Volume 1: The Facts

Natural Gas and Alaska's Future

ANCHORAGE CHAMBER of COMMERCE

Photo by Rob Stapleton, Jr.

Anchorage Chamber of Commerce 2005-06 Board of Directors

ELECTED BOARD MEMBERS

Mary Ann Pease*
2005-06 Chair
MAP Consulting
President

Barbara Cash*
RIM Design, LLC
President

Nick Coltman
Anchorage Press Newspaper
Publisher

William Evans*
Chair-Elect
Dorsey & Whitney LLP
Attorney

Joe Griffith
Griffith Enterprises
CEO

Morry Hollowell*
Vice-Chair
Yukon Equipment
VP/Alaska Manager

Tony Izzo*
ENSTAR Natural Gas Co.
President/CEO

Ron Kukes
Alaska First Community Bank and Trust
President/CEO

Edward Lamb
Alaska Regional Hospital
President/CEO

Shane Langland*
Immediate Past Chair
Eagle Enterprises, Inc.
President

Perry Merkel
Café Del Mundo
Owner

Phil Okeson
Hawaiian Vacations
Vice President

Kathleen Porterfield*
Treasurer
KPMG LLP
Managing Partner

Jamie Slack
VECO Corporation
Vice President & Manager,
Personnel

* Executive Committee members

George Vakalis*
Anchorage School District
Assistant Superintendent for
Support Services & Operations

APPOINTED BOARD MEMBERS

Andrew Van Chau
BP, Alaska
VP of External Affairs

Thomas Case
University of Alaska
Dean, College of Business and Public Policy

Suzanne Cherot
Birch, Horton, Bittner and Cherot
Managing Shareholder

Laurie Fagnani
Marketing Solutions
President

Pat Gamble*
President/CEO
Alaska Railroad

Mark Hanley
Anadarko Petroleum Corp.
Public Affairs Manager

Lindsey Holmes
Rise Alaska
Project Manager

Susan Kaer
Ramada Inn of Anchorage
Downtown
General Manager

Anne Reed
Thinking Machines, LLC
Principal

Dick Stallone
Stallone's Men's Store
Owner

Brian Wenzel
ConocoPhillips Alaska, Inc.
VP Finance Administration

EX-OFFICIO BOARD MEMBERS

Becky Beck
Anchorage Downtown Partnership
Executive Director

Chris Birch
Anchorage Assembly

Eric Britten
Horizon Lines
Manager, Business Planning
Past Board Chair

Bruce Bustamante
Anchorage Convention & Visitors Bureau
President/CEO

Maj Gen. Craig Campbell
Alaska National Guard

Brig. Gen. Hawk Carlisle
U.S. Air Force (Alaska)

Dick Cattanach
Associated General Contractors
Executive Director

Denali Daniels
Denali Commission
Program Manager

Maj. Gen. Charles Jacoby
U.S. Army Alaska

Margy Johnson
Office of the Governor
Director, International Trade

Denis LeBlanc
Municipality of Anchorage
Municipal Manager

Karen Matthias
Consulate of Canada
Consul

Bob Morigeau
Union Local 302, District 6
Operating Engineers Representative

Mort Plumb
Ted Stevens Anchorage International Airport
Director

Robert Poe
Anchorage Economic
Development Corporation
President and CEO

Sen. Ben Stevens
Alaska State Legislature
Senator

Dan Sullivan
Anchorage Assembly

Tom Williams
BP
Alaska Tax Counsel
Past Board Chair

Tom Wilson
PeopleMover
Director of Public Transportation

Staff Directory

Stacy Schubert
President
907-272-2401
info@anchoragechamber.org

Rebecca Hubbard
Vice President
907-677-7114
rebecca@anchoragechamber.org

Emily Ford
Government & External Affairs Manager
907-677-7105
emily@anchoragechamber.org

Gina Anderson
Communications Specialist
907-677-7110
communications@anchoragechamber.org

Mary Crowe
Administrative Assistant
907-272-2401
info@anchoragechamber.org

Laura Johnson
Membership Development Coordinator
907-677-7118
laura@anchoragechamber.org

Jennifer Anderson
Membership Administrator
907-677-7104
memadmin@anchoragechamber.org

Jessica Lord
Events Coordinator
907-677-7111
events@anchoragechamber.org

Mindy O'Neall
Membership Director
907-677-7112
membership@anchoragechamber.org

Sponsors

Alaska Trucking Association

American Fast Freight Inc.

Anchorage Economic Development Corporation

Associated General Contractors

Chevron

Dorsey & Whitney LLP

Dowland-Bach Corp.

First National Bank Alaska

Heller Ehrman LLP

Horizon Lines, LLC

KPMG LLP

Morrison Auto Group

NANA/Colt Engineering, LLC

Petrotechnical Resources of Alaska (PRA)

ProComm Alaska

Totem Ocean Trailer Express

UAA College of Business & Public Policy

To get updates on this continuing series, visit www.anchoragechamber.org
or stop by the office located at 441 W. 5th Avenue, Ste. 300.

Table of Contents

FOREWORD...iii

Chapter 1. Alaska's Natural Gas Resources...1

Chapter 2. Alaska's Present and Future Natural Gas Consumption...6

Chapter 3. Proposals to Develop North Slope Gas...13

Chapter 4. The Sponsors of the Different Proposals...19

Chapter 5. Government Regulation of the Gas Pipeline...28

Chapter 6. The Alaska Stranded Gas Development Act...32

Appendix...42

Endnotes...46

FOREWORD

This is the first of two volumes of a study of Alaskan natural gas by the State / National Affairs Committee of the Anchorage Chamber of Commerce. As its title indicates, this volume's focus is simply the facts — particularly, the facts about:

- how much natural gas Alaska has;
- how much Alaska currently consumes and is likely to need in the future;
- the various proposals on the table for developing the very large "stranded" gas resource on the North Slope and getting it to market;
- the parties making those proposals;
- government regulation of the Gas Pipeline
- the Alaska Stranded Gas Development Act under which one or more fiscal-terms contracts are being negotiated between the State and Gas Pipeline* sponsor(s).

The second volume of the study addresses economic and policy issues relating to Alaskan natural gas and the ways it could or should be developed.

The present volume is organized into chapters corresponding to the broad areas listed above. If you are already familiar with certain aspects of natural gas, you can skip over those chapters if you wish and just read the ones where you want to find out more. It has been the hope of the State / National Affairs Committee, however, that our presentations in all areas will include facts that even those with a fair degree of familiarity with the subject might not know, or might not readily call to mind.

A comment about footnotes: Generally, footnotes that document the sources of factual statements appear in the "Endnotes" at the back of this volume. Several times we felt it necessary to provide credible documentation of a factual statement with a footnote on the same page when the fact is at odds with popular belief. Footnotes that we believe would be helpful for readers in explaining or illustrating factual statements in the text usually appear at the bottom of the same page. In a few instances where particularly specialized or arcane points are involved, the explanations and illustrations have been placed in the "Endnotes" for the sake of the majority of readers who might find the additional information irrelevant or distracting, rather than helpful.

* *In this report the term "Gas Pipeline" refers to any natural gas pipeline that would be capable of transporting at least 2 billion cubic feet (2 Bcf) of natural gas a day from the North Slope. It is generic in the sense that it refers to any such pipeline regardless of the destination(s) it goes to and the route it takes to go there.*

The State / National Affairs Committee wishes to express its thanks to the staff of the Anchorage Chamber of Commerce for their assistance and support — especially to Emily Ford, the staff liaison to the Committee, and to Stacy Schubert, president of the Anchorage Chamber. Any errors or omissions that may be found in this report are not because of them. We also wish to thank Alaska Regional Hospital and the law firm of Dorsey & Whitney LLP for their generous kindness in hosting the Committee's meetings.

State / National Affairs Committee
Anchorage Chamber of Commerce
9 November 2005

CHAPTER 1.
ALASKA'S NATURAL GAS RESOURCES

How much natural gas does Alaska have?

The quick answer is no one really knows exactly how much natural gas Alaska has, but it's a lot — many tens, if not hundreds, of trillions of cubic feet (Tcf).* A better answer is to ask for a clarification of the question. Is it asking about just conventional sources of natural gas, where it is trapped in underground reservoirs either alone or in conjunction with crude oil? Or is it also asking about unconventional sources such as coal-bed methane† or gas hydrates in permafrost?[1]

Okay, then, how large is Alaska's conventional natural gas resource?

According to the latest estimates by the Department of Natural Resources (DNR), the conventional natural gas reserves that have already been discovered in the state are about 37 Tcf.[2]

The U.S. Geological Survey (USGS), using statistical analyses, has estimated the size of the technically recoverable, conventional oil and gas resources in the state that have not yet been discovered. Its mean (average) estimates of the undiscovered conventional natural gas resources in Alaska exceed 150 Tcf statewide.[3]

How large are the non-conventional resources?

The USGS has estimated that the natural gas hydrates in place in the permafrost on the North Slope could total as much as 590 Tcf, but cautions that not enough is known to estimate how much, if any, of this might be technically recoverable.[4]

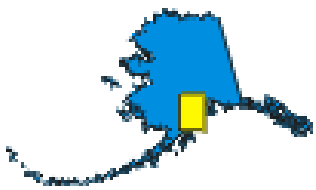
The statewide figures for coal-bed methane are even more sketchy, but perhaps even greater than for gas hydrates in permafrost. The question turns initially on how much of Alaska's coal contains methane, and if it does, how much it contains in a given volume of coal. More fundamentally, it turns on how big the state's coal resource is. In 1986 the state Division of Geological and Geophysical Surveys estimated the statewide economic coal resource at 1.2 billion tons[5] of measured resources, 13.7 billion tons of indicated and inferred resources, and as much as 3.7 trillion tons of hypothetical resources in mining districts known to have coal. It did not estimate hypothetical coal resources in other districts.[6] If there really are 3.7 trillion tons of coal in Alaska and if the incidence of coal-bed methane in coal fields in the Cook Inlet area is representative of its incidence statewide, the amount of coal-bed methane in place could be even greater than natural gas hydrates in permafrost.

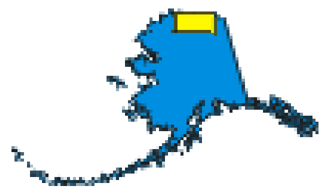
** A trillion (1,000,000,000,000) is a thousand billions, or a million millions. A cubic mile contains147,197,952,000 cubic feet (= 5,2803) or 0.147197952 Tcf, so 1 Tcf is a little more than 6.79 cubic miles — that's a cube over 1.89 miles wide, over 1.89 miles long, and 10,000 feet high.*

† The primary component of natural gas is methane, a hydrocarbon chemical whose molecules each contain one carbon atom and four hydrogen atoms (CH_4). Thus coal-bed methane is virtually the same as conventional natural gas. The only difference is that methane essentially is the only hydrocarbon found in coal-bed methane, whereas conventional natural gas usually has various amounts of other hydrocarbons mixed with the methane, such as ethane with a molecule comprised of two carbon atoms and six hydrogens(C_2H_6), propane (C_3H_8), butane (C_4H_{10}) and perhaps traces of even more complex hydrocarbons. By the way, at atmospheric pressure (14.7 pounds per square inch) methane, ethane and propane boil at -259° F., -127.5° F. and -43.8° F., respectively, and so they are always in a gaseous state in people's everyday experience with them — hence the word "gas" in the term "natural gas."

Where is all this natural gas located?

While there are a fair number of regions around the state with the potential to contain natural gas, natural gas has been discovered in commercial quantities in only two areas: Cook Inlet (left) and the North Slope (right).





How much natural gas is there in the Cook Inlet area?

Approximately 1.43 Tcf of proven conventional natural gas reserves as of the end of 2005.[7]

13 – 17 Tcf of yet-to-be-discovered conventional gas reserves, according to a 2004 report published by the U.S Department of Energy (DOE).[8]

7 Tcf of technically recoverable coal-bed methane according to DOE,[9] but development of this resource is controversial because of widely feared land-use conflicts that development could have with the many residential and commercial owners of the surface estate to the lands involved.

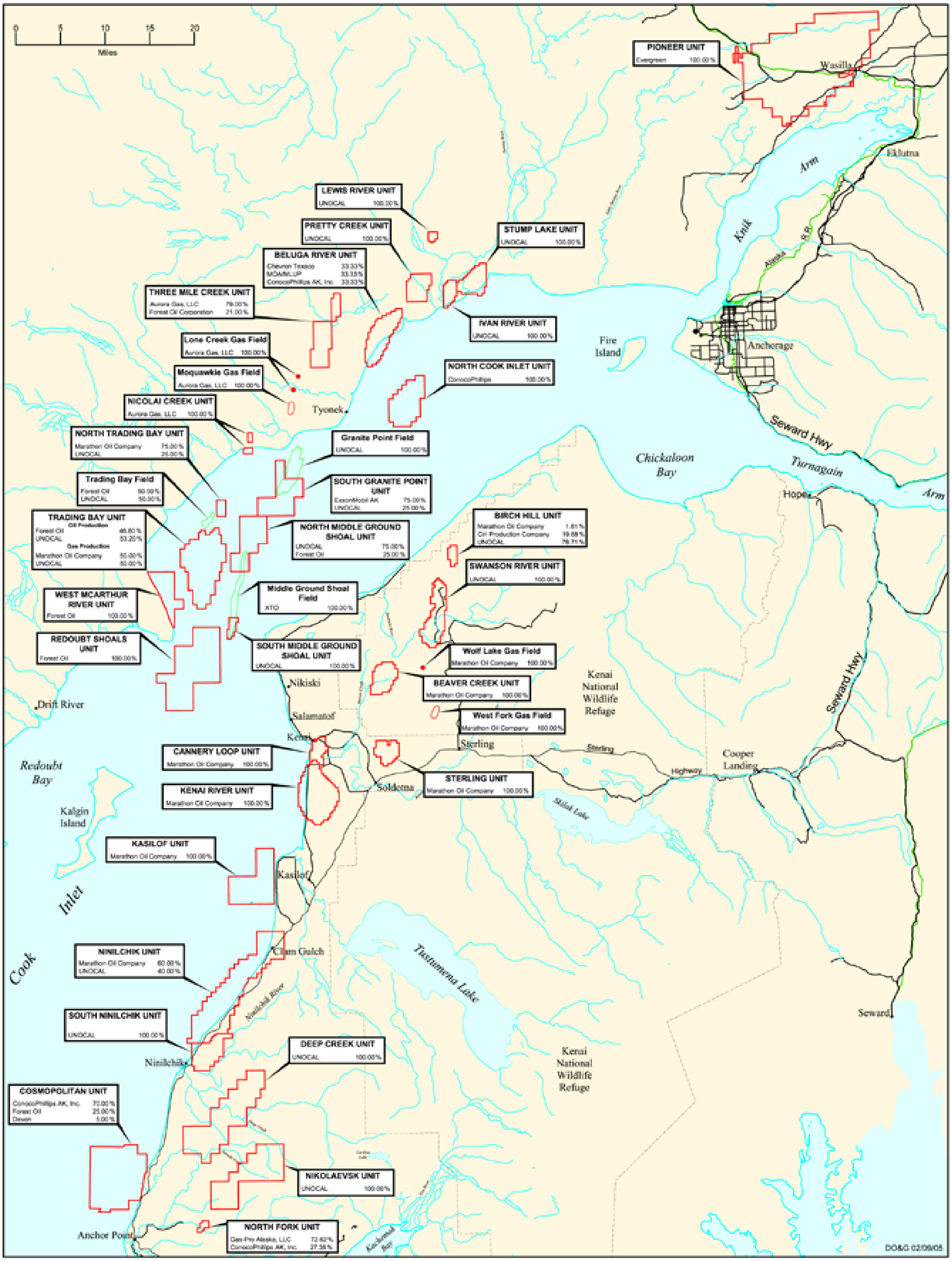
Where are the gas fields located in the Cook Inlet area?

