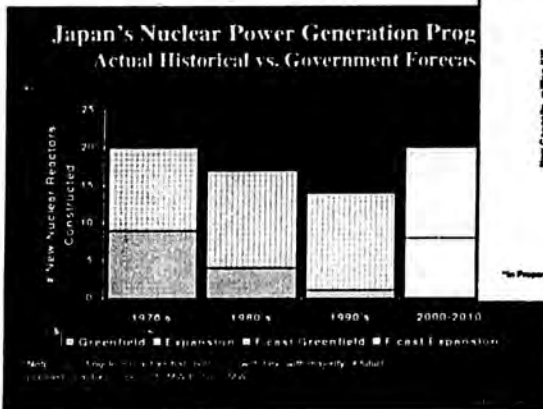
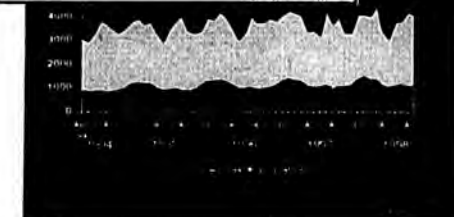
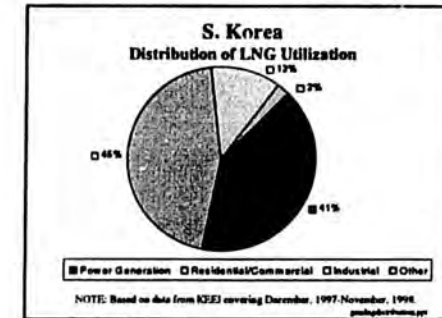
MARKET ANALYSIS SCOPE

■ Existing market issues and market potential

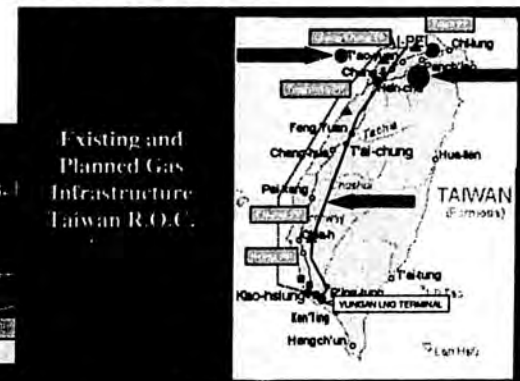
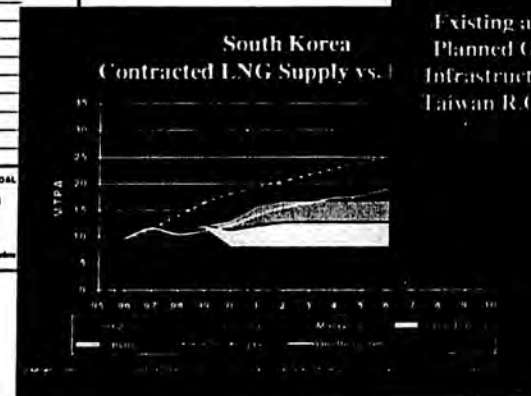
- Targeting Japan, Taiwan, S. Korea - Stage 1 & 2
- Emerging markets of China and India - Stage 1 & 2
- U.S. and Mexico west coast - Stage 2

■ In-depth analysis for each target country of:

- Government initiatives in *nuclear power* capacity
- Competition from *coal-fired versus LNG/gas* fired generation
- City gas companies ability to displace with *competing fuels*
- *Deregulation* of electricity and city gas industries
- "Other" *gas competition* from potential *pipelines*
- Effects of independent power producers (*IPP's*) in a deregulated environment



EXAMPLES OF DATA TABULATION IN MKT ANALYSIS



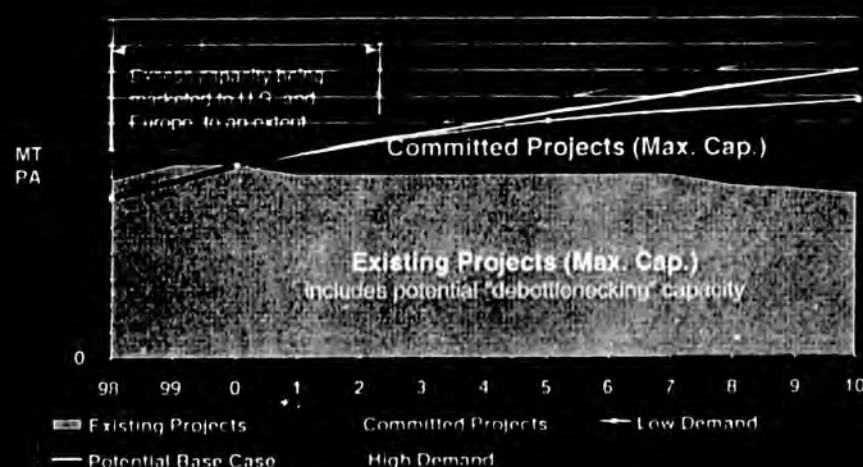
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ALASKA NORTH SLOPE LNG PROJECT

Market Competition Potential Asian LNG Projects

Country	Earliest Date of 1 st Delivery	Customers	Nominal Capacity MTPA
Australia NWS	~2003+	Asian Markets	7.5
Malaysia Tiga (III)	~2003+	Asian Markets	7.6
Tangguh (Irian Jaya)	~2003+	Asian Markets	6
Qatargas/Rasgas	~2002+	Asian Markets	7.5
Bayu	~2003+	Asian Markets	3
Indonesia "I"	~2004+	Asian Markets	3
Yemen	~2004+	Asian Markets	5
Sub Total			39.6

Total Asia-Pacific Supply/Demand Outlook Includes Emerging Markets (India, China, etc.)



LNG Market View -- *Fiercely Competitive*

Market Competition Potential Asian LNG Projects (cont'd)

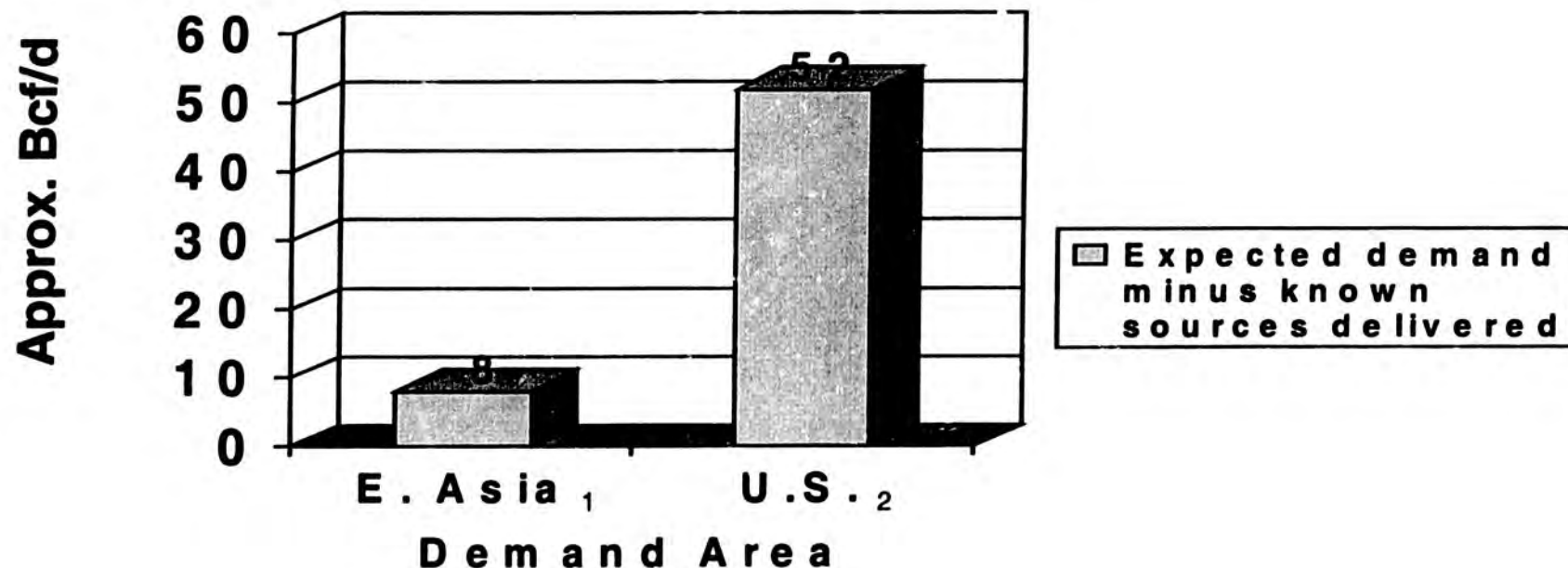
Country	Earliest Date of 1 st Delivery	Customers	Nominal Capacity MTPA
Gorgon	2004/5	Asian Markets	7.6
Sakhalin II	2005/6	Asian Markets	6
Alaska NS	2007+	Asian Markets	8 - 14.7
Indonesia Natuna	NA	Asian Markets	0
Sakhalin I	2007+	Japan/Asia	7
Sub Total			28.6 - 35.3
Total			~68 - 75