On the next page is a map showing their locations (the boundaries of gas fields and units* containing gas fields are shown in red; oil fields are in green).

The map on the following page can also be found at: http://www.dog.dnr.state.ak.us/oil/products/maps/cookinlet/images/ci_pool_ownership_02_05.pdf.

** When a field in Alaska lies beneath two or more leases, those leases are almost always "unitized" — that is, the lessees and the State as lessor enter into an agreement to treat the field as if all the leases that it lies under were one big lease or "unit." This unit agreement establishes how much of the field's oil and gas production is deemed to originate from each of the leases, in proportion to the relative quantity of recoverable oil and gas estimated to be under each one. This ensures that the lessees in each lease receive their rightful shares of the production regardless which lease it might actually be originating from at any given time, and it further allows the reservoir to be developed and operated as a whole. It also ensures that the State receives the proper share of production as its royalty, since not all leases have the same percentage for state royalty. Without unitization, the "law of capture" (i.e., you own what you produce) could apply in which field development is a free-for-all with each lease or tract being developed and drilled as quickly as possible in order to drain as much oil and gas from its neighbors as it can, without regard to maximizing total recovery from the field. The clichéd movie footage showing drilling rigs standing toe to toe and oil wells pumping away just a few feet apart illustrates the inefficient and ultimately ruinous way fields can be developed under the "law of capture" without unitization. In fact, the very concept of unitization originated in reaction to the gross physical waste of the resource that repeatedly occurred under an unchecked "law of capture" approach.*

Cook Inlet Oilfield and Pool Ownership



How much natural gas is there on the North Slope?

35.417 Tcf of proven conventional natural gas reserves in discovered fields (DNR).[10]

143 Tcf of conventional gas reserves estimated to be in fields that have not yet been discovered (USGS).[11]

Up to 590 Tcf in natural gas hydrates in permafrost (unproved technology required: only a fraction may be recoverable) (USGS).[12]

No published estimates of the potential for coal-bed methane on the North Slope were found, but the estimated coal in place on the Slope is as high as 3.5 trillion short tons.[13] If that coal resource has the same incidence of coal-bed methane per ton of coal as the coal resource in the Cook Inlet area, the potential coal-bed methane on the North Slope might be as large the natural gas hydrates in permafrost there or even larger.[14]

Where are the gas fields located on the North Slope?

Attached at the end of this document is a map showing the field locations and the percentages of ownership in each one. Because it is scaled for 17" x 11" paper, the map cannot be conveniently displayed as part of the text here but is included at the end of this document.

Who owns* the proved natural gas reserves on the North Slope?

The "Big 3" — BP, ConocoPhillips and ExxonMobil — own 94.3% of the proven North Slope natural gas reserves. The table below shows DNR's latest (2004) estimate of the proven natural gas reserves of each field on the Slope, as well as these companies' respective ownership interests in each field ("<" means "less than").[15]

Field	Reserves (Tcf)	BP %age	Conoco-Phillips %age	Exxon-Mobil %age
Barrow gas fields	0.034	-	-	-
Colville River Unit	0.400	-	78	-
Duck Island Unit/Endicott field	0.843	68	<1	21
Kuparuk field	1.000	39	55	<1

* *It is often said that the State owns the oil and gas reserves on the North Slope. Clearly the State owns the land where the gas fields are, but just as clearly it has leased that land to the oil companies and, in doing so, has given them the sole and exclusive rights to explore for, develop, and produce oil and gas from that land under the terms and conditions set out in the leases. We leave it to the attorneys and legal theoreticians to argue whether, after entering into the leases, the State technically still owns the oil and gas in place underground or the companies do. Our point is, either way, the companies' legal interests in the oil and gas reserves under the leases are sufficiently real that the State can tax, and has taxed, those interests as if the companies own the reserves instead of the State. Under former AS 43.58 ("Oil and Gas Reserves Ad Valorem Tax") the State collected almost half a billion dollars in FY1976-77 from all the then-known oil and gas reserves in the Cook Inlet area and Prudhoe Bay. See, e.g., DOR, Fall 2000 Revenue Sources Book (December 2000), p. 91, Appendix I ("Historical Petroleum Revenue") for the reserve tax collected. It is in this latter sense that "own" is used here.*

Field (cont.)	Reserves (Tcf)	BP %age	Conoco-Phillips %age	Exxon-Mobil %age
Kuparuk R. Unit – Tarn	0.050	39	55	<1
Kuparuk R. Unit – West Sak	0.100	39	55	<1
Milne Point Unit	0.014	100	-	-
Northstar Unit	0.450	100	-	-
Prudhoe Bay field	23.000	26.36	36.07	36.39
PBU* – Lisburne	1.000	26.36	36.07	36.39
PBU – Niakuk	0.026	26.36	36.07	36.39
PBU – Pt. McIntyre	0.500	26.36	36.07	36.39
Point Thomson	8.000	29	-	53
TOTAL	**35.417**	**29.0%**	**27.7%**	**37.7%†**

** PBU stands for Prudhoe Bay Unit.*
† The companies' percentage totals appearing in the table do not add up to 94.3% due to rounding.

CHAPTER 2. ALASKA'S PRESENT AND FUTURE NATURAL GAS CONSUMPTION

How much natural gas do Alaskans consume each year?

During the last five years for which published information[16] is available, consumption of natural gas from the Cook Inlet area* has been:

Year	Consumption (Tcf)
1999	0.2134
2000	0.2089
2001	0.2108
2002	0.2022
2003	0.2004
TOTAL	**1.0357**
Average	0.2071 Tcf per year

What is this natural gas being consumed for?

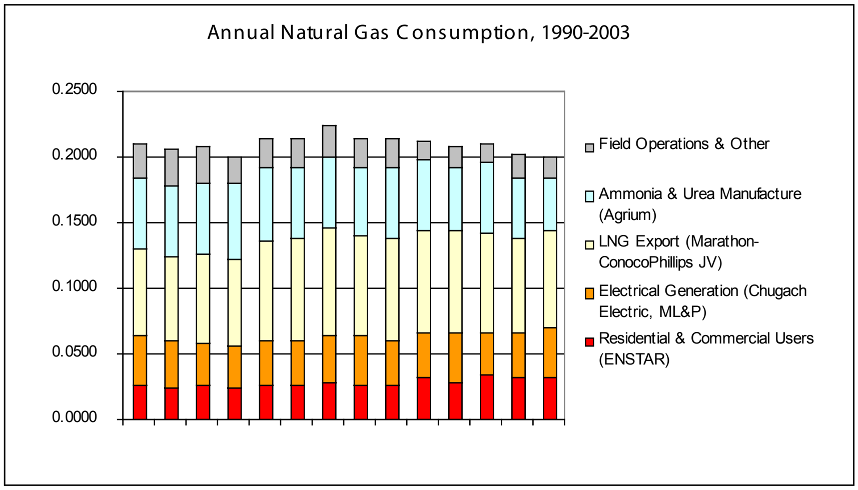
Natural gas is being consumed for five basic things:

- residential and commercial use (customers of ENSTAR Natural Gas Co.),
- generating electricity (Chugach Electric Association and the Municipality of Anchorage's electric utility, Municipal Light & Power),
- manufacturing fertilizer (Agrium's ammonia and urea plant at Nikiski on the Kenai Peninsula),
- export as liquefied natural gas (the Marathon-ConocoPhillips LNG plant at Nikiski), and
- field operations and minor miscellaneous uses.

How much natural gas is consumed each year for these purposes?

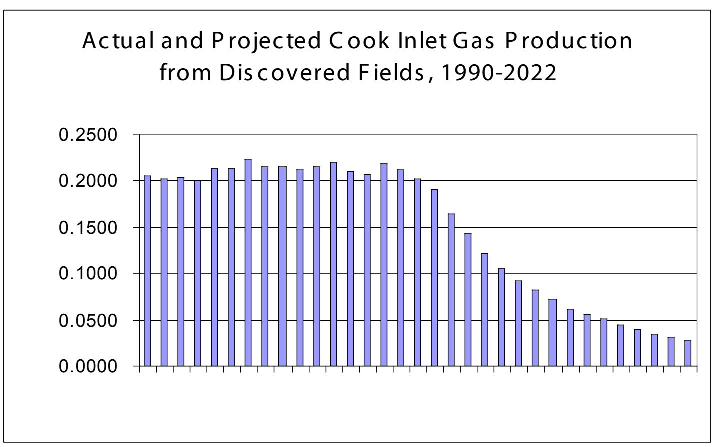
On the next page is a graph showing the annual natural gas consumption in each of these sectors during the years 1990 – 2003.[17]

* *Apart from local use of the Barrow gas fields, consumption of natural gas on the North Slope historically has been, and remains, almost exclusively by the petroleum industry for its operations, and so it is omitted from the following discussion of Alaskan historical and current consumption.*



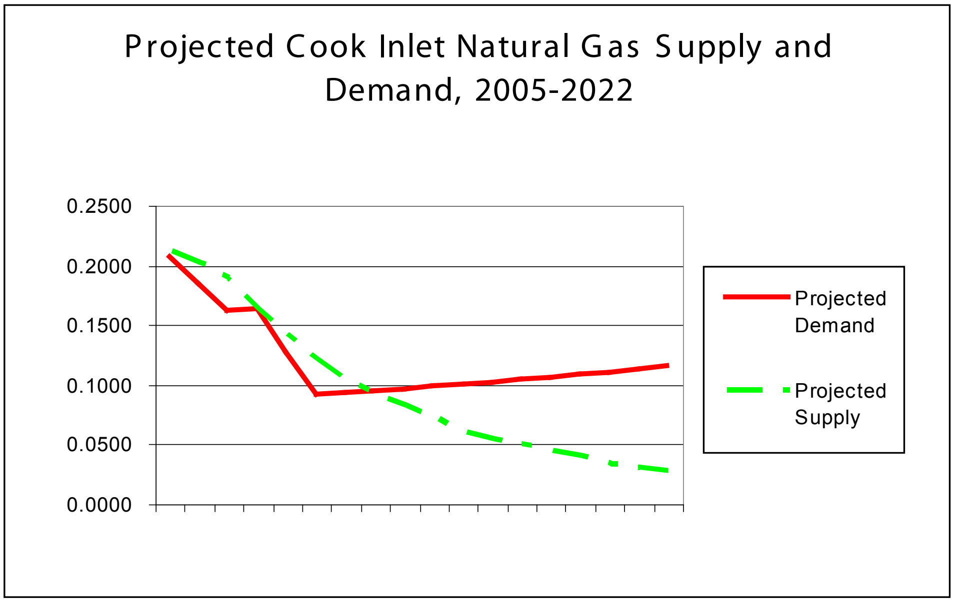
In Chapter 1 the figure of 1.43 Tcf was given as the remaining proved natural gas reserves in the Cook Inlet area. But reserves figures are totals for how much is ultimately recoverable. How much natural gas production from the Cook Inlet area is actually available each year?

Here is a graph showing the actual natural gas production in the Cook Inlet area from 1990 to 2002 and DNR's projected production from discovered fields for the 20-year period from 2003 to 2022.[18]



The production forecast looks like there is about to be a major shortage of natural gas in Southcentral Alaska. Is this correct?

Yes, there will be a serious shortage if nothing is done about it. If we assume that the Agrium plant operates as they say at half capacity (0.024 Tcf) until November next year and then closes down,* that LNG exports will stop in mid-2009 when the present export license expires,† that demand for natural gas to generate electricity grows at the same 1.4%-a-year rate that it grew by during the decade from 1993-2003,[19] and that residential and commercial demand for natural gas will grow at its 3.2% annual rate over that same period,[20] then when we overlay that projected demand for natural gas on top of the projected natural gas supply from the graph above, we get the following:



Why is production falling off so rapidly like this?

The fields in production have been in production for a long time (almost 40 years or more for the major fields), and most of the natural gas that can be produced from them has already been produced. This is compounded by the fact that, as gas is produced from a field, its removal from the reservoir reduces the pressure of the gas that remains there, and lower reservoir pressure means less force pushing the gas into the wells and up to the surface. The result is slower and slower flow rates from each producing well.

Can anything be done to slow this production decline?

Yes, for the existing gas fields there are two ways of slowing their decline. One is to

** This is not an assumption to be taken lightly. If it comes true, it will mean 230 of some of the best and highest-paid jobs (annual payroll $19,289,000) in the Kenai Peninsula Borough will have disappeared by November 2006, and a significant asset ($1.5 million a year in property taxes) will come off the Borough's property tax rolls. Anchorage Daily News (15 December 2004).*

† This, too, is not to be taken lightly, for the same reasons for not taking the shut-down of Agrium's fertilizer plant lightly.

offset the slowing flow rates from each well by drilling more wells. The problem with this is that more and more wells have to be drilled each year to offset the decline in flow rates for all the wells that have already been drilled. Eventually the production gain from drilling new wells to offset the slow-down from the existing ones will start to cost too much to justify more drilling. The largest fields may already be at or approaching this point of diminishing returns for new drilling.*

The second way to slow the decline of the existing fields is to extend them by drilling wells near the edges of the reservoirs where the gas-bearing rock becomes thin. New drilling techniques developed on the North Slope allow wells to be drilled horizontally with great precision over long distances underground, enabling production from sands with too little vertical thickness to be developed by conventional up-and-down drilling. The chief problem with horizontal drilling is it's not cheap.† [21]

Is there anything else that can be done to maintain the supply of natural gas?

Yes, there are at least three possibilities for doing this. One is to explore for new conventional gas fields in the Cook Inlet area. The fields that have been discovered were almost all found in the course of drilling for oil.[22] Historically there has been very little exploration in and around Cook Inlet looking specifically for natural gas, except recently. As noted above, a 2004 DOE-published report estimates that 13 – 17 Tcf in conventional gas fields remain to be discovered in the region.[23] Again, however, the challenge is cost: it is considerably more expensive to drill an exploratory well than a conventional one because the drilling rig and all the supplies and support have to be hauled or flown in to a remote site. This cost challenge is compounded by the fact that there is always a substantial risk that an exploratory well will be a dry hole despite the best available data and technology.‡

A second possibility is to develop the estimated 7 Tcf of nonconventional natural gas resources — specifically coal-bed methane — that have been discovered and are known to exist in the Cook Inlet area. The problem with this is that significant areas with coal-bed methane potential are already developed with homes and businesses,

---

** Natural gas prices affect when this point is reached, however. If natural gas consumers will pay a higher price in order to maintain the supply, the available supply can be maintained by drilling new wells for a longer period of time. How long it can be maintained depends in large part on how much they will pay.*

† These first two alternatives — drilling more wells and drilling out to the periphery of the reservoir — may account for the historical fact that estimates of recoverable reserves from Cook Inlet gas fields have tended to increase as time passes even though little else has changed for the fields. This phenomenon also occurs in the Lower 48. Obviously, estimating recoverable reserves is not an exact science capable of precise estimation, and this no doubt also contributes to the tendency to initially underestimate reserves. For historical data about this phenomenon in the Cook Inlet setting, see the endnote accompanying this footnote.

‡ Of the 240 exploratory wells drilled in and around Cook Inlet from 1955 through 2003, 28 discovered natural gas in paying quantities — a success rate of only 11.7 percent. Thomas, Doughty, Faulder & Hite, South-Central Alaska Natural Gas Study (DOE: June 2004), p. 48, Table 2.1 ("Oil and gas exploration wells and gas field discoveries in Cook Inlet, 1955 to 2003").

and there is considerable fear and opposition to coal-bed methane because of environmental impacts of the techniques for producing it and because of potential land-use conflicts between the existing surface uses of the lands and the development of this subsurface resource in the same lands.

The third possibility is to bring natural gas into the Cook Inlet region for consumption. This could be done, for instance, by replacing the existing LNG plant at Nikiski, which converts natural gas into LNG for export out of the state, with a facility that does the opposite — it would take LNG delivered to the LNG dock there and regasify it back into normal gaseous natural gas.[*] As an alternative to such an LNG regasification project, or in conjunction with it, natural gas from the North Slope could be delivered to the Cook Inlet either by a spur line running from the main Gas Pipeline,[†] or by a "Bullet Line" running directly from the North Slope[‡] to the Cook Inlet area if there isn't any main Gas Pipeline or there isn't one anytime soon.[**]

All of these alternatives sound expensive. Are they?

Yes, but the real issue is not how expensive these choices are, but how expensive they are relative to other options that energy consumers in the Railbelt have.[††] If there is an alternative that is less expensive than natural gas, then consumers will prefer that alternative. The cost of the lowest-cost alternative will tend to put a strong limit on how expensive natural gas can get in the Railbelt.

** LNG is a liquid so long as it is kept below the boiling point of methane: –259° F. So regasification of LNG into normal natural gas would simply involve adding enough heat to it for it all to boil back into the natural gas equivalent of "steam." The most readily available source of heat would be the waters of Cook Inlet, which — although cold to us at 35° to 40° — are extremely hot compared to LNG. The exchange of heat between this "hot" water and the cold LNG would cool the water, and to avoid having it freeze and become difficult to handle, very large quantities of water would have to be used to regasify the LNG. This means there would be environmental issues about the design of the facility to remove safely from the Inlet the huge volume of water that would be needed, and about thermal pollution from the discharge of all that cooled water back into the Inlet.*

† Here at last we get to the point where issues of supply and demand for natural gas in the Cook Inlet area intersect with the issues surrounding a Gas Pipeline from the North Slope.

‡ It would also be possible — before a Gas Pipeline from the North Slope is built — to build a standalone "mini-Bullet" pipeline to Cook Inlet that initially doesn't move any North Slope gas, but only ships gas there from either the Nenana Basin or the Copper River Basin instead. Once such a "mini-Bullet" is built, it could later be used to carry North Slope gas to the Cook Inlet area when the Gas Pipeline from the Slope is built.

*** The questions of what the State could do to make sure a Gas Pipeline does get built so that such a situation would not arise, or what it should do if the Gas Pipeline isn't built despite the State's efforts, are subjects for Volume 2 of this report.*

†† It is appropriate to speak of the Railbelt here, instead of only the areas in Southcentral where natural gas is delivered. This is because electricity generated by burning natural gas can go by interties to communities from Homer and Seward to Fairbanks, and that's the entire Railbelt.

What are the alternatives to natural gas?

Primarily fuel oil and coal. People can heat their homes and businesses with either one, and both can be burned instead of natural gas to make the steam that spins the dynamos to generate electricity.

Alternatives to fuel oil and coal include electric generation through wind power and hydroelectricity. Wind power offers a partial solution that should not be overlooked. A wind-farm on Fire Island, for instance, could generate 50 – 100 megawatts depending on how many turbines are installed and how large they are. Some of this electricity could be available even when the wind isn't blowing, because it could be used to lift water up to the reservoirs behind the hydroelectric dams in Southcentral, and that water could be run through the dams to generate electricity even when the wind has stopped. It appears that the monetary cost of wind-powered electric generation would be less than fuel oil- or coal-powered generation, and with far less associated environmental impacts.

Hydroelectric power is environmentally clean and quite inexpensive once it is up and running, but building a dam is devastating for the valley behind it that gets flooded. Dam building is also notoriously expensive. There used to be a quip about it that circulated in Washington, DC about 25 years ago: "There's pork, and then there's PORK … [pause] … and then there's DAMS!" with the last word spoken rapturously.[24]

How expensive are the alternatives to natural gas … apart from dams?

According to ENSTAR, using its new natural gas prices for 2006 and the price of fuel oil in October 2005, natural gas for its 324,000 customers (120,000 gas meters) would cost consumers $202,577,708 a year while an equivalent amount of energy from fuel oil would cost them $709,147,867 a year — more than three times as much, and an increased cost of more than half a billion dollars a year.[25] That would be a huge burden on Alaskan businesses and residents alike.

These figures, stunning as they are, are low. They do not include the one-time costs of converting over from natural gas to fuel oil, which could be substantial and would be incurred all at once and at the front end. They also do not include any secondary effects on consumers that would arise from similar increases in the electric utilities' costs of switching over from natural gas to fuel oil to generate their electricity.

What about coal? How expensive would it be?

Because coal has not been used very much recently in Alaska, it is hard to find useful data about what it would cost. ENSTAR president Tony Izzo has said he personally believes coal would likely be at least as expensive to convert to as fuel oil, if not more so.[26] The consensus of the State / National Affairs Committee shares this opinion with Mr. Izzo.

What about new industry that uses natural gas, either in the Cook Inlet area or in the Interior around Fairbanks?

It is entirely possible, indeed probable, that new industry could be attracted to Alaska if there are ample supplies of natural gas available at a competitive price.

One possibility that has been talked about for 25 years[27] or more is a petrochemicals industry (perhaps extending to plastics) with feedstocks from hydrocarbon components[*] in North Slope natural gas other than methane.

It is impossible to quantify reliably the likely demand for natural gas that a new industry might have that doesn't exist here yet. Any predictions for new demand of this type would necessarily be results only of the assumptions that are made about the size, scope and nature of the new industry(s), which could be almost anything the modeler making the prediction wants.[†]

There will, however, be two major constraints on any new industry like petrochemicals that might be created in conjunction with a Gas Pipeline from the North Slope. One is market-based: in general it is significantly more efficient to ship raw material long distances and ship manufactured product short distances, than to do it the other way around. Thus any new industry in Alaska involving manufacturing from natural gas feedstocks will have to fall within some niche that is an exception to this general economic rule. The other is a pragmatic constraint that arises under the regulatory process: in the FERC "open season" to reserve space in the Gas Pipeline, who will make the irrevocable "hell or high water" take-or-pay commitment in order to reserve pipeline capacity "on spec" for new gas-based industries in Alaska that don't currently exist?[‡]

* *Specifically, these potential petrochemical feedstocks are ethane, propane, butane and any more complex hydrocarbons that may be entrained in the natural gas. Among the plastics/petrochemicals that could be manufactured from these feedstocks are ethylene (petrochemical) and polyethylene (plastic), propylene (petrochemical) and polypropylene (plastic), and butylene (petrochemical).*

† *This is a lot like the situation described by the late comedienne Anna Russell: "Things could be so different if they weren't as they are."*

‡ *The regulatory system that gives rise to this challenge is discussed in Chapter 5 of this volume, while the policy issues it raises are discussed in Volume 2.*

CHAPTER 3. PROPOSALS TO DEVELOP NORTH SLOPE GAS

What are the current proposals for developing North Slope natural gas?

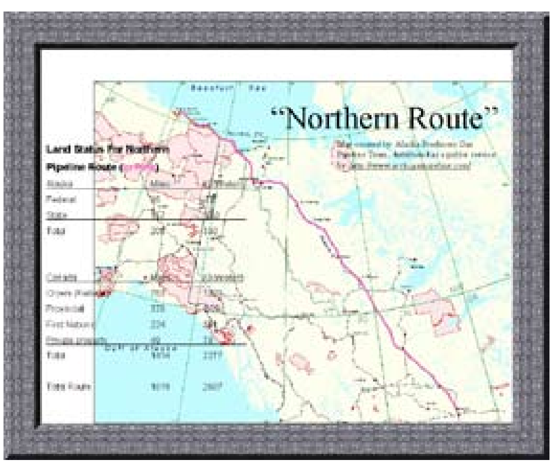
The proposals fall into three major categories, with “variations” in each:

- a Gas Pipeline from the North Slope through Canada to the Lower 48
- an “All-Alaska” Gas Pipeline from the North Slope to Valdez, where it would be super-refrigerated into LNG and taken to markets outside Alaska in LNG marine tankers
- a “Spur Line” to take natural gas from one or more off-take points on the main Gas Pipeline (whichever route it takes) and deliver that gas to customers and users in Alaska.

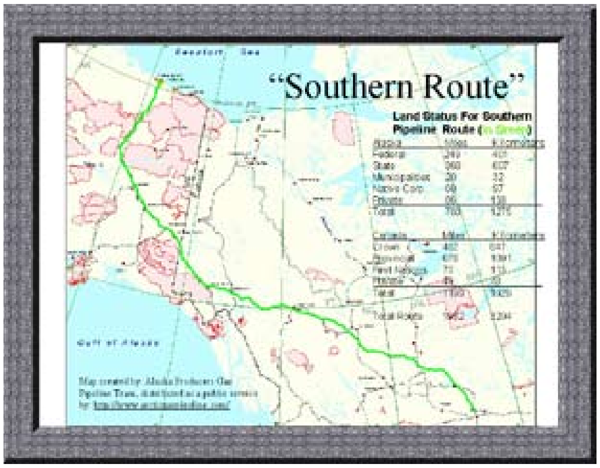
What are the “variations” on a Gas Pipeline to the Lower 48?

For Alaska purposes, the two principal variations are the “Northern Route” to the Lower 48 and the “Southern Route.”

The “Northern Route” would originate in the Prudhoe Bay Unit and move offshore into the Beaufort Sea, where it would parallel the coastline eastward into Canada to the Mackenzie River Delta, where substantial natural gas reserves (potentially 20 Tcf)[28] have already been discovered. If a pipeline southeastward up the Mackenzie River Valley is already built for these Canadian reserves by the time the “Northern Route” line from Alaska is built, the “Northern Route” would terminate at the junction with that Mackenzie River pipeline. If the Mackenzie River reserves are not developed by then, the “Northern Route” pipeline itself would continue up the Mackenzie River Valley to Alberta, and presumably would be linked up to the Mackenzie gas reserves to carry them to Alberta along with the natural gas from Alaska’s North Slope. Here is a map showing the full “Northern Route” from Prudhoe Bay to Alberta.



The “Southern Route” would also originate in the Prudhoe Bay Unit, but it would parallel the Dalton Highway southward to Fairbanks[29] and then parallel the Richardson and Alaska Highways* from Fairbanks through the Yukon and extreme northeastern British Columbia into Alberta. Here is a map of this “Southern Route.”



Of less significance for Alaska than the choice between “Northern” and “Southern” routes is a further choice about how to get the natural gas to the Lower 48 once it arrives in Alberta. One possibility is to reroute the pattern of natural gas flows in the existing Canadian pipelines that carry currently Alberta gas to markets in Canada and the Lower 48. The rerouting would be done so as to maximize the capacity in those existing lines for Alaska North Slope gas to get to the Lower 48.† An alternative possibility would be to build a new pipeline from Alberta that would link to the existing Lower 48 pipeline infrastructure near Chicago.

Who is proposing a Gas Pipeline to the Lower 48?

The “Big 3” producers (BP, ConocoPhillips and ExxonMobil) are jointly proposing a Gas Pipeline to the Lower 48. They support the “Southern Route” but do not rule out the “Northern Route” as a possibility because it would be 343 miles (17.5%) shorter.[30] ‡ With

* *Although the highway between Fairbanks and Delta Junction is often thought of as the Alaska Highway, it is actually the Richardson Highway. The Alaska Highway runs from the Alaska-Yukon border to Delta Junction and ends there. See Morris Communications Co., The Milepost (57th ed. Anchorage, AK: 2005), pp. 203-207 (Alaska Highway from the border to Tok Junction), 216-219 (Alaska Highway from Tok Junction to Delta Junction), 462-476 (Richardson Highway from Valdez to Delta Junction), and 476- 481 (Richardson Highway from Delta Junction to Fairbanks).*

† *It is possible that some incidental looping (i.e., installation of pipe paralleling existing pipe) or expansion of existing pipelines in Canada would need to be done in order to eliminate bottlenecks.*

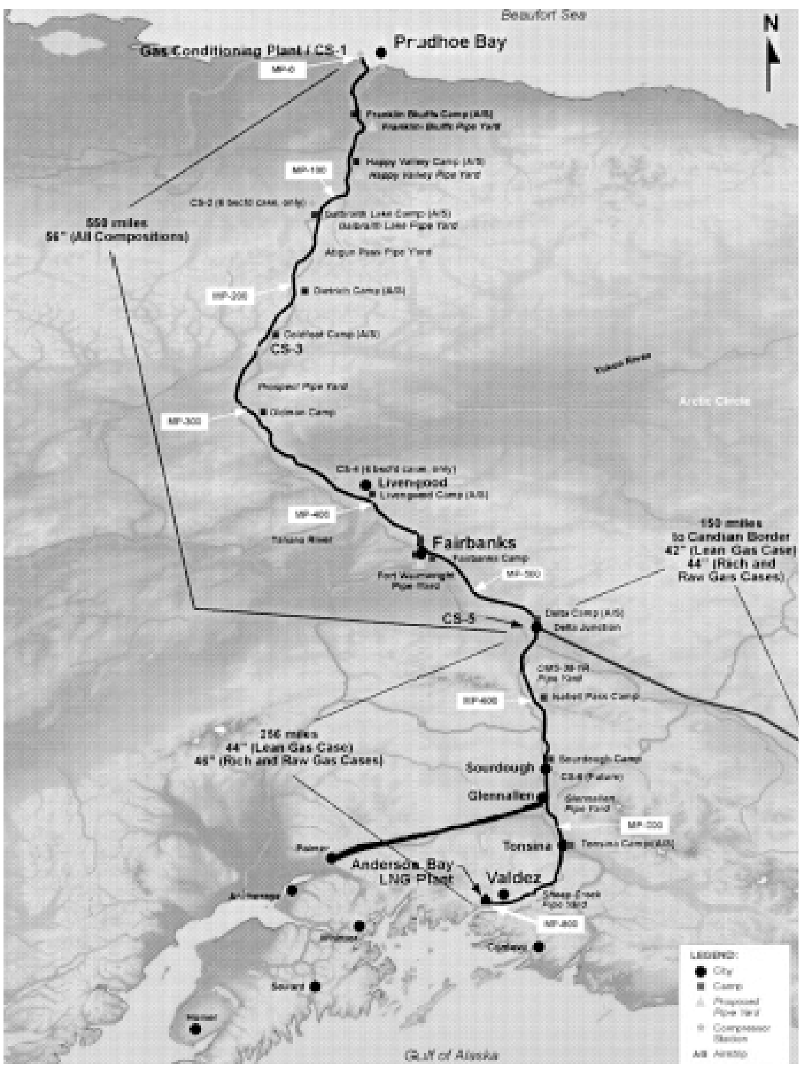
‡ *The “Big 3” acknowledge that the “Northern Route” is not currently a legal possibility. AS 38.35.- 017(b) and (c) prohibit the granting of a pipeline right-of-way across state lands for a “Northern Route” pipeline unless and until a “Southern Route” pipeline is built first. Since the State owns the lands at Prudhoe Bay and all along the entire coast east to the Canadian border, it would be impossible to build a “Northern Route” pipeline without crossing state land. Thus state law, by prohibiting a right-of-way for it, effectively bars the “Northern Route” at this time. The “Big 3” have not discarded the “Northern Route” option primarily because of cost. The steel that is planned for either route will weigh over 1,000 pounds <u>per foot</u> of length, and the 343-<u>mile</u> difference in length between the “Northern” and “Southern” routes represents a lot of steel.*

respect to getting the natural gas from Alberta would build a new pipeline from Alberta to the Chicago area as part of their project unless it would be more efficient and economical to use existing pipelines between Alberta and the Lower 48 if they can accommodate the Alaska gas.