**Smaller
market
entry
reduces
risk**

- **60-80 MTPA of potential projects**
 - Pursuing 20 - 40 MTPA of 2010 growth
- **Problematic trends**
 - Downward price pressure
 - Shorter contracts & spot deliveries

ANS LNG MUST ALSO COMPETE WITH U.S. GAS DEMAND

2010 New Source Needs



1 - High case LNG demand forecast of Tokyo Gas presented to 2001 HOAG
Year 2010 high demand of 135+ MTA (~19 Bcf/d) minus ~80 Mta (11 Bcf/d)

2 - National Petroleum Council, 12/99
2010 demand of 76 Bcf/d minus 24 Bcf/d of existing production

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ALASKA NORTH SLOPE LNG PROJECT

AGENDA

- Project Overview
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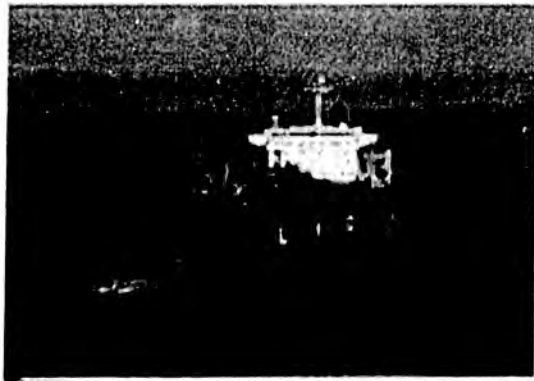


ALASKA NORTH SLOPE LNG PROJECT

STAGE 1 WORK

Major Advance

- **MARKET ENTRY PROJECT**
- 7-8 MM ton/year, projected \$6.8 billion project
 - *Redesigned to*
 - ✦ defer cost to as-needed
 - minimize pre-investment
 - Improves market entry probability
 - Significantly reduces capital cost (and risk)
 - Expandable to 14 MTA as market develops



- ✦ **Mandate: to become economically sufficient at 7-8 MTPA even if future expansion never occurs**

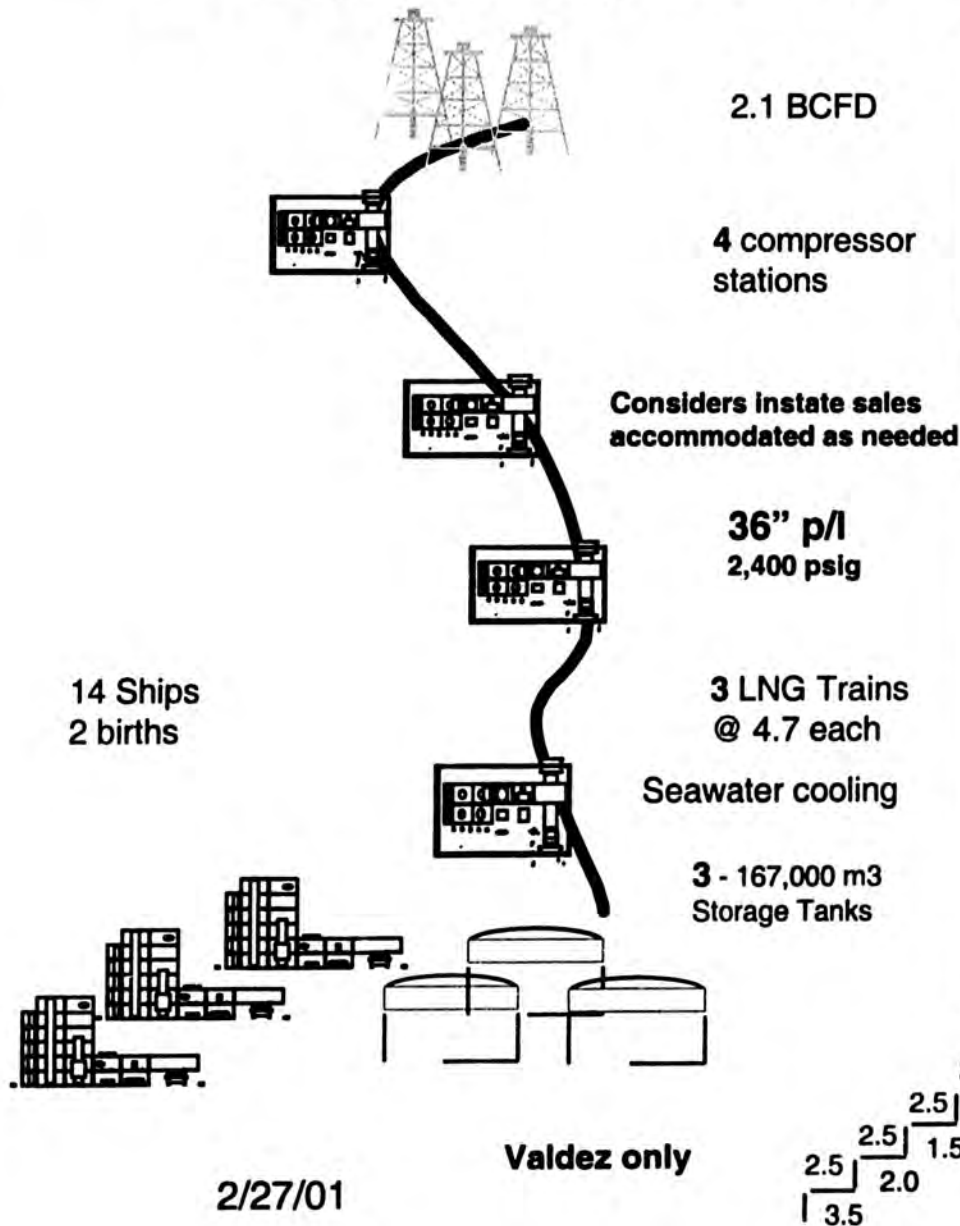
On-site Asian LNG market discussions confirm:
Smaller 7-8 MTPA, market entry project