The other proponent of a Gas Pipeline to the Lower 48 is TransCanada, the largest natural gas pipeline company in Canada. It is proposing a "Southern Route" pipeline only, and since it owns most of the existing pipelines between Alberta and the Lower 48, it proposes to reroute gas movements through them to accommodate Alaskan gas rather than build a new pipeline from Alberta to the Lower 48.

What are the "variations" on the "All-Alaska" Gas Pipeline?

The "All-Alaska" route would originate in the Prudhoe Bay Unit and run parallel to the trans-Alaska oil pipeline to Valdez then jog to the east to Anderson Bay. Here is a map[31] showing this basic route along with two of the possible "Spur Lines."



The "variations" on this route turn on whether or not any pipelines branching off from this main route would be part of the initial Gas Pipeline project, and if so, which branch or branches would be included in it. In addition to the basic "no-branch variation," one possible branch is a "Y" branch that would be a trunk line from Delta Junction running eastward along the Alaskan Highway to the Canadian border where it would connect to a Canadian pipeline running from the border along the Alaska Highway to Alberta and perhaps the Lower 48, which would be built in coordination with the Alaskan one but as a separate project (shown on the map on the preceding page). This is called a "Y" branch because there would effectively be two main lines — one to Valdez and an LNG plant there, and the other through Canada to Alberta and the Lower 48 — that split to form an upside-down "Y" at Delta Junction. Other possible branches include a "Spur Line" from Glennallen west along the Glenn Highway to the Matanuska Valley (shown on the map on the preceding page), and one from Fairbanks along the Parks Highway to the Susitna Valley (not shown on that map).

The "All-Alaska" proposals currently being advanced include an LNG plant in or near Valdez as part of the initial Gas Pipeline project, but none of them includes any LNG marine tankers that would be needed to ship LNG from Valdez.[32] Because of the need to keep LNG super-cold so it stays in liquid form instead of boiling into gas, ordinary tankers are not suitable to transport LNG and could not be used.* Apparently the sponsors of the "All-Alaska" proposals are expecting the purchasers of the LNG at Valdez to provide the tankers to take the LNG out from Valdez, as well as any regasification facilities that may be required at the destinations that the tankers deliver the LNG to.

Is anyone proposing an "All-Alaska" Gas Pipeline from the North Slope to the Cook Inlet area instead of Valdez?

No, not at this time. The closest any proposal currently being considered comes to this is the "Bullet Line" proposed by the Alaska Natural Gas Development Authority (discussed at the end of the chapter).

Who is proposing an "All-Alaska" project?

Currently the highest-profile sponsor of an "All-Alaska" route is the Alaska Gasline Port Authority.

The Alaska Natural Gas Development Authority is still theoretically interested in building an "All-Alaska" Gas Pipeline, but has more recently refocused its attention on building a "Spur Line" if such a line is not part of the Gas Pipeline project that initially moves forward,† and

* *Methane, which is by far the dominant component of natural gas and LNG, boils at –259° F. at atmospheric pressure. Although this boiling point does rise at higher pressures, conventional tankers are not built to carry cargo under significant pressure, so the operating temperature for the LNG during shipment on a conventional tanker probably would still have to be –200° or colder. Conventional tankers have neither the insulation nor the heavy-duty refrigeration equipment to maintain a cargo at such extreme temperatures.*

† *The "Big 3" are not proposing to build a "Spur Line" as part of their project, but have expressed willingness to deliver gas from their project to such a "Spur Line" if someone else builds it. Thus the Alaska Natural Gas Development Authority's interest in a "Spur Line" is basically in response to the project being proposed by the "Big 3."*

on building the "Bullet Line" if no Gas Pipeline project moves forward soon.[33]

What is the "Spur Line" and the alternatives for it?

The "Spur Line" is simply any of several possible pipelines that would receive natural gas delivered from the main Gas Pipeline, and then transport and deliver that gas in state for consumption and use.

The principal alternatives for the "Spur Line" are

- a pipeline running from Fairbanks parallel to the Parks Highway to the Susitna Valley where it would connect to the existing natural gas infrastructure serving the Cook Inlet area,
- a pipeline running from Glennallen parallel to the Glenn Highway to the Matanuska Valley where it would connect to the existing Cook Inlet natural gas infrastructure,
- a "Y Line" splitting off from an "All-Alaska" line at Delta Junction as a major pipeline that would link up with a new but separate Canadian gas pipeline at the border, which would then run along the Alaska Highway to Alberta and thence link to the Lower 48.

The "Parks Highway" route would be a possibility whether the main Gas Pipeline took the "Southern Route" to the Lower 48 or the "All-Alaska" route to Valdez, whereas the "Glenn Highway" route is primarily associated with the "All-Alaska" route. However, the Alaska Natural Gas Development Authority believes a "Spur Line" could be run from Delta Junction along the Richardson and Glenn Highways to the Matanuska Valley via Glennallen even if the main Gas Pipeline is the "Southern Route" to the Lower 48.[34]

Who is proposing which "Spur Line" alternatives?

***Alternative 1*. The "Spur Line" parallel to the Glenn Highway from Glennallen to the Matanuska Valley**

- The Alaska Gasline Port Authority proposes to build this as part of its initial "All-Alaska" Gas Pipeline project.
- The Alaska Gas Development Authority is also examining building this "Spur Line" if an "All-Alaska" Gas Pipeline is built.

***Alternative 2*. The "Spur Line" parallel to the Parks Highway from Fairbanks to the Susitna Valley**

- ENSTAR Natural Gas Company, the Southcentral gas utility, has received federal grant money to examine the possibility of this "Spur Line." The Alaska Gas Development Authority does not currently have statutory authority to plan, build, finance or operate or operate a "Spur Line" along this route,[35] but its enabling statutes could be amended to allow for this.[36] Thus ENSTAR and the Authority might team up to build this line, with the Authority actually building and operating it and ENSTAR reserving capacity during the "open season."

***Alternative 3*. The "Y" trunk line splitting off from the main "All-Alaska" line at Delta Junction, which would run along the Alaska Highway to the Canadian border and there link with a separate Canadian pipeline running to Alberta and the Lower 48**

- The Alaska Gasline Port Authority is proposing this "Y Line" as part of its initial project for an "All-Alaska" pipeline.

***Alternative 4*. The "Spur Line" parallel to the Richardson and Glenn Highways from Delta Junction via Glennallen to the Matanuska Valley**

- The Alaska Gas Development Authority has taken a preliminary look at this "Spur Line" as a possibility if the main Gas Pipeline follows the "Southern Route" to the Lower 48.

What is the "Bullet Line"?

The "Bullet Line" is a natural gas pipeline that would be built only if there is no main Gas Pipeline, or if the main line is not started fairly soon. It would run parallel to the Dalton and Parks Highways from the North Slope all the way to the Susitna Valley and the existing natural gas infrastructure there. In theory this route could also be taken by the main Gas Pipeline, but no one currently is actively proposing this route for the main line.[*] The chief difference between such a main line and the "Bullet" is capacity: a main Gas Pipeline would still be designed to carry 2 – 4.5 billion cubic feet (Bcf) a day from the North Slope, whereas the "Bullet Line" would carry enough to meet firm in-state demand of up to 1 Bcf a day or so.[†] The Alaska Natural Gas Development Authority proposes to start building the "Bullet Line" if no major Gas Pipeline project gets under way in the near future, and the primary reason for the "Bullet" is to ensure that the Railbelt will continue to have an appropriate supply of natural gas. Once built, the "Bullet Line" could be looped and expanded, if and as the need arose, so that it might eventually become the equivalent of a main Gas Pipeline.

Is anyone beside the Alaska Natural Gas Development Authority considering the "Bullet Line"?

No. This is not to say, however, that the Alaska Gasline Port Authority[‡] would refuse to consider building the "Bullet," but merely that the Port Authority does not have it under active consideration at this time.

** The Alaska Natural Gas Development Authority has statutory authority to pursue a main Gas Pipeline from the North Slope to tidewater at Cook Inlet. See AS 41.41.990(3) (defining "project" for the Gas Development Authority). As the main text that follows says, the "Bullet Line" is effectively a scaled down version of a main Gas Pipeline to Cook Inlet.*

† To accommodate the volume that would be shipped through such a main Gas Pipeline to the Cook Inlet area, either the existing LNG facilities at Nikiski on the Kenai Peninsula would have to be expanded, or a new LNG plant and dock would need to be installed, or some new major industry(s) using natural gas as feedstock or fuel would have to locate in the Cook Inlet area.

‡ The Alaska Natural Gas Development Authority and the Alaska Gasline Port Authority are the only two proponents of an "All-Alaska" Gas Pipeline that are currently active.

CHAPTER 4. THE SPONSORS OF THE DIFFERENT PROPOSALS

Who are the sponsors of the different proposals that are currently active (more about each one below)?

The currently active sponsors are:

The Alaska Gasline Port Authority

The Port Authority is proposing to build a Gas Pipeline along the "All-Alaska" route (parallel to the trans-Alaska oil pipeline) from the North Slope to Valdez. It proposes to include in its initial project a "Spur Line" from Glennallen to the existing natural gas grid in the Matanuska Valley. The Port Authority is willing to arrange a pre-build capacity in the Gas Pipeline between the North Slope and Delta Junction for a "Y Line" through Canada should another party be interested in developing a line from Delta Junction through Canada.

The Alaska Natural Gas Development Authority

Like the Port Authority, the Gas Development Authority was created to build an "All-Alaska" Gas Pipeline, and currently it is actively exploring options for the "Spur Line" and, if necessary, the "Bullet Line."

The "Big 3" oil companies in Alaska — BP, ConocoPhillips and ExxonMobil

They are proposing to build a Gas Pipeline to the Lower 48 along the "Southern Route" to Alberta. They propose also to build a new pipeline from Alberta that would link with the Lower 48 pipeline grid near Chicago. The "Big 3" are the only parties still considering a "Northern Route" as well, which they have not ruled out because it would be significantly shorter than the "Southern Route" and would require a lot less steel. However, they recognize that present state law does not allow a "Northern Route" pipeline to be built across state lands until a pipeline following the "Southern Route" is built first.

TransCanada

This Canadian company is also proposing to build a Gas Pipeline along the "Southern Route" to Alberta, but proposes to use as much as possible existing gas pipelines from Alberta to the Lower 48 instead of building a new pipeline.[37]

What is the Alaska Gasline Port Authority?

It is a legal entity created 5 October 1999 by the North Slope Borough, the Fairbanks North Star Borough and the City of Valdez after the voters in all three municipalities approved its formation in local elections that month. It has received a private letter ruling[38] from the Internal Revenue Service confirming its status as a "political subdivision" for purposes of the Internal Revenue Code. This status means that the interest on bonds issued by the Port Authority would be tax-exempt for the bondholders.[39] It means also that the Port Authority would not report or pay federal income tax on its earnings and profits from the Gas Pipeline it builds.[40]

The Port Authority is headed by a board of directors comprised of nine members, three chosen by each municipality. The representatives of the North Slope Borough are Harrold Curran, Dennis Roper and Richard Glenn. Those of the Fairbanks North Star Borough are Borough Mayor Jim Whitaker, Joe Thomas and Barbara Schuhmann. Those of the City of Valdez are City Mayor Bert Cottle, David Cobb and John Kelsey. Mayor Whitaker is chairman of the board, Mayor Cottle is secretary, and Mr. Cobb is secretary.[41]

What is the Alaska Natural Gas Development Authority?

It is a political subdivision of the State of Alaska that was created by a voter initiative that passed in the general election of 5 November 2002. The organizers of the initiative called themselves Citizens for an All-Alaska Gasline Initiative and were led by Scott R. Heyworth of Anchorage.

In addition to Mr. Heyworth, the Authority's board members are David W. Cuddy, John T. Kelsey, Robert W. Stinson and Daniel A. Sullivan of Anchorage, Robert C. Favretto of Kenai, and Andy Warwick of Fairbanks. They were all appointed by Governor Frank Murkowski.[42] The Authority's executive director is Harold Heinze, former president of ARCO Alaska, Inc.* and former commissioner of natural resources during Governor Walter J. Hickel's second term (1990-94).†

The initiative creating the Gas Development Authority authorizes it to plan, construct, finance and operate a main "All-Alaska" Gas Pipeline from the North Slope to tidewater either on Prince William Sound or Cook Inlet. It also authorizes the Authority to plan, construct, finance and operate the "Spur Line" from Glennallen to the Matanuska Valley and existing natural gas infrastructure.[43]

* *For readers who have arrived in Alaska since 2000, ARCO Alaska, Inc. (AAI) was the operator of the eastern half of the Prudhoe Bay Unit and of the entire Kuparuk River (Kuparuk field and satellites) and Colville River (Alpine field) Units. AAI briefly became a subsidiary of BP Amoco p.l.c. (now just "BP p.l.c.") upon BP's acquisition of Atlantic Richfield Company, AAI's parent, on 18 April 2000, and on 26 April 2000 AAI was sold to Phillips Petroleum Company pursuant to a consent decree with the Federal Trade Commission approving BP's acquisition of Atlantic Richfield. Phillips Petroleum Company merged with Conoco Inc. to form ConocoPhillips on 30 August 2002, and today AAI — which still operates the Kuparuk River and Colville River Units, but not the eastern half of the Prudhoe Bay Unit (BP became the sole operator of the Prudhoe Bay Unit as part of its acquisition of Atlantic Richfield in 2000) — is named ConocoPhillips Alaska, Inc.*

† *If you don't recall ARCO Alaska, Inc. and found the preceding footnote informative, then you should know that Walter J. Hickel served as the State's second governor from 5 December 1966 until 24 January 1969, when he resigned to become secretary of the U.S. Department of the Interior for President Richard M. Nixon. On 2 May 1967, not quite five months into that first term, Governor Hickel flew to the North Slope with Harry Jamison, Atlantic Richfield's head man for Alaska, to see a new wildcat well that Atlantic Richfield and its partner Humble Oil and Refining Co. (later renamed Exxon Corp.) had just started drilling, which was about to suspend operations for the summer. Governor Hickel told Mr. Jamison that there are huge reserves of oil and gas on the North Slope, that someday there would be pipelines stretching across Alaska to bring that oil and gas to market, and that he had a good feeling about this well. One must recall that this was after the U.S. Navy had drilled unsuccessfully in Naval Petroleum Reserve No. 4 (now National Petroleum Reserve – Alaska) during a 10-year period following World War II, and after the oil industry had drilled a series of expensive dry holes on the North Slope in the foothills of the Brooks Range, and nothing close to being commercially developable had yet been found anywhere on the North Slope. The well was Prudhoe Bay State No. 1, and after drilling resumed that fall, it discovered the Prudhoe Bay field — which is the largest field in North America in terms of oil reserves and in terms of gas reserves — on 19 December 1967.*

Although the IRS has not been asked to issue a letter ruling to this effect, the Gas Development Authority is a "political subdivision" of the State of Alaska[44] like the Alaska Gasline Port Authority. As a "political subdivision" of the State, the interest on the bonds that it issues should be tax-exempt for the bondholders and its own earnings and profits should be exempt from federal income tax, the same as the letter ruling said for the Alaska Gasline Port Authority.

Who are the "Big 3"?

The "Big 3" are ExxonMobil Corporation, BP p.l.c., and ConocoPhillips. Exxon Mobil and BP are two of the world's three so-called "super major" oil companies, with the third being Royal Dutch Shell p.l.c. By most standards the "super majors" stand significantly apart from the other "major" oil companies. ConocoPhillips, although not the next largest after the "super majors," is definitely among the "majors" as the table below shows.[45]

Category	Exxon-Mobil Corp.	Royal Dutch Shell p.l.c	BP p.l.c.	TOTAL S.A.	Chevron Corp.	Conoco-Phillips	Eni S.p.A.
Market Capitalization ($Bn) [a/]	355.0	207.2	234.6	154.0	119.6	88.1	100.3
Production (MMBOE/D) [b/]	4.05	3.52	4.01	2.53	2.48	1.80	1.67
Refinery Runs (MMB/D) [c/]	5.75	3.98	2.52	2.42	1.86	2.57	0.83
Assets ($Bn) [d/]	201.8	241.2	214.3	126.3	124.8	97.5	56.0
Total Revenue ($Bn) [e/]	271.3	286.2	258.1	117.3	141.1	131.2	60.2
Net Income pre-tax ($Bn) [e/]	41.71	36.39	26.56	22.34	18.04	16.93	14.99
Net Income after tax ($Bn) [e/]	25.42	21.96	19.11	11.68	9.96	9.85	8.17
Equity (assets minus liabilities) ($Bn) [f/]	107.89	92.35	82.73	45.04	60.19	47.30	44.47

[a/] Market capitalization is based on prices per share (or per American Depository Receipt (ADR) for non-U.S. corporations) — as of close of business in New York on 28 October 2005 — of $56.31 for ExxonMobil, $61.62 for Royal Dutch Shell "A" ADRs and $64.75 for "B" ADRs, $66.46 for BP, $57.38 for Chevron, $123.88 for TOTAL, $63.26 for ConocoPhillips, and $133.30 for Eni (SOURCE: http://finance.yahoo.com).

[b/] Average daily production during first 9 months of 2005, except TOTAL and Eni figures are averages for first 6 months of 2005. Gas converted to barrel-of-oil-equivalents (BOE) @ 5.8 Mcf = 1 MBOE.

[c/] Average daily runs for first 9 months of 2005, except TOTAL and Eni data are averages for first 6 months of 2005.

[d/] Assets as of 30 September 2005, except ExxonMobil, ConocoPhillips, TOTAL and Eni assets are as of 30 June 2005. Assets for TOTAL and Eni are converted from euros to U.S. dollars @ €1 = $1.20695 (rate prevailing at close of business in New York on 28 October 2005 (SOURCE: www.xe.com/ucc/convert.cgi)).

[e/] Revenue for first 9 months of 2005, except TOTAL and Eni are extrapolated from half-year revenues and converted from euros to U.S. dollars @ €1 = $1.20695.

[f/] Equity as of 30 September 2005, except TOTAL and Eni figures are as of 30 June 2005. TOTAL and Eni are converted from euros to U.S. dollars @ €1 = $1.20695.

By nearly all standards ExxonMobil Corporation is the world's largest oil company that is not government-owned. It was created 30 November 1999 through the merger of two of the largest fragments of the old "Standard Oil Trust" — Exxon Corporation (the former Standard Oil Company of New Jersey) and Mobil Oil Corporation (the former Standard Oil Company of New York). Exxon, under the name Humble Oil and Refining Company, partnered with Richfield Oil Company (which later became Atlantic Richfield Company*) as early explorers on the North Slope in the mid-1960s, and the two were 50-50 partners in bidding for state leases in the first North Slope lease sales in 1964 and 1965. Together they drilled the well that discovered the supergiant Prudhoe Bay field in late 1967. Mobil Oil Corporation was an even earlier pioneer in Alaska, being one of the original explorers on state-owned submerged lands in the upper Cook Inlet immediately following Alaska's Statehood.†

BP p.l.c. (formerly The British Petroleum Company Ltd.) is incorporated in England. It is by some standards the second-largest oil company in the world that is not government-owned,‡ and by others the third-largest. It came to Alaska in 1959 to explore for oil and gas on the North Slope, and it partnered with Sinclair Oil Corporation 50-50 to bid on state leases in what turned out to be the Kuparuk oil field in the State's first North Slope lease sale on 9 December 1964.** Sinclair declined to participate with BP in the State's next North Slope lease sale on 14 July 1965, so BP bid for leases in the Prudhoe Bay area without a partner. The Richfield-Humble partnership concentrated their bids on the crest of the Prudhoe Bay geologic structure and outbid BP there, but BP was successful in acquiring many leases on the flanks of the structure. It turned out that the Richfield-Humble leases contained over 80% of the gas cap in the Prudhoe Bay field, but only 43% of the oil;

** Richfield Oil Company merged into The Atlantic Refining Company on 3 January 1966 with Atlantic as the surviving corporation. It changed its name to Atlantic Richfield Company four months later, on 3 May 1966.*

† As it turned out, Mobil Oil did not have very good luck as a Cook Inlet explorer, however. Only one lease that it had an interest in turned out to have oil, which was a lease in the Granite Point field that it acquired in partnership with Union Oil Company of California (later renamed Unocal Corp.) in a state lease sale on 11 July 1962. Unocal (now part of ChevronTexaco) has a 75% interest in the lease, Mobil the other 25 percent.

‡ The British government acquired a 51% ownership in BP (then called Anglo-Persian Oil Company) on the eve of World War I in conjunction with a then-secret deal for the company to supply crude oil from Persia (modern Iran) to the British Navy. After the Second World War the British government gradually sold off its interest in BP, finally selling its last 1.8% stake (101 million shares) on 5 December 1995.

*** In that 1964 lease sale the BP-Sinclair partnership ended up acquiring roughly 90% of the oil in the Kuparuk oil field, the second largest field on the Slope (and in the United States for that matter). But ARCO ended up with a larger share of Kuparuk than BP because Sinclair merged into ARCO on 4 March 1969, which gave ARCO Sinclair's share that was equal to BP's. In addition ARCO had a 50% interest in several Kuparuk leases that it had successfully bid on as Richfield in partnership with Humble in the 1964 lease sale, as well as the 100% interest in several other Kuparuk leases that Atlantic Refining Company (the "Atlantic" in "Atlantic Richfield" – see the second footnote on the previous page) had won bidding on its own in that sale.*

BP's acreage contained only 14% of the gas cap but 51% of the oil.*

On 1 April 1999 BP and ARCO announced an agreement for BP to acquire ARCO. At that time the two companies were the only operators of the producing fields on the North Slope, they had the two largest business presences in the state, and BP was the largest supplier of Alaska crude oil to U.S. West Coast refineries with ARCO being the largest West Coast refiner. These circumstances caused first the State of Alaska, and then the Federal Trade Commission and the states of California, Washington and Oregon, to object to the deal on antitrust grounds. Under settlements with the State of Alaska and the FTC,[46] BP acquired ARCO on 18 April 2000 and then sold ARCO's entire Alaskan business to Phillips Petroleum Company,† which became the operator of the Kuparuk River Unit and the Colville River Unit (Alpine field). BP became the sole operator of the Prudhoe Bay Unit. In conjunction with these transactions, the "Big 3's" ownership percentages in the Prudhoe Bay Unit were made uniform for both oil and gas: BP, instead of having 51.2227530% of the Oil Rim and 13.838950% of the Gas Cap, now has 26.66467% of both; ExxonMobil went from 21.8663658% of the Oil Rim and 42.5647901% of the gas to 36.88263% of both; and ConocoPhillips went from 23.7492038% of the oil and 42.8278783% of the gas to 36.49270% of both.[47]

ConocoPhillips is the third-largest American oil company and the second-largest refiner in the U.S.[48] It was created 30 August 2002 by the merger of Conoco Inc. (formerly Continental Oil Company) and Phillips Petroleum Company. Conoco was an original lessee of the Milne Point field, owning 60% of it, and it operated the field on behalf of its partners Chevron (37%) and Occidental Petroleum (3%). Conoco sold its interests in Milne Point to BP in 1992 and '93.[49] On 22 October 1998 E.I. duPont de Nemours Company, which had held Conoco as a wholly owned subsidiary since 1982, spun it off for nearly $4.4. billion in what was then the largest-ever initial public offering.

** Once BP's massive oil holding in the Prudhoe Bay field had been confirmed by delineation drilling in 1968, BP decided to balance this huge new "upstream" interest by seeking a partner with "downstream" (refining and marketing) expertise in the U.S. It chose The Standard Oil Company (SOHIO), the original Standard Oil created as an Ohio corporation by John D. Rockefeller in 1870. By late 1968 SOHIO was a modest but well run refining company with two refineries in Ohio and some oil production of its own in the Lower 48. In 1969 BP and SOHIO entered into an agreement whereby BP transferred its Prudhoe Bay leases to SOHIO on 1 January 1970 in exchange for 1,000 special shares of SOHIO stock that were to increase in voting power and dividend rights the better Prudhoe Bay performed once it came into production. It turned out that the 1,000 special shares came to represent a majority interest in the company. On 13 May 1987 BP bought out the minority interests in SOHIO, converting it into a wholly owned BP subsidiary. SOHIO's Alaskan operating subsidiary, Standard Alaska Production Company, subsequently changed its name to BP Exploration (Alaska) Inc.*

† Phillips Petroleum had been one of the early pioneers in the Cook Inlet area, as a member of a group of four companies called the "Chakachatna Group." The other companies in that Group were Pan American Petroleum Corporation (later renamed Amoco Production Company, a subsidiary of Standard Oil Company of Indiana a/k/a Amoco Corporation, which merged with BP on 31 December 1998), Skelly Oil Company (which later merged into Getty Oil Company, which in turn later merged into Texaco Inc., which later merged with Chevron Corporation (the former Standard Oil Company of California) to form ChevronTexaco), and Sinclair Oil & Gas Company (which, as already stated, merged into ARCO in 1969). The Chakachatna Group ended up with leases in the Middle Ground Shoal, Granite Point and McArthur River oil fields offshore in the Inlet. Initially each company had a 25% share in whatever leases the Group acquired; but after Sinclair merged into ARCO, Chevron acquired half of Sinclair's interest so Chevron and ARCO each had 12½ percent interests in the Chakachatna Group's properties starting in 1971. The other exception to this was the North Cook Inlet gas field, where Phillips bought out its partners in order to commit the gas reserves there for sale as LNG to two utilities in Japan. Phillips built the LNG plant and dock at Nikiski and two special LNG tankers in 1967-69 in partnership with Marathon Oil Company, which also had significant gas reserves in Cook Inlet that it could not otherwise then sell locally.

Who is TransCanada?

TransCanada Corporation is by far the largest natural gas transmission company in Canada,* transporting about two-thirds of all the natural gas shipped within Canada. It operates over 24,200 miles of gas pipelines, with over a thousand points where gas can be delivered into its pipeline system for shipment and over 200 points where gas can be delivered from it. TransCanada also holds the U.S. and Canadian permits that were originally issued in the late 1970s and early '80s for an "Alaska Highway" project and says that these give it the right to build a pipeline along that route now, without any further legislation or regulatory rule-making and permitting processes.[50] It further asserts that these permits it holds are exclusive,[51] meaning no one else can build a Gas Pipeline along that route without first getting the U.S. and Canadian governments to change the law.

What about multi-billionaire Warren Buffett† and former ARCO Alaska president Ken Thompson? Are they still trying to put a Gas Pipeline project together?

Messrs. Buffett and Thompson were both involved, along with several Alaska Native regional corporations, in an application for a fiscal-terms contract that was submitted to the State on 22 January 2004 under the Alaska Stranded Gas Development Act. For Mr. Buffett's part, the application was made through a subsidiary of Berkshire Hathaway, Mid-American Energy Holdings Company (Mid-American).‡ Mr. Thompson was represented through his own company, Pacific Rim Leadership Development, LLC. Under the arrangements among themselves, the legal entity that would actually build, own and operate their Gas Pipeline would be the Delaware limited liability company that was the co-applicant with Mid-American, MEHC Alaska Gas Transmissitton Company, LLC (MAGTC). Mid-American would own at least 80.1% of MAGTC, and two Alaska companies — Cook Inlet Region, Inc. (CIRI) and Pacific Star Energy, LLC — held options to acquire part or all of the

---

** According to Exhibit 13.1 to TransCanada's Form 6-K filed with the SEC for the second quarter of 2005, its total revenues for the first half of 2005 were $2.851 billion and its net income after taxes was $0.432 billion (both in U.S. dollars). Natural gas deliveries through its pipelines during the first half of 2005 averaged 7.9 Bcf/day for Canadian Mainline, 10.7 Bcf/day for Alberta System, 2.1 Bcf/day for Gas Transmission Northwest System, 2.9 Bcf/day for Foothills System, and 0.9 Bcf/day for BP System. Exhibit 13.1 is available online at www.sec.gov/Archives/edgar/data/1232384/000110465905035014/a05-13459_1ex13d1.htm (hyphen at the line break is part of the URL) (last visited 27 October 2005).*

† Warren Buffett is the chairman, CEO and largest shareholder of publicly-traded Berkshire Hathaway, Inc., which acts as a holding company owning the various businesses that it invests in. According to Forbes magazine (online at www.forbes.com/billionaires/ (site last visited 27 October 2005)), Mr. Buffett is the second-wealthiest person in the world in 2005 with a net worth of $44 billion, $2.5 billion behind William Gates III of Microsoft.