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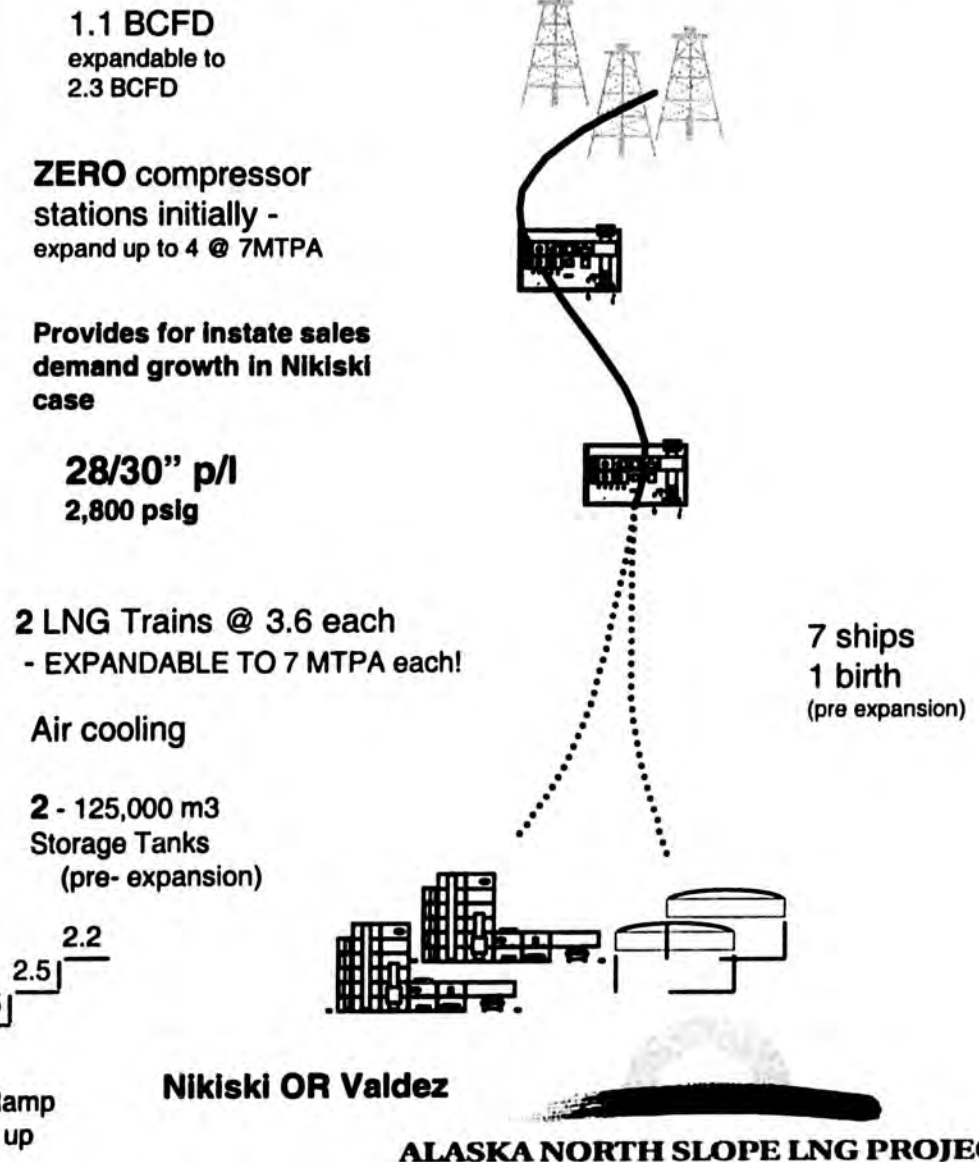
ALASKA NORTH SLOPE LNG PROJECT

KEY AREAS OF REDESIGN

■ Pre-Sponsor Group 14.7 MTPA



■ Sponsors smaller, market entry, 7 MTA expandable to 14 MTPA



- System integration and smaller project design
- Pipeline route / LNG plant and marine terminal site
- Pipeline design and construction
- LNG plant/marine terminal design
- Gas treatment plant

1. Significant external input
2. Workshops incorporated both external and internal experts
3. **Both route/sites advanced**



PRESENTING OVERVIEW AT LNG 13

ALASKA NORTH SLOPE LNG PROJECT

PIPELINE ROUTE & LNG PLANT SITE

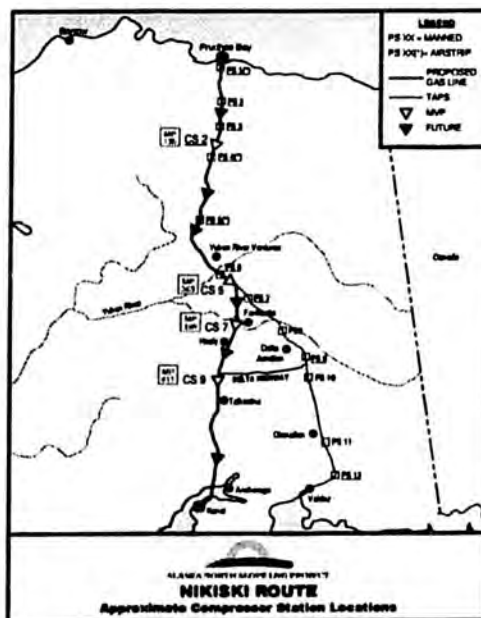
Pacing item is a cost competitive project - at either location

Neither site works if overall project isn't doable

Stage 1 engineering and construction design for BOTH

■ **NIKISKI**

- INSTATE GAS SALES
POTENTIAL



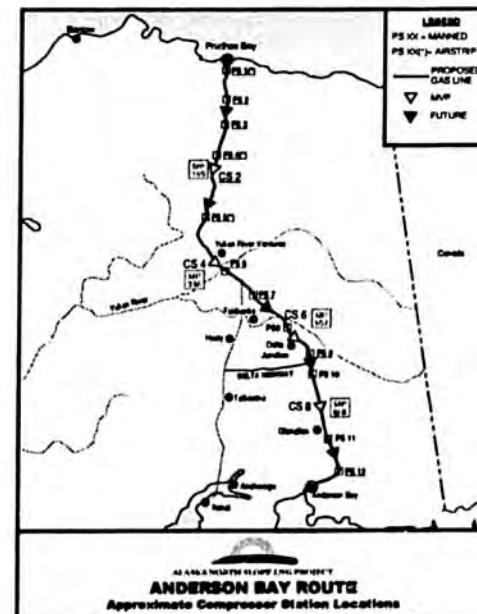
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■ ANDERSON BAY

- POTENTIAL FOR REDUCING PERMITTING TIME

- ✦ Existing TAPS P/L corridor

- Possibly less resistance
 - environmental
 - landowner, etc.

**ALASKA NORTH SLOPE LNG PROJECT**

STAGE 1 - PERMITTING WORK

- **In depth analysis on route/site options**
 - Internal expert studies/review
 - ✦ Draw upon proven track record
 - External, Alaska content consultant - extensive analysis

- **CONCLUSION: Both Anderson Bay and Nikiski can be permitted**
 - Any permitting time differences doable within current market timing needs
 - Existing Anderson Bay route permits will also require extensive work *and* cost to perfect

Note: Nikiski route does NOT go through Denali National Park

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ALASKA NORTH SLOPE LNG PROJECT

Stage 1 design and cost estimating
exceeded expectations

ESTIMATING CATEGORIES

AVAILABLE DATA	SCREENING	CONCEPTUAL	PRELIMINARY	CONTROL
Process Size/Capacity	★	★	★	★
Location	★	★	★	★
Project Timing/Schedule	★	★	★	★
Process Flow Sheet		★	★	★
Equipment List		★	★	★
Project Milestone Schedule		★	★	★
Plot Plan			Preliminary	Approved
Execution Plan			Preliminary	Approved
Project Schedule			Preliminary	Approved
Engrg. & Design Started			★	★
Equipment Specified			★	★
Equipment Quotes			★	★
Engineering & Design 30%		TARGET	ACHIEVED	★
P&ID's Complete				★
Major Equip. Firmly Quoted				★
MTO's				★
ESTIMATE ACCURACY	+100/-50%	+60/-40%	+30/-20%	+15/-10%
CONFIDENCE FACTOR	80%	80%	80%	80%

4/13/00

ANSI/ISO 9001:2000

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ALASKA NORTH SLOPE LNG PROJECT

STAGE 1 WORK

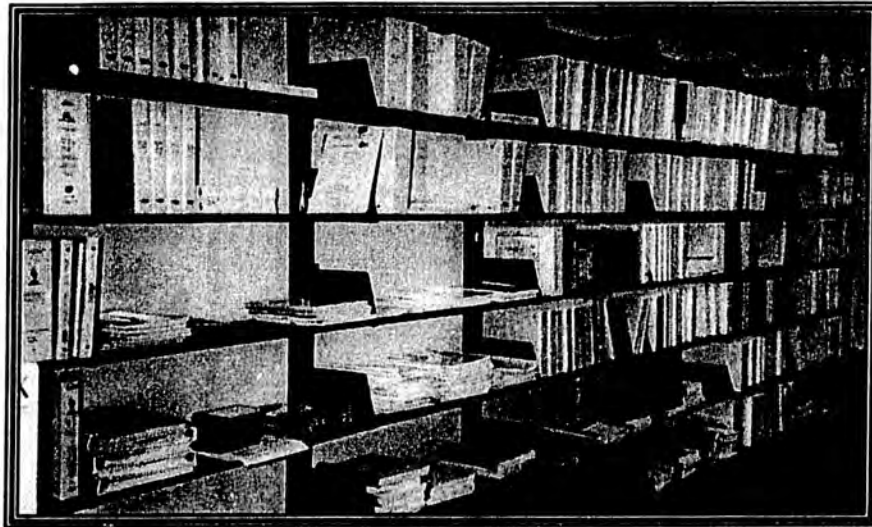


Photo: Stage 1 work library

■ Stage 1 Documented Activities

- 30+ Studies
- 10+ Cost & construction estimates
- 15+ Analysis & assessments
- 30+ Reports
- 25+ Workshops

■ 26 Outside contractors/consultants (~60% AK content)

- 15+ Engineering design & cost
- 3 Permitting
- 2 Regulatory
- 2 Federal
- 1 State
- 1 Governmental entity

\$12 Million - 18 months

**STAGE 1 WORK COMPLETED:
ON TIME
WITHIN BUDGET
EXCEEDING ENGINEERING DESIGN EXPECTATIONS**

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ALASKA NORTH SLOPE LNG PROJECT

AGENDA

- Project Overview
- Market Essentials
- Stage 1 Focus / Results
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STAGE 2

KEY AREAS OF FOCUS

2

- Ongoing design/cost optimization
- Synergy of shared cost with a lower 48 pipeline project
- Value of public entity or port authority concept to our project
- Key risks, their impact and potential mitigation strategies (including financing)
- Alternate LNG markets evaluation
 - Including U.S. and Mexico West Coast
- Further understanding and valuation of competing LNG projects
- Further permitting analysis and execution strategy
 - blue print for moving crisply forward - with the regulators and agencies
- TIMING: 12-15 months (underway) COST: ~\$3 million

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ALASKA NORTH SLOPE LNG PROJECT

Key Stage 2 Highlights *To Date*

2

- Additional capex optimization of ~\$400 Million
 - Market entry 7-8 MTPA capex now at
 - ✦ \$6.5 B - including ships
 - ✦ \$4.9 B - without ships
 - ✦ Identification of further savings opportunities through shared facilities with a lower 48 gas pipeline are ongoing
- Public entity valuation -- current view indicates no compelling advantage to a joint public/private project
 - Generally:
 - ✦ Benefits passed to private enterprise will be taxable
 - ✦ Public borrowing rates unlikely to offset private entity deduction of interest and depreciation
- Other Stage 2 activity in progress and on schedule

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ALASKA NORTH SLOPE LNG PROJECT

Stage 2 Market Engagement

2

- Ongoing E. Asian contact continuing through
 - ANS LNG Market Liaison Office
 - Individual corporate contacts
- Appropriate level of E. Asian contact consistent with market view of project development
 - Until fully defined, cost competitive project developed
 - Until market need for new, green field projects is established through demand growth - end of decade
- Stage 2 deliverable of ANS LNG market competitiveness analysis is ongoing
- Stage 2 analysis of non-traditional markets is ongoing

ECONOMIC ISSUES

- Key: become cost competitive with other E. Asian LNG projects at a sufficient economic return
 - ANS LNG Project
 - ✦ is not yet cost/market competitive
 - ✦ is not yet economic on a cost of capital basis
 - for the expected risk
- Considerable, additional efforts required
 - To reduce cost
 - To share cost or find other synergy
 - Reduce risk
 - To achieve meaningful fiscal modification (especially federal)

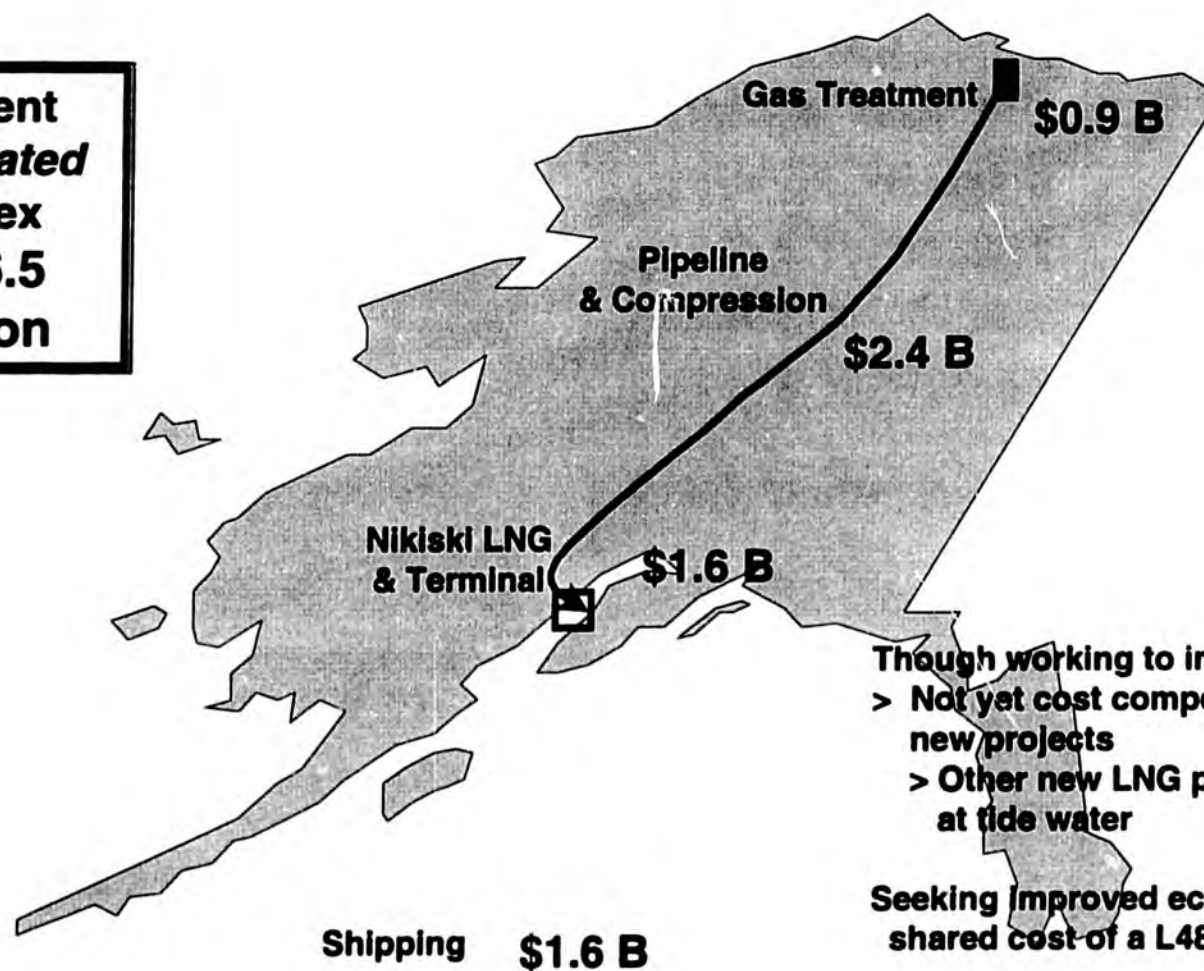
■ ***Axiom:***

- Project economic assumptions must be salable
 - ✦ Internally - to the investment community - to the suppliers and markets

ANS LNG Project

Current CAPEX Estimate

**Current
Estimated
Capex
~ \$6.5
Billion**

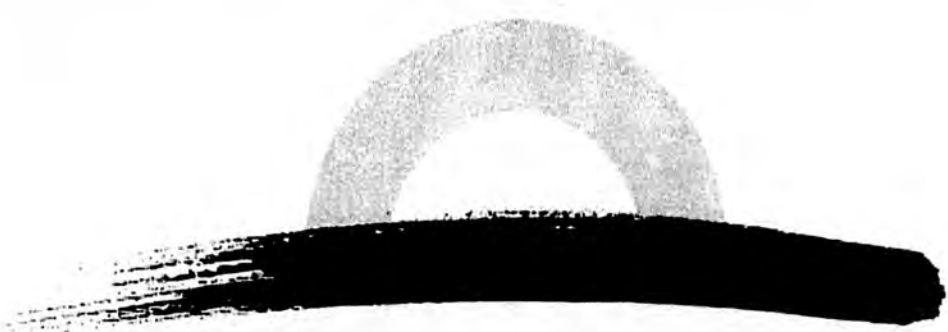


Though working to improve economics
> Not yet cost competitive with other new projects
> Other new LNG projects are already at tide water