‡ Mid-American, through its own subsidiaries Kern River Gas Transmission Company and Northern Natural Gas Company, owns over 18,000 miles of interstate natural gas transportation facilities and is the second largest interstate natural gas transmission company in the United States. SOURCE: Application of Mid-American Energy Holdings Company and MEHC Alaska Gas Transmission Company, LLC to State Of [sic] Alaska Department of Revenue for approval [sic] under the Alaska Stranded Gas Development Act (22 January 2004), p. 1, n. 1.

remaining 19.9 percent.* Pacific Star Energy in turn was owned by Arctic Slope Regional Corporation, Aleut Corporation, Bering Straits Native Corporation, and Mr. Thompson's Pacific Rim Leadership Development, LLC.[52] The application foundered in March 2004 when Mid-American insisted on entering into a contract on an exclusive basis with the State under the Alaska Stranded Gas Development Act, and the State refused. The exclusivity that Mid-American was demanding would have prevented the State from entering into another contract under the Stranded Gas Act with anyone else. Nothing further has happened with this application since the State's refusal.

Is there anyone else who has filed an application to negotiate a gas contract with the State under the Alaska Stranded Gas Development Act?

Yes, Enbridge Inc. filed an application on 30 April 2004.

Who is Enbridge?

Enbridge is a Canadian company that is in the business of transporting energy, particularly oil and natural gas by pipeline. It owns an interest in the longest oil pipeline in North America, and in the largest single natural gas pipeline network in Canada.[53] At the time of its application Enbridge's net worth was $4.1 billion (Canadian), and it was the general partner of Enbridge Energy Partners LP which had a net worth of another $1.3 billion (U.S.).[54]

What happened to Enbridge's application?

Enbridge proposed building a "Southern Route" pipeline parallel to the Dalton Highway to Fairbanks and thence along the Richardson and Alaska Highways to Alberta. They proposed a "measured approach" in building the Gas Pipeline, starting initially with a 36" diameter pipeline with a take-away capacity of 2.6 Bcf a day instead of the 4.5 Bcf a day or more proposed by others. Enbridge proposed expanding this capacity, if and as necessary and appropriate, either by increasing the compression within the line or by "looping" it (i.e., installing parallel pipe along those stretches of the main line that limit its total throughput capacity).[55]

It is not clear what has happened with Enbridge's proposal. It is possible the State did not take Enbridge very seriously since Enbridge said the cost for the Alaskan portion of its initial 2.6 Bcf-a-day pipeline would be $3.3 billion, and even at 5 Bcf a day this cost would be $6 billion (in constant 2004 dollars).† Alternatively, the State may have given this "measured" phase-in approach lower priority relative to other proposals that it has under consideration which all involve significantly higher initial take-away capacities (4.5 Bcf a day or higher).

** Any part of this 19.9% not taken by CIRI and Pacific Star would have gone to Mid-American.*

† Application of Enbridge Inc. ("Enbridge") to the Alaska Department of Revenue Pursuant to AS 43.82.120 for Approvals under the Alaska Stranded Gas Development Act (30 April 2004), p. 9. In support of its cost estimates, Enbridge said, "A key advantage of specifying smaller diameter pipe materials is the ability of North American pipe mills to manufacture pipe of sufficient specifications." Id.

It might also be that Enbridge and the State have simply agreed to take a wait-and-see attitude until the State's negotiations with the "Big 3" are complete, so that Enbridge could be offered at that time a "me too" deal based on what the "Big 3" agree to.* For whatever reason, there appears to have been little or no progress on Enbridge's proposal since the application was filed.

Didn't Sempra Energy also file an application under the Alaska Stranded Gas Development Act?

No. Sempra Energy entered into an agreement in 2004 with the Alaska Gasline Port Authority to support the Port Authority's media campaign earlier this year advocating its "All-Alaskan" Gas Pipeline. That high-profile campaign in newspapers and on radio and TV featured endorsements by former governors Walter J. Hickel and Jay Hammond,† by former state Senate President Rick Halford, and by former Wasilla Mayor Sarah Palin.

On 27 May 2005 Sempra Energy gave written notice to the Alaska Gasline Port Authority canceling its contract with the Port Authority. Sempra Energy had advanced over $6 million for the advertising campaign, which had failed to produce the progress on the political front that the company had hoped for.

Are there any other potential sponsors to build a Gas Pipeline who haven't stepped forward yet?

Undoubtedly, but it is difficult to try to identify them all because there are also any number of credible-seeming scam artists who would like to bilk the gullible if given a chance. However, there are three state entities that appear to be credible possibilities:

- the Alaska Railroad Corporation
- the Alaska Permanent Fund
- the State of Alaska itself.

Why are these entities potential builders of the Gas Pipeline?

The Alaska Railroad Corporation initially seems to be an unlikely potential builder of a Gas Pipeline, but it could enjoy substantial tax benefits under the Internal Revenue Code if it finances and operates the Pipeline. Like the Alaska Gasline Port Authority and the

* *This might also be the situation with TransCanada. For TransCanada, too, there has been little or no publicly visible movement on its application since it was filed. The Alaska Stranded Gas Development Act does have provisions allowing parties to be added to a "qualified sponsor group" for purposes of an application by or proposed contract with that group. See AS 43.82.160 ("Multiple applications for similar or competing qualified projects"); AS 43.82.260 ("Change of parties to an application or a contract; assignment of interests").*

† *Governor Hammond died at home on the night of 1 – 2 August 2005, having continued to advocate an "All-Alaskan" Gas Pipeline even after the Port Authority's advertising campaign had ended.*

Alaska Natural Gas Development Authority, the Railroad could issue tax-exempt bonds to finance the Gas Pipeline, and its profits from the Pipeline would be tax-exempt. However, even better than the two Authorities, the Railroad's tax-exempt bonds apparently would not count against the general federal limit on the amount of tax-exempt bonds that may be issued statewide during a given year, and the Railroad also might not be limited under the federal "arbitrage rules"* in terms of what interest rate it could earn on the bond proceeds during the time between the issuance of those bonds and the actual disbursement of the proceeds to pay costs of building the Gas Pipeline.[56] It would be prudent to obtain an IRS ruling, or perhaps even an explicit act of Congress, confirming these latter apparent advantages of the Alaska Railroad in order to exploit them fully.

The Alaska Permanent Fund is a potential builder of the Gas Pipeline because its assets are sufficient to build it, if necessary, without borrowing any money.[57] Only the "Big 3" are in a similar position, and even they would probably fund some of the Gas Pipeline's costs through borrowing. Ownership of the Gas Pipeline is not a category of investment that the Permanent Fund is currently authorized to make at this time, however.[58]

The State of Alaska is a potential builder of the Gas Pipeline because it owns the lands from which the gas will be produced, because it owns lands that the Gas Pipeline will cross, and because it must act as *parens patriæ* for the greatest benefit of its citizens. The State has tax advantages under the Internal Revenue Code similar to those of the Alaska Gasline Port Authority and the Alaska Natural Gas Development Authority, but not as good as those of the Railroad — specifically the State's tax-exempt bonds would count against the federal statewide limit on the amount of tax-exempt bonds that may be issued each year, and the State would be subject to the "arbitrage rules" in terms of how much interest it can earn on the bond proceeds† Also, the question of whether the State's profits from operating the Gas Pipeline are tax-exempt would need to be clarified by an advance ruling from the IRS similar to the one the Alaska Gasline Port Authority has received.

* *"Arbitrage" is borrowing at a low rate of interest, investing the proceeds as a high rate, and keeping the spread. The federal "arbitrage rules" prohibit arbitrage of the proceeds of tax-exempt bonds or limit it severely, and if the rules are violated by the issuer, the interest paid on the bonds becomes taxable income for the bondholders instead of tax-exempt income. Bondholders understandably wouldn't like this if it happened, so they insist on promises by the bond-issuer that the issuer will comply at all times with the "arbitrage rules" and with all other provisions of the Internal Revenue Code as necessary to ensure the continued tax-exempt status of the bonds.*

† *This is because the Alaska Railroad's particular advantages arise under special provisions in the Alaska Railroad Transfer Act and the Internal Revenue Code that apply to the Railroad only (see endnote 54) and not to any other bond-issuer in the nation The State itself and all its other bond-issuing agencies, in contrast, fall under the Internal Revenue Code provisions that apply to tax-exempt bond issuers generally.*

CHAPTER 5. GOVERNMENT REGULATION OF THE GAS PIPELINE

Which regulatory agencies will regulate the Gas Pipeline?

The answer depends on the route of the Gas Pipeline. For the "All-Alaska Route" the regulatory agency will be the Federal Energy Regulatory Commission (FERC). For a Gas Pipeline that extends into or through Canada, the regulatory agencies will be FERC for the portions within the United States and the National Energy Board (CEB) of the Canadian national government for the portions in Canada.

What about the Regulatory Commission of Alaska? Doesn't it regulate in-state gas pipelines?

It is widely expected that FERC will exercise the federal power to preempt the State and its regulatory agency, the Regulatory Commission of Alaska (RCA), from jurisdiction to regulate the Gas Pipeline.[59]

If federal preemption does not occur, RCA would be able to regulate terms and conditions for <u>intra</u>state transportation only — that is, transportation to a final destination or consumer within Alaska. <u>Inter</u>state transportation would still be regulated by FERC.

Why is the regulatory environment important for the Gas Pipeline?

The regulatory environment is not merely important, but crucial for the Gas Pipeline in two ways. One has to do with the size, or capacity, of the project in terms of how much natural gas it will be designed to carry, and how far it will carry it. This carries over into the issue of how much gas can be taken off for in-state uses. The other way the regulatory environment is crucial has to do with what the tariff will be for transporting natural gas through the Gas Pipeline.

How will the size of the Gas Pipeline, and the delivery points from it, be determined?

Both will be determined through the FERC "open season" process,* which has been key to the building of large natural gas pipelines in the Lower 48. In this process FERC establishes a period of time — the "open season" — during which the potential suppliers and shippers of natural gas through a new pipeline have an opportunity to reserve capacity in that pipeline to carry their gas.

** The National Energy Board of the Canadian government has a similar "open season" process for pipelines in Canada. If the Gas Pipeline from the North Slope goes through Canada to the Lower 48, the NEB's "open season" process will need to move in close parallel to the FERC's "open season" so that the engineering and design of the pipeline can get started without unnecessary delay waiting for one country's "open season" to close after the other country's "season" has closed. These "open seasons" will also need to be coordinated so that the commitments in one are not inconsistent with the commitments in the other. For instance, if the reserved capacity and shipping commitments for the Canadian portion in the NEB's "open season" are greater the reservations and commitments for the portion from the North Slope to the Alaska-Canada border in the FERC "open season," the Alaskan portion should not be sized to match just the reserved capacity and shipping commitments that are made in the FERC "open season" since that will be inadequate to match the commitments being made for the Canadian portion of the project.*

When the pipeline is built, this capacity will be reserved for the exclusive use of the shippers that reserved it. In return, the shippers make commitments about how much natural gas they will ship. If they plan to take natural gas out of the pipeline before it gets to the end, they state where they want to take it out, they reserve pipeline capacity to those delivery points, and they make commitments about how much they ship to each such delivery point. These commitments then allow the builder of the pipeline to design it so that it has the necessary capacity to carry all the committed gas to each of the destinations thatthe gas will go to, but without overbuilding the pipeline beyond the size it should be.

Naturally, if gas is going to be taken out at various off-take delivery points along the route, the needed capacity of the pipeline gets smaller after each such delivery point because there will be less gas remaining in the pipeline after each delivery point. Thus, for example, a Gas Pipeline that starts off with a capacity of 4.5 Bcf/d on the North Slope could, in theory at least, be built with a capacity of 3.9 Bcf/d downstream from the off-take delivery point if 0.6 Bcf/d gas is to be taken out at that delivery point for existing in-state residential, commercial, industrial, and power-generation users in the Cook Inlet area.*

For potential suppliers and shippers of natural gas through a new pipeline, it is important to their own interests that they participate in the “open season” process and make commitments about shipping at least the great majority of their gas. This is because shippers of gas who have not made commitments regarding their gas, or who want to ship more than they have made commitments for during the “open season,” can ship that gas only on a space-available basis. In other words, if the entire capacity of the pipeline is being used to carry gas by those who have made commitments for that gas during the “open season,” then the would-be shippers of uncommitted gas cannot ship anything. This is like standing by for a seat on an airplane that’s completely full. A similar inability for a gas shipper to ship all its uncommitted gas can also occur if there is only limited “free” capacity for uncommitted gas and the total uncommitted gas being offered for shipment exceeds that “free” capacity. Now it’s like being one of six stand-by passengers for a flight and only four seats are available except, with gas, it’s possible for 4/6 of a “passenger” to get on the plane.

If gas shippers during the “open season” have to reserve capacity in the pipeline and commit to use it, what happens if they don’t end up shipping that much gas once the pipeline is built?

They pay for their reserved capacity in the pipeline as if they shipped their full committed volume of natural gas through it, even if they actually ship less. However, if they don’t have

** In reality it is not quite this simple. Even if a commitment is made during “open season” to take out 0.6 Bcf/d for Cook Inlet users, what if the volume of deliveries to them is seasonal and varies from 0.4 to 0.8 Bcf/d between summer and winter? What if something happens (e.g., an earthquake) that prevents Cook Inlet users from actually taking the full volume that they have committed to take? If the full 0.6 Bcf/d reserved for them is not actually taken out of the Gas Pipeline at their off-take point, then does the portion of the Gas Pipeline upstream of that point have to cut back its shipments to 3.9 Bcf/d instead of the 4.5 Bcf/d it is designed for? Probably it shouldn’t have to cut back to less than its design level. But if that’s so, then what happens when the 0.6 Bcf/d for Cook Inlet gets to its off-take delivery point and it isn’t taken out? Obviously, if possible, the capacity for Gas Pipeline downstream of that Cook Inlet off-take point has to be flexibly designed so that — by increasing the compression, for example, and operating at a higher pressure — it could accommodate at least a significant part of this 0.6 Bcf/d reserved for Cook Inlet that can’t actually go there.*

enough gas of their own to fill their reserved capacity, they could make their unused capacity available for some other shipper with uncommitted gas that doesn't have capacity reserved to carry it.

So if capacity in the Gas Pipeline is reserved and commitments are made during the FERC "open season" for natural gas that will be delivered from the Pipeline for in-state use, the parties reserving this capacity and making the commitments would be on the hook if their plans don't materialize?

Yes.

Why?

There are at least four reasons why a shipper has to be on the hook to use the capacity that it reserves in a new pipeline during the "open season."

First, the builder of the pipeline needs to be able to rely on these commitments in order to design the pipeline to the right capacity. If the shippers' commitments aren't real, the volume of gas actually tendered to the pipeline for shipment could be significantly less than what the shippers indicate during the "open season" since it would cost them nothing to exaggerate what they will ship. As far as shippers are concerned, they would tend to exaggerate this way if they could get away with it, because they would rather have a somewhat overbuilt pipeline that offers them a much better chance of being able to ship all the gas they want to ship, when they want to ship it.

Second, and arising as a corollary to the first reason, overbuilding the Gas Pipeline would increase the costs of transportation from what they should be and would lower the netback value of the natural gas to the detriment of all gas owners on the Slope and the detriment of the State as royalty owner and severance-tax collector. In other words, these "upstream" stakeholders are protected by keeping the shippers honest in terms of the pipeline capacity they reserve in the "open season."

Third, the owner has to be sure that, once the pipeline is built, it will be used. A pipeline makes money from the tariffs it charges for transporting gas. No shipments, no money. So, as an essential part of being in the natural gas pipeline business, the owner needs to know that the gas that is promised for shipment will in fact be shipped.*

Fourth, if the pipeline is to be financed by bonds or other borrowed money, it is the legally binding nature of the shippers' commitments to "ship or pay" that provides the principal security for the bond purchasers and other lenders to make that financing available.