Seeking improved economics with shared cost of a L48 pipeline

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ALASKA NORTH SLOPE LNG PROJECT



ALASKA NORTH SLOPE LNG PROJECT

- The ANS LNG Sponsor Group continues forward
 - Attempting to develop a cost competitive project
 - Being prepared but pragmatic about market timing

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ALASKA NORTH SLOPE LNG PROJECT

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Vision:

Natural Gas Business And Gas Trading Hub/Principles For ANS Gas

Presentation To:

Alaska House Oil And Gas Committee

Juneau, Alaska, March 13, 2001

Alaska Senate Resources Committee

Juneau, Alaska, March 14, 2001

Pacific Rim Leadership Development
Ken Thompson, President



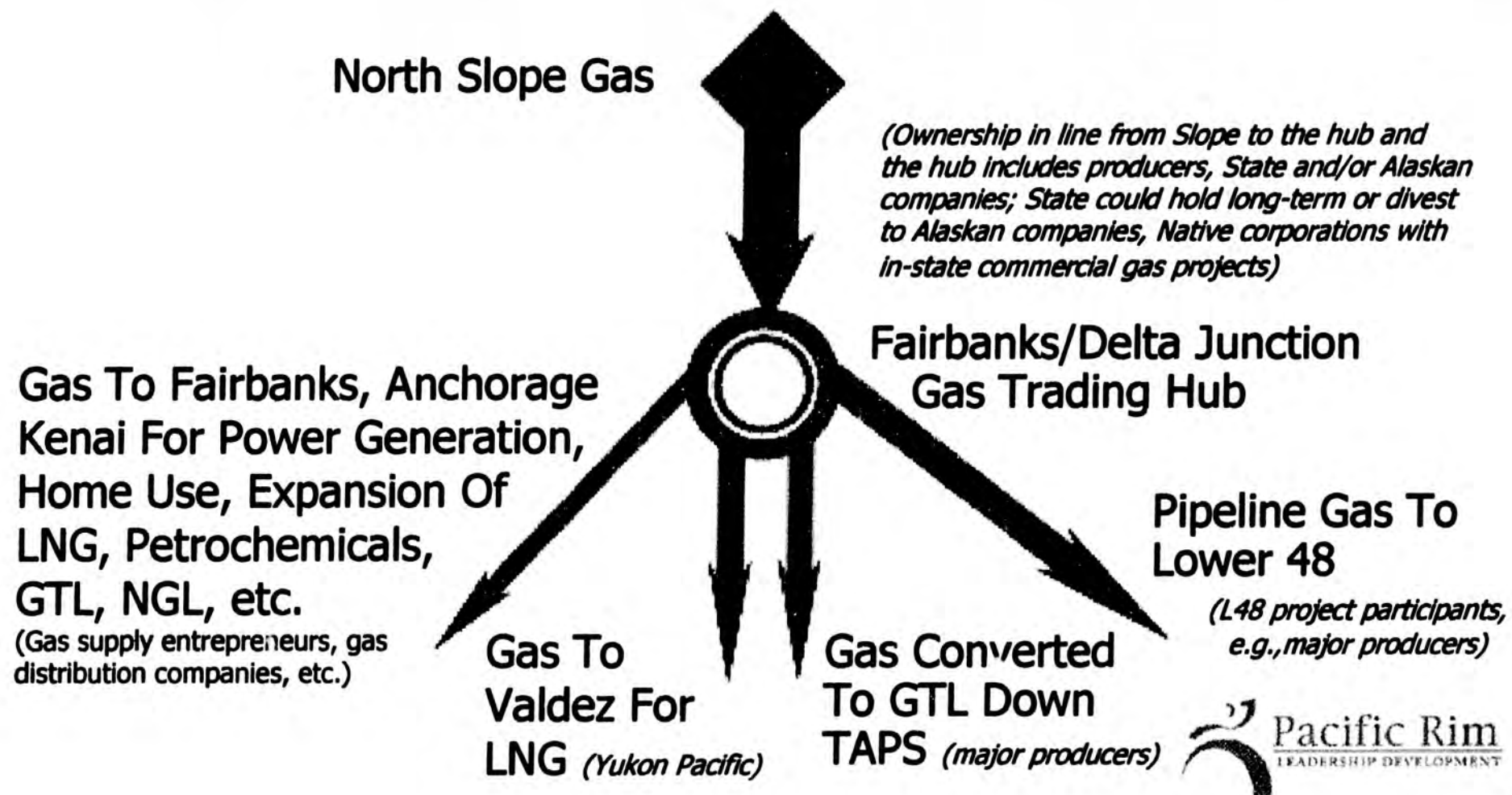
Gas Business Vision: Introduction

- Producers completing studies to create their gas "vision"
- State should proactively complete its separate studies to create a "vision" that's best for Alaskans long-term
- State could make big mistakes by waiting for the producers to finish their "vision", then State reacts
- Producers' and State's perspectives will differ
 - Producers must focus on discounted present value, rates-of-return
 - State must focus on 50 years of socio-economic benefit to the state
- What proactive "vision" for the State should be examined?
- Find win-win with producers

Gas Business Vision: Recommendations

- Gas pipeline traversing Alaska
- "Natural gas hub" near Fairbanks or Delta Junction:
physical facilities *and* contractual system
- State retain 12.5% royalty share of gas "in kind"
- State (or Alaskan companies) invest at least 12.5% share
in the gas pipeline from Slope to hub and hub facilities
- State formulate policies/regulations for clear and
transparent valuation/pricing of gas at the hub

Trading Hub and Natural Gas Business Vision With Future Multiple Markets Access



Gas Business Vision: Next Steps

- 2001: Resolution supporting principles of natural gas business in Alaska in conjunction with L48 gas line
- 2002-03:
 - 1) Regulations for clear, transparent netback pricing
 - 2) Rules for clear, transparent access for in-state use
 - 3) Rules for clear, transparent access for overseas markets
 - 4) State finalize decision of investment in line, gas "in kind"
- 2004-2006+: State attract investors for hub and/or spur lines, in-state distribution, city infrastructure, value added processing
- 2007: "GAS TO CASH" for Alaska, Alaskan companies, Alaskans!!!

Alaska Natural Gas Business
Coupled With Lower 48 Gas Line

Justification

Gas Pipeline Traversing Alaska

- Lower 48 market appears best currently, but cyclical
- Northern route holds Alaska gas "hostage" to one cyclical market long term
- Southern route along TAPS route and Alaska highway provides access to future multiple markets
 - Alaska internal markets
 - Asia, West Coast U.S.
- State and Producers will see different calculations for northern vs. southern routes
 - Producers must focus on discounted present value, rates-of-return
 - State must focus on 50 years of socio-economic benefit to the state
- Find win-win solution for route traversing Alaska

Natural Gas Trading Hub/Contracts

- Physical system and *contractual system*

Physical system

- Valves, manifolds that allow future pipelines to “plug in”
- Construct initially with pipeline hub near Fairbanks or Delta Junction to facilitate future markets’ access
- *Alternative:* spur lines to select markets

Contractual system (must happen even if physical hub does not)

- Trading hubs fundamental to physical gas distribution but also for clear, transparent trading and price valuation
- Numerous trading hubs in the Lower 48, Canada, UK, Europe, progressing in Asia

Natural Gas Trading Hub (continued)

- Assess regulations, guidelines, policies at such hubs for trading and netback pricing; institute at Alaska hub
- U.S., EU's Gas Directive, UK's Natural Gas Trading Arrangements are examples of regulations
- Formulate rules up front for access to in-state markets
- Access negotiations tougher later, when gas is flowing
- Precedence of NS facility access issues are negative

"Plug Into The Hub"

State Retain 12.5% Share "In Kind"

- Lease agreements allow royalty payment or taking gas "in kind"
- Allows state to market its own gas to validate best market pricing being obtained
- State could choose to contract to third party gas marketing firm (e.g., Williams Energy, Enron)
- State's 12.5% share of gas is substantial at 250-500 MMCFD if total production is 2-4 BCFD
- State's volumes could facilitate in-state use and new business creation for economic impact

State Invest 12.5% Share In Line/Hub

- State investment/transport in line from Slope to hub
- State contract with pipeline or Alaskan company for operational management of its investment share
- Best mechanism to accurately know and have input on transportation costs and operations
- Clear, transparent operating costs for valuation at hub
- State hold investment long term or divest to Alaska companies, Native corporations with in-state uses
- *Alternative:* if state does not invest, select Alaskan companies to invest 12.5% to transport State's gas
- Keeps more profits in state!

State Mandate Valuation/Pricing Policies

- Precedents in Lower 48, UK NG Trading Agreements, EU Gas Directive
- For taxation, netback pricing must be clear, transparent
- Avoid controversies, hearing, lawsuits of past oil pricing disagreements
- Direct involvement by State in its own share of gas allows clear, transparent market pricing at hub
- Valuation/pricing mechanisms, methodologies known up front rather than after gas flowing
- Win-win when known up front

Example Resolution Principles for Alaska - European Union Gas Directive

- Gas transmission, distribution interconnected, no barriers
- State(s) regulates gas business: nondiscriminatory, clear
- Fair and open access to the natural gas system
- Access to pipelines allowed under set of transparent rules
- Participants in the market will not abuse their dominant position nor engage in predatory behavior
- Participants have open, nondiscriminatory storage access
- Gas suppliers will compete freely for "eligible customers"

Gas Business Vision: Conclusions

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- "Natural gas hub" facilities Fairbanks or Delta Junction:
physical facilities *and* contractual system
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Alaska State Legislature

House of Representatives

Official Business

Office of the Chief Clerk

State Capitol, Room 216
Juneau, AK 99801-1182
Phone: (907) 465-3725
Fax: (907) 465-5334

MEMORANDUM

Date: February 1, 2001

To: House Special Committee on Oil and Gas

From: Suzi Lowell *SL*
Chief Clerk

Subject: Governor's Appointments

Speaker Porter referred the following Governor's appointment to the House Special Committee on Oil and Gas:

Alaska Oil and Gas Conservation Commission

Ms. Julie M. Heusser of Anchorage

Appointed: 10/20/2000 Reappointed: 12/31/2000

Term Expires: 12/31/2006

The resume and committee report are attached for your use.

Attachments as noted

*Schedule
for
hearing - soon*



Heusser, Julie M.
Oil and Gas Conservation
Commission, Alaska

Ms. Julie Heusser
Alaska Oil and Gas Conservation Commission
333 West Seventh Avenue, Suite 100
Anchorage, AK 99501-3539

(907) 793-1228 work phone

SUMMARY OF QUALIFICATIONS

Bachelor of Science degree in Petroleum Engineering from Colorado School of Mines, 1977.

20 years in the Alaska oil industry involved in a variety of both Anchorage and North Slope assigned engineering and operations projects for both British Petroleum (BP) and Atlantic Richfield (ARCO). Some of these projects were:

- Endicott Waste Investigation: General drilling, operations and reservoir engineering and well and facility operations expertise to evaluate drilling and operations waste handling practises at the Endicott Field, Duck Island Unit North Slope, Alaska.
- Acted as the lead in an interdisciplinary evaluation of the Prudhoe Bay Eastern Operating Area (EOA) Upstructure area with a subsequent proposal to Management which resulted in its initial development.
- Interdisciplinary project to identify, plan, drill and test a series prototype high-angle wells - the precursor to the current coiled tubing horizontal well. This included working closely with both internal and service company research personnel to develop/select innovative drilling fluids, logging equipment & techniques.
- During a politically strained time among the major Prudhoe Bay Unit owners, developed effective working relationships with representatives of other Prudhoe Bay Unit partners that resulted in the timely evaluation and consensus, co-owner approval of Western Operating Area (WOA) development plans, as well as, reservoir fluid movement.
- As a North Slope(N/S) field Annular Communication Engineer, effectively worked with N/S Production Operations, Anchorage Operations Engineering and the Alaska Oil and Gas Conservation Commission to insure all EOA Prudhoe Bay production and injection wells were operated within the internal ARCO, state and federal guidelines.
- Reserve analysis of ARCO's ownership of the Prudhoe Bay Field.
- Participation in several Prudhoe Bay Unit Long Range Plans, Five Year Plans, as well as, the evaluation of numerous Authorization for Expenditures.
- Economic evaluation of several major Prudhoe Bay Field expansion projects.

Extensive North Slope field experience including, but not limited to:

- Production Operations
- Production Engineering wellwork•Open & Cased hole Logging operations and analyses•Well Integrity operations•On-site troubleshooting, engineering analysis, containment and/or repair of both mechanical downhole tubular and wellhead integrity problems• Perforating• Coiled Tubing Cement Squeeze and Stimulation operations• Fullbore Stimulations/Squeeze/Pumping operations• Pad 3 Oily Waste Disposal Well Annual Testing for continuing certification•Surface and Subsurface Safety Valve Testing•Injection Well Mechanical Integrity Testing•PoorBoy and Conventional Gas Lift•Slickline, Electric Line and Coil Tubing operations•Well Testing•Fluid Sampling

Julie M. Heusser

CORRECTION

**THE FOLLOWING DOCUMENT(S)
HAVE BEEN REFILMED TO
ASSURE LEGIBILITY OR PAGINATION**



Central Microfilm Services
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State of Alaska

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Official Business

Alaska State Legislature

House of Representatives

Office of the Chief Clerk

State Capitol, Room 216
Juneau, AK 99801-1182
Phone: (907) 465-3725
Fax: (907) 465-5334

MEMORANDUM

Date: February 1, 2001
To: House Special Committee on Oil and Gas
From: Suzi Lowell *SL*
Chief Clerk
Subject: Governor's Appointments

Speaker Porter referred the following Governor's appointment to the House Special Committee on Oil and Gas:

Alaska Oil and Gas Conservation Commission
Ms. Julie M. Heusser of Anchorage
Appointed: 10/20/2000 Reappointed: 12/31/2000
Term Expires: 12/31/2006

The resume and committee report are attached for your use.

Attachments as noted

*Schedule
for
hearing - soon*
[Signature]

Heusser, Julie M.
Oil and Gas Conservation
Commission, Alaska

Ms. Julie Heusser
Alaska Oil and Gas Conservation Commission
333 West Seventh Avenue, Suite 100
Anchorage, AK 99501-3539

(907) 793-1228 work phone

SUMMARY OF QUALIFICATIONS

Bachelor of Science degree in Petroleum Engineering from Colorado School of Mines, 1977.

20 years in the Alaska oil industry involved in a variety of both Anchorage and North Slope assigned engineering and operations projects for both British Petroleum (BP) and Atlantic Richfield (ARCO). Some of these projects were:

- Endicott Waste Investigation: General drilling, operations and reservoir engineering and well and facility operations expertise to evaluate drilling and operations waste handling practises at the Endicott Field, Duck Island Unit North Slope, Alaska.
- Acted as the lead in an interdisciplinary evaluation of the Prudhoe Bay Eastern Operating Area (EOA) Upstructure area with a subsequent proposal to Management which resulted in its initial development.
- Interdisciplinary project to identify, plan, drill and test a series prototype high-angle wells - the precursor to the current coiled tubing horizontal well. This included working closely with both internal and service company research personnel to develop/select innovative drilling fluids, logging equipment & techniques.
- During a politically strained time among the major Prudhoe Bay Unit owners, developed effective working relationships with representatives of other Prudhoe Bay Unit partners that resulted in the timely evaluation and consensus, co-owner approval of Western Operating Area (WOA) development plans, as well as, reservoir fluid movement.
- As a North Slope(N/S) field Annular Communication Engineer, effectively worked with N/S Production Operations, Anchorage Operations Engineering and the Alaska Oil and Gas Conservation Commission to insure all EOA Prudhoe Bay production and injection wells were operated within the internal ARCO, state and federal guidelines.
- Reserve analysis of ARCO's ownership of the Prudhoe Bay Field.
- Participation in several Prudhoe Bay Unit Long Range Plans, Five Year Plans, as well as, the evaluation of numerous Authorization for Expenditures.
- Economic evaluation of several major Prudhoe Bay Field expansion projects.