* *More precisely, the owner has to know that it will be paid all the tariffs for the gas that it has been promised for shipment, regardless of whether all that gas is actually shipped or not.*

How much will it cost to ship natural gas through the Gas Pipeline?

That will depend on six factors:

1. how much it costs to build the Gas Pipeline
2. how much it costs to operate the Gas Pipeline each year (including taxes)
3. how much of its construction cost is paid with borrowed money, and how much with equity capital from the owner
4. what it costs each year to repay the borrowed money
5. how long the pipeline is expected to be in operation
6. how much natural gas is shipped through it each year

How will the owner make a profit from the Gas Pipeline?

From the tariffs it charges to shippers for shipping their natural gas through the Gas Pipeline. Profit for the owner is a component in the tariff, and it is based the owner's equity investment* in building the Pipeline and any expansions or capital improvements made to the Pipeline after it is built. This return on the owner's equity is regulated by FERC in the U.S. and the NEB in Canada, and it is set by the respective regulatory agency as a percentage of the equity.

The Gas Pipeline owner is not allowed any mark-up or profit based on the price of the natural gas that is shipped through the Pipeline.

Will the route of the Gas Pipeline affect how its tariff will be calculated?

It's unlikely. The allowable components that go into the Gas Pipeline's government regulated tariff under the FERC rules for U.S. natural gas pipelines are very similar to those under the NEB rules for Canadian lines, so it should make little or no difference whether the Gas Pipeline is an "All-Alaska" line or a pipeline through Canada to the Lower 48, in terms of how the tariff is calculated.[60]

** This is the second half of item 3 in the list in the answer to the previous question in the main text.*

CHAPTER 6. THE ALASKA STRANDED GAS DEVELOPMENT ACT

The Alaska Stranded Gas Development Act has been referred to several times in previous chapters. What is it?

The Alaska Stranded Gas Development Act (in this chapter, the "Stranded Gas Act" or "SGA") is a state law. It is codified as chapter 82 of Title 43 of the Alaska Statutes (hence its legal citation as AS 43.82).*

What is this "stranded" gas that the Stranded Gas Act applies to?

The SGA defines "stranded gas" to be natural gas "that is not being marketed due to prevailing costs or price conditions as determined by an economic analysis by the commissioner [of revenue] for a particular project."[61] In order to qualify for consideration under the Stranded Gas Act, the "stranded" natural gas resource that a project would develop must be such that it "would produce at least 500,000,000,000 cubic feet [i.e., 500 Bcf or 0.5 Tcf] of stranded gas within 20 years from the commencement of commercial operations" of the project.[62]

What does the Stranded Gas Act do?

It authorizes the State to enter into contracts that prescribe what the monetary (tax) obligations to the State and municipalities will be for qualified projects that develop "stranded" natural gas, and for the sponsors of such a project. Once such a contract is entered into by the State and the project sponsors, these monetary obligations are locked in and cannot be altered while the contract is in effect unless it is by mutual agreement of all the parties to the contract.

How does the gas contract do that?

The lock-in of the financial obligations is done in two parts. First the contract makes the project and its sponsors exempt from any and all state and municipal taxes.[63] Then it prescribes what the project and its sponsors are to pay to the State and municipalities in lieu of the taxes they are exempted from. Such payments are in lieu of the taxes, but they arise under the terms of the contract rather than through the State's or any municipal government's power to levy taxes. Since these new obligations are contractual in nature, they cannot be changed unilaterally by either side since it is a fundamental tenet of contract law that a contract cannot be changed except by mutual agreement of the parties to it.†

** Individual statutory sections within the Stranded Gas Act are cited in the form "AS 43.82.xxx" where "xxx" is the number of the statutory section. For instance, section 100 of the SGA is AS 43.82.100.*

† There are other possible structures under the Stranded Gas Act besides a complete exemption from all taxes with contractual payments in lieu of taxes. For instance, a contract could provide for a conditional exemption that is only triggered when certain events occur, such as an adverse change to the tax laws. Under such a contract, a project and its sponsors would be subject to taxes until a triggering event occurs, and when it does, they could elect to lock-in the taxes as they were before the triggering event. Alternatively, an exemption might be from only certain specific taxes or types of taxes, instead of all taxes. But neither of these latter two alternatives would provide as much security against adverse tax changes.

But if a contract under the SGA locks-in the tax obligations of a project and its sponsors for the duration of the contract, isn't that binding future legislatures about how they can tax that project and its sponsors?

Yes. And that's precisely the point of having such a contract.

But isn't it unconstitutional for one legislature to bind future legislatures?

> "[B]usiness and industrial tax exemptions have occasionally given rise to a significan constitutional problem [for states]. By granting such inducements in legislation, states have been held on occasion to have contracted away the taxing power. It is a settled principle of public law that one legislature cannot bind another and that the government of a state cannot contract away its police powers. The power to tax is not considered inalienable, however. In granting exemptions, one legislature may bind another and thereby lose for the state its power to tax. The exemption may, under certain conditions, result in a contract relationship that legislatures may not abrogate without violating the federal constitutional guarantee against state legislation impairing the obligation of contracts."

Quoted from Public Administration Service, 3 *Constitutional Studies* (November 1955), Paper #9 ("State Finance") p. 15 (footnotes omitted).*

Taking away the State's power to tax is serious business. Why should the State even consider doing that?

First of all, contracts under the Stranded Gas Act don't take away the State's power to tax. The contracts only exempt the parties to them from taxes, and only to the extent provided under the respective contract. The Legislature remains free at all times to change the tax laws as it sees fit despite the existence of one or more SGA contracts, and those tax changes will apply to all taxpayers who are not covered by a contract. And when a contract ends, the parties to it will become subject to whatever the tax laws might be at that time.

As to why the State should even consider entering into tax contracts under the Stranded Gas Act, the reason is to substantially reduce or eliminate one of the major risks that would-be investors perceive in going forward with a Gas Pipeline.

And what, exactly, is this risk that would be reduced or eliminated?

The risk is that — once the investors have irrevocably committed to build a Gas Pipeline, and especially once it is built — the State would "change the rules" by raising its taxes on the Pipeline and materially lowering the financial performance of the investment below the

** Public Administration Service — a non-profit organization that was devoted to providing research and consulting services for governmental jurisdictions and agencies and which worked in close association with the Council of State Governments and the national Governors Conference — had been retained by the Territorially created Alaska Statehood Committee to develop policy papers on the matters that are typically addressed by state constitutions, and the result was the three-volume set of 12 papers that comprise Constitutional Studies. Robert B. Atwood, publisher of the Anchorage Daily Times and chair of the Alaska Statehood Committee, formally presented Constitutional Studies to the delegates of the Constitutional Convention on behalf of the Statehood Committee during the opening day of the Convention's proceedings.*

investors' expectations for it. By then, of course, it would be too late for the investors to change their mind.

How important do potential investors see this risk to be?

It's very important, at least for some parties.* Once built, a project that costs as much as $20 billion or more becomes far more tempting to tax than, say, enacting a state sales tax or personal income tax or using any portion of the earnings of the Permanent Fund to pay for the costs of state government. If investors don't have assurance that taxes on them and their project won't be raised once the Gas Pipeline is under way, they will make some assumption about the likelihood that this would happen, and they will factor that assumption into their economic calculations about whether to invest in the Gas Pipeline or not. Of all the things that are in the State's power to change or influence, the elimination both of the actual taxation risk and of investors' perception that this risk exists is among the most powerful things the State can do to help move the construction of the Gas Pipeline forward.

The taxation risk appears particularly great in light of Alaska's own historical track record with the $8+ billion trans-Alaska oil pipeline and the development of the Prudhoe Bay field on the North Slope. After the pipe for TAPS† had been ordered and started arriving in Alaska, the State changed the tax laws applicable to Prudhoe Bay and TAPS 14 times in the next decade, and the great majority of those changes were tax increases for Prudhoe Bay or TAPS, or both.‡

** For pipeline companies that can pass state taxes on to others as part of the pipeline tariffs, changes in state taxes would not represent a risk. For tax-exempt entities like the Alaska Natural Gas Development Authority, state taxes also are not a risk.*

† The name of the oil pipeline is the Trans Alaska Pipeline System, or TAPS for short.

‡ The discovery of the Prudhoe Bay field was announced 13 March 1968. Anchorage Daily Times (13 March 1968), p. 1, "Prudhoe Well: 1,152 Barrels". Eleven months later Atlantic Richfield, BP and Exxon (then Humble Oil) announced plans to build the trans-Alaska oil pipeline. Anchorage Daily Times (10 February 1969), p. 1, "Pipeline Gets Go-Ahead". Just seven months after that the first sections of pipe for the pipeline began arriving in Alaska. Anchorage Daily Times (12 September 1969), p. 2, "Pipe Arrival Spurs Valdez Festivities". During the decade of the 1970s Alaska made the following 14 changes to its tax laws that were applicable to Prudhoe Bay, the oil pipeline, and/or the companies owning them:

The Legislation & What it Did	*Effect for Prudhoe/Pipeline*
1. Ch 110, SLA 1970: changed oil severance tax (AS 43.55) from a flat 4% rate on the wellhead value to tax increase 3% for the first 300 barrels a day ("b/d") of a well's production, 5% for its next 700 b/d, 6% for its next 1,500 b/d, and 8% for its production over 2,500 b/d	*Tax Increase*
2. Ch 124, SLA 1970: adopted Multistate Tax Compact (AS 43.19) for state income tax purposes	*Tax Neutral*
3. Ch. 72, SLA 1972: enacted Right-of-Way Leasing Act (AS 38.35) requiring pipeline owners, as part of tax & royalty the terms of any lease granting a pipeline right-of-way across state lands, to consent to state regulation of increase their pipeline tariffs, which are deducted from the price of oil or gas at its delivery destination in order to determine the corresponding wellhead value upon which severance tax and state royalties are based	*Tax & Royalty Increase*
4. Ch. 101, SLA 1972: enacted alternative severance tax of $0.458 a barrel for a well's first 300 b/d, tax & royalty $0.511 for its next 700 b/d, $0.538 for its next 1,000 b/d, and $0.591 for production over 2,500 b/d, increase with a credit for state oil royalty paid with respect to the well's production; this alternative tax only applied if, after royalty credits, it was greater than the tax based on the percentage-of-wellhead-value rates; the effect of the cents-per-barrel tax and royalty credit was to set a floor on the state's combined revenue from severance tax and state royalty at a level corresponding to a wellhead price of $2.65	*Tax & Royalty Increase*

There is a further dimension to the Gas Pipeline that is likely to make the elimination of taxation risk even more significant than it would normally be, and this is the sheer size of the Gas Pipeline project. It has been proven mathematically that, beyond a certain threshold relative to the size of a given business, the bigger a potential investment gets, the more averse to that investment the business ought be, even though the rate of return remains as good as (or better than) the return for the same investment on a smaller scale. Some in the Alaska Oil and Gas Association informally call this aversion the "Godzilla factor" after the movie whose advertising slogan was "Size does matter." For the Gas Pipeline, which would be one of the very largest projects ever undertaken by private enterprise, this "Godzilla factor" is high.*

---

5. Ch. 71, SLA 1973: authorized DOR to require affiliated corporate taxpayers to report and pay state slight increase income tax on a consolidated or combined basis instead of separately	*Slight Increase*
6. Ch. 1, FSSLA 1973: enacted a 20-mill state property tax (AS 43.56) on all property used or committed new tax for use in oil and gas exploration, production or pipeline transportation; municipal property tax on the same property is credited against the state tax	*New Tax*
7. Ch. 3, FSSLA 1973: amended Right-of-Way Leasing Act to eliminate requirement that pipeline right-tax & royalty of-way lessees must, as part of the terms for their lease, consent to state regulation of their pipeline decrease tariffs, thereby allowing litigation over the constitutionality of state's attempt to gain regulatory power by contract over the tariffs for oil in interstate commerce; instead the leasing act reserved regulatory authority over pipeline tariffs to the extent "not preempted by federal interstate commerce laws and regulations" (AS 38.35.010(b)).	*Tax & Royalty Decrease*
8. Ch. 4, FSSLA 1973: changed oil severance tax rates to the greater of 5% of wellhead value or $0.16875 tax increase, a barrel for the first 300 b/d of a well's production, 6% or $0.2025 for the next 700 b/d, and 8% or $0.27 but royalty defor its production over 1,000 b/d, and deleted the credit for state royalty against the cents-per-barrel tax; crease for wellchange increased effective rate for first 2,500 b/d from 5.36% to 7.08% and raised the floor for state's head values severance tax from a wellhead value of $2.65 to$3.75 but removed the floor price for royalty altogether below $2.65	*Tax Increase but royalty decrease for wellhead values below $2.65*
9. Ch. 5, FSSLA 1973: enacted oil and gas regulation and conservation tax (former AS 43.57) of 1/8 of a new tax cent per barrel	*New Tax*
10. Ch. 70, SLA 1975: changed state income tax rate for corporations from 16% of their federal income tax tax increase rate (i.e., 16% of 48%, or 7.68%) to a rate of 9.4%; repealed Uniform Division of Income for Tax Purposes Act (AS 43.20.050, -.060, -.070, -.080, -.090, -.100, -. 110, -.120, -.130 and -.140) as redundant with the Multistate Tax Compact	*Tax Increase*
11. Ch. 159, SLA 1975: enacted 20-mill ad valorem tax on oil and gas reserves in place (former AS 43.58); new tax any severance tax paid for production from reserves already in production was credited against the reserves tax on those reserves, while net reserves tax paid was creditable against severance tax on future production from those reserves	*New Tax*
12. Ch. 107, SLA 1976: amended severance tax to allow DOR to require tax to be paid on the basis of the tax increase "prevailing value" of oil and gas instead of the "prevailing price" for it, allowing DOR to claim tax on the basis of a "value" not based on actual sales prices for Alaska oil and gas; also changed the payment date for the state property tax (AS 43.56) from September 30 to June 30 each year	*Tax Increase*
13. Ch. 136, SLA 1977: amended severance tax for oil to a base rate of 12.25% of the wellhead value or tax increase $0.80 a barrel, whichever is greater, times an "economic limit factor" ("ELF") based on the percentage of a field's production needed to break even; amended severance tax for gas from a flat rate of 4% of the wellhead value to a base rate of 10% or 6.4¢ per Mcf (1,000 cubic feet), whichever is greater, times a similar ELF; effect was to increase the severance tax rate for Prudhoe Bay oil from 7.8% (at 10,000 b/d per well) to 11.7%	*Tax Increase*
14. Ch. 110, SLA 1978: enacted a separate-accounting income tax (former AS 43.21) only for companies tax increase producing oil or gas and/or transporting it by pipeline in Alaska, excluding gas utility companies; tax rate remained 9.4% but separate-accounting attributed much more net income to Alaskan business activities than regular apportionment under the Multistate Tax Compact	*Tax Increase*

* *It may be better to illustrate the "Godzilla factor" with an example that is not truly an investment in the conventional sense of the word, but it it's easier to explain. Suppose I offer you an opportunity to "invest"*

Does the Alaska Constitution allow the State to enter into tax contracts like the ones the Stranded Gas Act authorizes, or is the SGA perhaps unconstitutional?