Extensive North Slope field experience including, but not limited to:

- Production Operations
- Production Engineering wellwork•Open & Cased hole Logging operations and analyses•Well Integrity operations•On-site troubleshooting, engineering analysis, containment and/or repair of both mechanical downhole tubular and wellhead integrity problems• Perforating• Coiled Tubing Cement Squeeze and Stimulation operations• Fullbore Stimulations/Squeeze/Pumping operations• Pad 3 Oily Waste Disposal Well Annual Testing for continuing certification•Surface and Subsurface Safety Valve Testing•Injection Well Mechanical Integrity Testing•PoorBoy and Conventional Gas Lift•Slickline, Electric Line and Coil Tubing operations•Well Testing•Fluid Sampling

Julie M. Heusser

EMPLOYMENT HISTORY

•Self Employed Consulting Engineer

April '96 - Present

Endicott Waste Investigation

September '97 - March '00

Provided the primary engineering support for the British Petroleum Endicott Waste Investigation. This included general drilling, well and facility operations, reservoir engineering and operations engineering expertise to evaluate drilling and operations waste handling practises at the Endicott Field, Duck Island Unit, North Slope, Alaska.

Prudhoe Bay Annual Report to AOGCC

1Q'97 and 1Q'98

Compiled and generated the Prudhoe Bay Annual Waterflood and Miscible Gas Flood Reservoir Surveillance Report to the AOGCC for British Petroleum for the years 1996 and 1997.

Streamlined future annual reports through the creation of detailed, MS Excel spread sheet templates linked to other spreadsheets and the report verbiage.

OIAS Interface Documents North Slope Production Engineers

April '96 - January '97

Along with safety representatives of Alaska Petroleum Contractors, Co-developed/authored the British Petroleum Operations Integrity Assurance System (OIAS) interface document for the BPXA North Slope Production Engineers and the more than 10 service companies comprising the newly formed Well Service Alliance.

Developed/authored the OIAS interface document for the BP Coiled Tubing Drilling program.

•ARCO Alaska, Inc.

May '81 - July '94

Well Services Supervisor

January '93 - July '94

Onsite coordination and supervision of 6 - 10 conductor line service company personnel and contract labor in the Prudhoe Bay, Lisburne and Point MacIntyre fields.

Worked closely with service company engineers to successfully achieve the transition of increased service company involvement while reducing ARCO supervision during well work operations.

As part of the Well Services Team, worked closely with service company crews to heighten environmental awareness and improve spill prevention practices.

Julie M. Heusser

Senior Operations Engineer

October '82 - January '93

Annular Communication Engineer

October '89 - January '93

Onsite troubleshooting, engineering analysis, containment and/or repair of both mechanical downhole tubular and wellhead integrity problems.

Supervised 3 contract labor positions that routinely performed operations on numerous wells. In spite of the high volume of wells handled, this "Downhole Diagnostic" team worked together to achieve an exemplary record of zero spills and zero accidents for more than 2 years.

Oversight of the ARCO Prudhoe Bay Eastern Operating Area (EOA) and Lisburne Injection Well Mechanical Integrity program to fulfill both the state and federal Underground Injection Control program

Worked closely with British Petroleum counterparts to develop problem well "Best Practices".

Co-authored field manuals on problem well evaluation/testing and well sampling procedures.

Effectively worked with Anchorage Operations Engineering and North Slope Production Operations, and the AOGCC to insure all EOA production and injection wells were safely operated within the state, federal and internal ARCO operating guidelines.

Represented ARCO Production Operations and Operations Engineering during the required, annual, field evaluation operations of the Pad 3 Oily Waste Disposal Wells for 4 years. Due to the importance of the Pad 3 wells to the continued operation of the Prudhoe Bay Field, the complex job logistics and the need for effective interaction with on-site representatives from the AOGCC, EPA and ADEC, this responsibility was assigned to the same person year after year.

Workover/Stimulation Engineer

Oct. '86 - September '89

Effectively worked as an active member of the Workover/Stimulation team in the following capacity:

- Provided town and on-site engineering support of coiled tubing cement squeeze operations.
- Supported field capacity demands with rig and non-rig proposals.
- Tracked, compiled and analyzed all aspects of Non Rig Workover (NRWO) program which included procedures, philosophy, year end results, budget and cost issues.
- Involved in the initial formulation/evaluation of latex cements for coiled tubing squeeze operations.
- Interface representative between operations engineering and drilling groups regarding Rig Workovers (RWO's).

Field Development Engineer

Oct. '82 - September '86

Developed effective working relationships with BP and Exxon representatives (during Prudhoe Bay Unit politically strained times) that resulted in the timely evaluation and co-owner approval of Prudhoe Bay WOA Authorization for Expenditures, development plans, well proposals, drill & completes, workovers, stimulations, perforations, open and cased hole logging requirements.

Julie M. Heusser

Worked effectively with BP and Exxon representatives to develop a consensus understanding of fieldwide Prudhoe Bay reservoir fluid movement.

Acted as the lead person in an interdisciplinary evaluation of the Prudhoe Bay EOA Upstructure area with a subsequent proposal to Management which resulted in its initial development.

Participated in an interdisciplinary team to identify, plan and implement the six well, Upstructure Development "High-Angle Well" program - the precursor to the current coiled tubing horizontal well. This included the evaluation of innovative drilling fluids, innovative open hole logging equipment and techniques, and well testing.

On-site open hole logging, quality control and field log analysis of newly drilled EOA development wells.

Mentor to various junior engineers.

Reservoir Engineer

May '81 - September '82

Participated in Prudhoe Bay Full Field reservoir modeling and development planning, as well as, small scale reservoir modelling.

Participated in several Prudhoe Bay Unit Long Range Plan and Five Year Plan budget and planning processes.

Conducted Prudhoe Bay reserve analysis and full field economic evaluations.

•British Petroleum (Dyce, Scotland & Alaska)

July '77 - April '81

Reservoir Engineer

May '80 - April '81

Participated in Forties Field reservoir surveillance operations and reservoir modelling.

Field Petroleum Engineer

July '77 - April '80

Prudhoe Bay field Petroleum Engineering activities: Open & Cased Hole logging, testing, perforating, fullbore stimulations, equipment and well commissioning to bring the Prudhoe Bay Field on-line.

PERSONAL INFORMATION, EDUCATION & TRAINING

- Single, No Dependents, Born Anchorage, Alaska October 21, 1953
- Personal Interests: reading, various outdoor activities, performing arts, gardening, travel
- BS, Petroleum Engineering, Colorado School of Mines - May, 1977
- Various Industry continuing education courses.

phone contact : 279-1433

Julie M. Heusser

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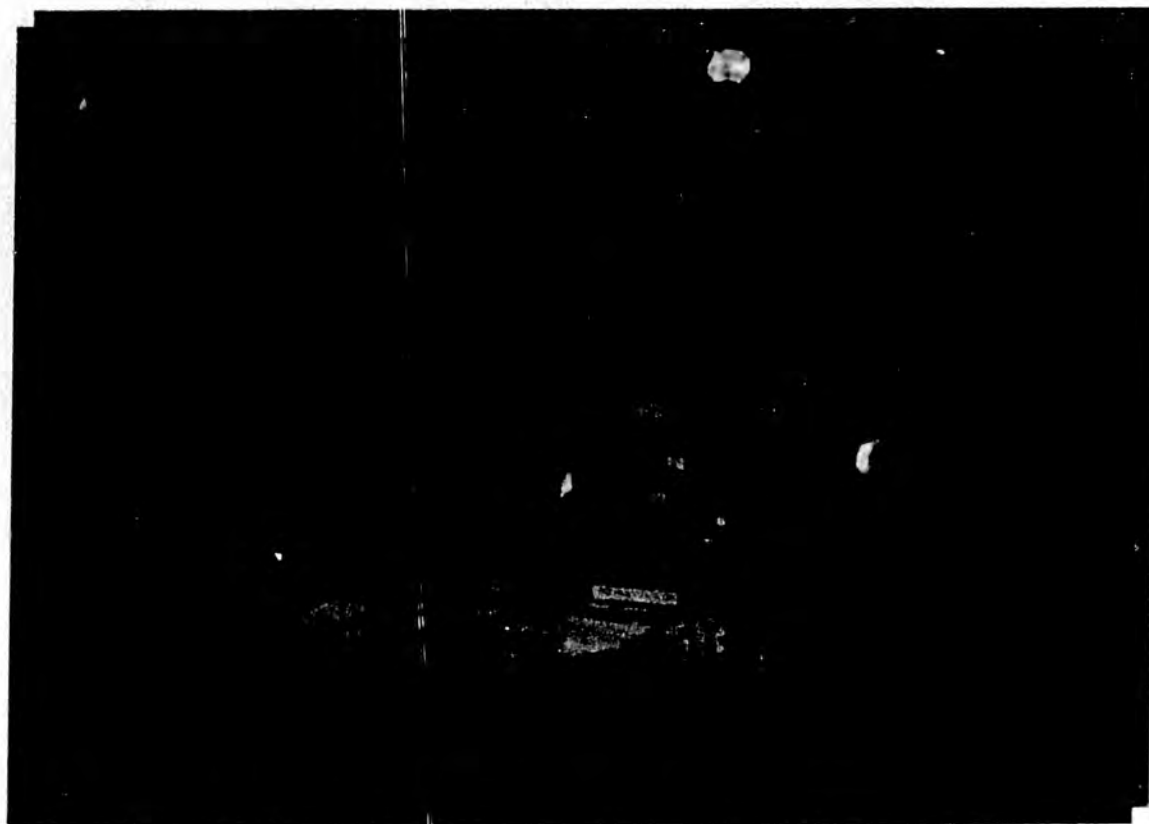
**Alaska Oil and Gas Conservation Commission
(AOGCC)**

House Oil & Gas Sub-Committee

March 23, 2001



**AOGCC
Summary**



West Macarthur Oil Field- Forest Oil Corporation

Alaska Oil and Gas Conservation Commission Outline

- **Introduction**
 - Mission
 - History
- **Function**
 - Primary Services
 - Customers
 - Operators and Other Owners
- **Key Initiatives/ Projects**
 - Permitting
 - UIC
 - Inspections
 - Field Studies
 - Electronic Data
- **Staffing**
- **Contacts**
- **Basic Drilling & Completion Operations**

Alaska Oil and Gas Conservation Commission (AOGCC)

Independent, quasi-judicial
agency

Established under the
Alaska Oil and Gas
Conservation Act (AS 31).



Regulatory authority-
outlined in Title 20,
Chapter 25 of the Alaska
Administrative Code.

Mission

**Protect the public interest in oil and gas resources.
The Oil and Gas Conservation Act requires all oil and
gas drilling, production and measuring operations to
be conducted in a manner that prevents physical
waste of the resource, promotes greater ultimate
recovery and affords all owners of oil and gas rights
an equal opportunity to recover their fair share of the
resource.**

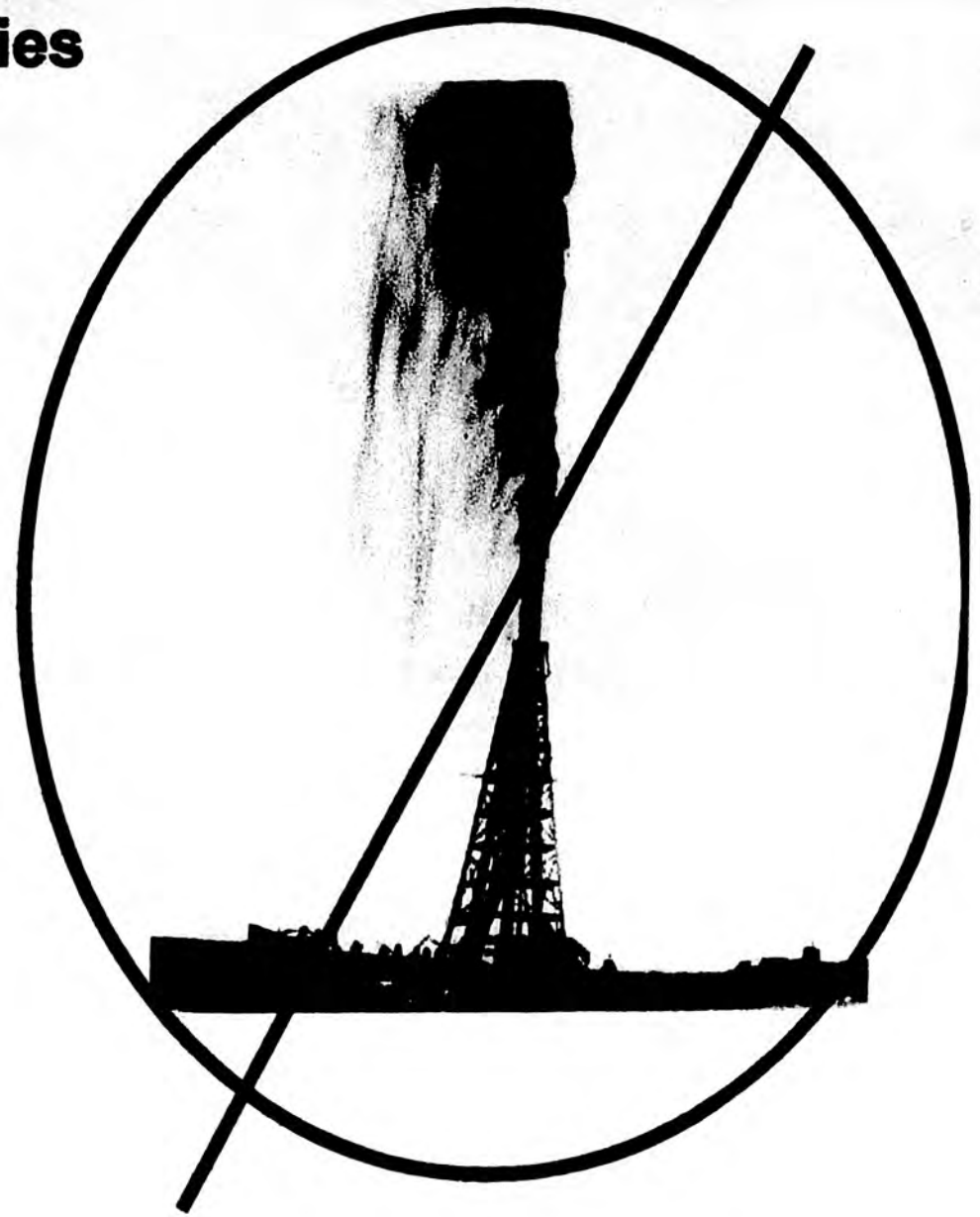
How Does AOGCC Fit In?

	Oil Company	DNR DO & G	AOGCC
Ownership of Resource	Lessee of Oil & Gas Lease (Has right to drill and produce)	Landlord & Lessor of Oil & Gas Lease	(Role is Regulatory, not proprietary)
Jurisdiction	Only on lands where they have right to drill and produce	State Land Only	State, Federal and Private lands
Economics	Profit Oriented	Manages State Owned Resources for Revenue & Other Value	Prevent Waste & Maximize Recovery
Net interest	Majority of Production	Minority of Production (Royalty)	None

AOGCC Goals and Strategies

PREVENT PHYSICAL WASTE OF THE RESOURCE

- **Evaluate drilling programs to ensure proper well design, construction and well control equipment.**
- **Inspect wells and drilling projects to verify compliance with approved regulations, procedures and safety requirements for drilling and production practices.**
- **Evaluate proposals for enhanced oil recovery, gas cap liquids recovery, and major gas sales.**



AOGCC Goals and Strategies (Continued)

ENSURE GREATER ULTIMATE RECOVERY

- **Analyze production data, including reservoir pressure, gas-oil ratios, water cut, etc., to ensure these variables fall within the accepted parameters necessary to provide for greater ultimate recovery.**
- **Review and approve development proposals, including plans for enhanced oil recovery operations.**

INDEPENDENTLY ASSESS OIL AND GAS DEVELOPMENT

- **Independently audit/verify that oil and gas exploration & development proposals are in compliance with the purposes and intent of Title 31.**

PROTECT ALASKA'S UNDERGROUND SOURCES OF DRINKING WATER

- **Provide engineering and geological review of all activities that affect potential sources of drinking water.**

AOGCC Goals and Strategies (Continued)

PROTECT CORRELATIVE RIGHTS

- **Provide all owners of oil and gas rights the opportunity to recover their fair share of the resource through well spacing provisions, permit review, and pooling authority.**

ADJUDICATE DISPUTES BETWEEN OWNERS

- **Provide a public forum to resolve disputes between owners.**