It is likely, but not completely certain, that the Alaska Constitution does authorize the Stranded Gas Act and allows the State to enter into contracts such as those provided for by the SGA. Only the Alaska Supreme Court can provide a definitive answer about what the Alaska Constitution means.*

Why is it merely "likely" that the Stranded Gas Act is constitutional?

Article IX, section 1 of the Alaska Constitution states:

> The power of taxation shall never be surrendered. This power shall not be suspended or contracted away, except as provided in this article.

The "except clause" at the end of the second sentence clearly implies that there are provisions elsewhere in Article IX authorizing the suspension or contracting away of the State's taxation power. However, when one reads the rest of the Article, there is nothing anywhere else in it that mentions the suspension or contracting away of the taxation power. Does this mean the constitutional Framers had something in mind about suspending or contracting away the taxing power, but forgot to put it into the Constitution? No. But you have to read the records of the Constitutional Convention in order to find out what "except as provided in this article" is referring to.

---

in a chance to roll a pair of normal six-sided dice. It costs you $1 to make this "investment" and if you roll double-sixes, I pay you $70; but if you roll anything else, I keep your dollar. Will you make this "invest¬ment"? Of course you will. Why? Because there are 36 possible combinations that can come up each time you roll the dice, and you get $70 on only one of those combinations. So the odds of your "investment" being successful are 35-to-1 against you, but the payoff when the "investment" is successful is 70-to- one. Statistically, you stand to double your "investment" every time you roll the dice. But now suppose I offer you exactly the same "investment" opportunity, except that this time it is "Godzilla sized." Instead of $1, it costs you the entire value of your house to "invest" in a roll of the dice. If it succeeds and you roll double-sixes, then you get back 70 times the value of your house, but otherwise I get your house (you keep the mortgage). Now will you "invest"? No, you shouldn't, and the reason is that, if your house is typical, then if you have perhaps as few as two or three unsuccessful investments in a row to start with, you'll be bankrupt. And the odds of an unsuccessful investment are 35/36 (or 97.2%) each time you roll the dice, so the chance that your first three "investments" are failures is 0.9723 or 91.9 percent. In fact, the chance is still better than 50% that you will fail to roll double-sixes even once in 24 rolls of the dice (0.97224 = 0.5086 or 50.86%). So, when it's your house at stake, even though statistically you stand to double your money every time you roll the dice, there is only a slim chance that you'll make a successful "investment" in time before you go broke. In other words, you shouldn't "invest" at all in rolling the dice in the Godzilla-sized "investment" because you can't afford to make it enough times to get the odds on your side.

Note that in the Godzilla-sized "investment" we could increase the payoff for success to 105 times the value of your house instead of 70, so that statistically you would expect to triple your "investment" each time you roll the dice. But you still shouldn't make it because increasing the payoff has not affected the actual reason why you shouldn't "invest." You should "invest" only if you can get the odds on your side, and the only ways to that are either to lower the cost of making each "investment" or to improve the odds of success (i.e., lower the risk). Eliminating taxation risk is like improving the odds of success from 35-to-1 against you. If the odds became, say, 2-to-1 in your favor, you still might not "invest" when the cost of the "investment" is the value of your house, but clearly the improvement in the "investment" is far greater with such a reduction in the risk for you than it would be if the payoff is increased by a comparable factor, because with the lower risk you have a much better chance of getting the odds on your side before you are bankrupted by a string of bad "investments." The effect of the "Godzilla factor" becomes less pronounced the closer your chance of success in an investment gets to 100 percent. But until you have an investment that is truly a sure thing, the "Godzilla factor" for a very large investment does not entirely disappear.

* *No doubt it is for this reason that AS 43.82.440 provides for a very short, 120-day statute of limitations for filing any lawsuit to challenge on constitutional and any other grounds the validity of the Stranded Gas Act and any contract entered into under the SGA. This should ensure that the Alaska Supreme Court will give definitive answers to such questions before the Gas Pipeline is built.*

The Committee on Finance and Taxation at the 1955-56 Constitutional Convention wrote Article IX, and in its commentary on section 1, the Committee said this:

> The power to tax is never to be surrendered, but under terms that may be established by the legislature, it may be suspended or temporarily contracted away. This could include industrial incentives, for example.[*]

The records of the Constitutional Convention strongly indicate that the phrase "under terms that may be established by the legislature" is linked to the following sentence in section 4 of Article IX: "Other exemptions of like or different kind may be granted by law." In other words, this sentence in section 4 is what the phrase "except as provided in this article" in section 1 is referring to.[64]

If one accepts this evidence from the Convention's records, section 1 should be understood to mean (using the very words of the Committee on Finance and Taxation):

> The power to tax is never to be surrendered, but under terms that may be established by the legislature ["by general law"], it may be suspended or temporarily contracted away.

This explanation of section 1 is what makes it at least "likely" that the Stranded Gas Act and any contracts entered into by the State pursuant to it are valid and constitutional.

The reason why this conclusion is not something stronger than "likely" is that, ultimately, it is merely a logical inference from the Constitutional Convention records. Further, the Alaska Supreme Court itself has carelessly commented on section 1 — apparently without considering the implication of the phrase "except as provided in this article" and certainly without any consideration of the Convention records relating to the Framers' intent — in a way that implies the Stranded Gas Act should be unconstitutional. In rejecting several oil companies' argument that contract rights under their oil and gas leases with the State had been impaired by its enactment of a "separate-accounting" income tax in 1978, the court wrote "In entering into the leases the state <u>could not</u>, and did not, <u>contract away its power as a sovereign to tax</u> income earned in the state" (emphasis added).[†] The words "could not" appear to have been

** Constitutional Convention Committee on Finance and Taxation, Commentary on the Article on Finance and Taxation (16 December 1955), p. 1. The Commentary can be found in Alaska Legislative Council, 6 Constitutional Convention: Minutes of the Daily Proceedings (Juneau, AK 1965).*

† Atlantic Richfield Co. v. State, 705 P.2d 418 (Alaska 1985), app. dism. 474 U.S. 1043, 106 S.Ct. 774, 88 L.Ed..2d 754 (1985), reh. den. 475 U.S. 1062, 106 S. Ct. 1291, 89 L.Ed.2d 597 (1986) (footnote omitted). The footnote omitted from the quotation came directly after the underlined words "could not,"

nothing more than a stylistic flourish. Certainly those words were not something integral to the court's rationale for deciding the issue,* and therefore it did not set a legal precedent. However, the fact that the court said it, even gratuitously, cautions that one should avoid being overly confident that the court will reach the opposite conclusion when it does look at the text and the Constitutional Convention records regarding Article IX, section 1 in the context of litigation challenging the constitutionality of the Stranded Gas Act and any contract made pursuant to it. Hence it is merely "likely" that the court will do so.†

---

and the court's analysis in support of the proposition that contracting away the taxation power is something the State of Alaska "could not" do was, in its entirety, as follows:

> *The Alaska constitution provides: "The power of taxation … shall not be … contracted away, except as provided in this article." Alaska Const. art. IX, §1.*

705 P.2d at 438, n. 58 (ellipses in original). It has already been shown there is far more to the issue than that.

** In contrast, the words "did not" are integral to the court's rationale to decide the issue. After the key sentence quoted in the main text, the court supported that statement with the following:*

> *Merrion v. Jicarilla Apache Tribe, 455 U.S. 130, 102 S. Ct. 894, 71 L.Ed. 21 (1982) disposes of this issue:*
>
> > *Contractual arrangements remain subject to subsequent legislation by the presiding sovereign. Even where the contract at issue requires payment of a royalty for a license or franchise issued by the governmental entity, the government's power to tax remains unless it "has been specifically surrendered in terms which admit of no other reasonable interpretation." St. Louis v. United R. Co., 210 U.S. 266, 280, 28 S.Ct. 630, 634, 52 L.Ed. 1054, 28 S.Ct. 630 [sic] (1908).*
>
> *455 U.S. at 148, 102 S.Ct. at 907, 71 L.Ed.2d at 36 (citations omitted); see also Exxon v. Eagerton, 462 U.S. at 187-94, 103 S. Ct. at 2304-2307, 76 L.Ed.2d at 508-12.*

Both the passage quoted by the court from Merrion v. Jicarilla Apache Tribe and the St. Louis case stand for the proposition that entering into a lease or other contract does not in itself contract away a sovereign's taxation power unless there is a clear expression that this was intended. Neither case addresses the question of whether or not a state had the legal authority to contract away its taxing powers (and only states are subject to the Contract Impairments Clause in the U.S. Constitution, unlike the federal government or sovereign tribes). Under the facts of the Alaska case, since there was no clear intention expressed in the Prudhoe Bay oil and gas leases to contractually limit its taxation powers, the State "did not" contract away its taxation power when it entered into them, and this is the actual holding by the court on the issue.

† There is also an argument that a contract under the SGA cannot be binding on future Legislatures because Article IX, section 4 says that the exemptions of like or different kind are "granted by general law." Since it is "general law" that actually "grants" the exemption, and since "general laws" can always be amended by future legislations, then — so this argument goes — any tax-exemption contract that the State may enter into must implicitly have a proviso in it that the contract will be subject to amendment by future Legislatures. However, this argument can be rebutted in two ways. One, if the argument were correct and future Legislatures could unilaterally change the terms of the contract, then under fundamental contract law there could be no tax contracts at all because there it is impossible to have the necessary meeting of the parties' minds about what the terms of the contract are; but if there cannot be any tax contracts, this would be contrary to the fact that the Framers clearly intended to provide for contracts about taxes; so therefore the argument cannot be correct. Two, the argument is undercut by the structuring of a contractual tax-exemption program enacted by the 1957 Territorial Legislature (ch 129 SLA 1957) in which five of the 16 senators and 10 of the 24 representatives had been delegates to the Constitutional Convention. See 1957 House and Senate Journals for rosters of the membership of the respective legislative bodies; see Alaska Legislative Council, 1 Constitutional Convention: Minutes of the Daily Proceed ings (Juneau, AK 1965), pp. v – vi for the roster of delegates to the Constitutional Convention. But, once again, the argument is merely rebutted both times, not

All the negotiations for a Stranded Gas Act contract have been going on behind closed doors so far. When will we the public get a chance to see the contract? Will we get a chance to speak our minds and let the State and the companies know what our views are about the deal?

The Stranded Gas Act *requires* public input before a contract can be finalized and submitted to the Legislature:

> The commissioner [of revenue] shall[*] … establish a period of at least 30 days for the public and members of the legislation to comment on the proposed contract and the preliminary findings and determination [that the proposed contract is "in the long-term fiscal interests of the state" and advances the purposes of the SGA].

See AS 43.82.410(4). The commissioner must also offer to appear before the Legislative Budget and Audit Committee at a public meeting on the proposed contract, although it is in the Committee's discretion to hold the meeting or not. *See* AS 43.82.410(3). Within 30 days after the close of the public comment period, the commissioner of revenue must —

1. prepare a summary of the public comments on the proposed contract and the proposed findings and determination that it is in the State's long-term fiscal interest;
2. after consultation with the commissioner of DNR about any changes to state royalties under the proposed contract, and also after consultation with representatives of "revenue-affected" and "economically affected" municipalities, the commissioner of revenue must prepare a list of proposed amendments, if any, to the proposed contract that the commissioner determines are necessary to respond to public comments; and
3. make final findings and a determination about whether the final contract still is in the long-term fiscal interests of the State and advances the purposes of the Stranded Gas Act.

See AS 43.82.430(a)(1) – (3). If the commissioner of revenue determines that the final contract is in the State's long-term fiscal interests and advances the purposes of the SGA, s/he submits it to the Governor. *See* AS 43.82.420(b). The Governor then may transmit the contract to the Legislature with a request for authorization to execute it on behalf of the State, but the contract — is not binding upon or enforceable against the state or other parties to the contract unless the governor is authorized to execute the contract by law.

** The word "shall" is mandatory in nature and means the action it is describing must be done. See Alaska Legislative Affairs Agency, Manual of Legislative Drafting (Juneau, AK: 2005), p. 62: "Use the word 'shall' to impose a duty upon someone. The Alaska Supreme Court has stated that the use of the world 'shall' denotes a mandatory intent. Fowler v. Anchorage, 583 P.2d 817 (Alaska 1978)."*

See AS 43.82.435. The hearings of legislative committees as the Legislature considers enacting a law to authorize the Governor to sign the contract will also be public, will presumably be broadcast on statewide TV on "Gavel to Gavel", and will most likely give the public further opportunities to give written or oral statements and testimony to the Legislature before it decides whether to authorize the contract or not.

Can the Legislature change the terms of a proposed contract?

No. The Governor submits a contract to the Legislature with a request for authorization to execute that particular contract on behalf of the State. The Legislature can say "yes" or "no" to that request. It says "yes" by passing a law authorizing the Governor to sign it. If the Legislature does anything else, or if it doesn't act, it effectively says "no" to that contract.*

So the contract is presented to the Legislature on a take-it-or-leave-it basis?

Technically yes, but the contract need not be presented to the Legislature as some kind of ultimatum. When the commissioner of revenue begins the public-comment period for a proposed contract, s/he must at the same time give copies of it (as well as his/her proposed findings and determination in support of it) to the presiding officers of each house of the Legislature, to the chairs of the Resources and Finance Committees of each house, and to the chairs of the special oil and gas committees, if any, of each house. *See* AS 43.82.410(2)(A) – (C). The commissioner must also offer to appear before the Legislative Budget and Audit Committee in a public meeting† to provide a review of the proposed contract and his/her proposed findings and determination in support of it. *See* AS 43.82.410(3). This meeting would be where legislators have an opportunity to comment upon and criticize the proposed contract.‡ AS 43.82.410(3) sets no limit on how long the meeting may run, so there is no statutory reason why legislators could not have a full opportunity to express and discuss their views at the meeting. If it becomes clear during the meeting that there is a strongly felt legislative consensus about one or more changes that ought to be made to the contract, the commissioner of revenue could include those changes in any list of contract amendments that is submitted to the Governor under AS 43.82.430(b).

** AS 43.82.435 provides: "The governor may transmit a contract developed under this chapter to the legislature together with a request for authorization to execute the contract." The authorization "to execute the contract" (emphasis added) is authorization to execute only the particular contract that the Governor transmits.*

† If there are financial, technical, or market data to be presented that are confidential under AS 43.82.-310, that information must not be disclosed during the public meeting. See AS 43.82.410(3). Presumably the Legislative Budget and Audit Committee would go into an executive session, which is closed to the public, in order to receive and discuss information that is required to be kept confidential by law.

‡ If the Legislative Budget and Audit Committee decides to have a meeting for the commissioner of revenue to make a presentation about the proposed contract, "the committee shall give notice of the committee's meeting to the public and all members of the legislature[.]" See AS 43.82.410(3). Thus each legislator would have notice of the meeting and could come to it to hear the commissioner's presentation and to comment on the proposed contract. -42-of contract amendments that is submitted to the Governor under AS 43.82.430(b). Those changes would then be included in the contract that Governor transmits to the Legislature under AS 43.82.435 for an up-or-down vote. It should be noted, however, that there is a significant practical limitation on how far the commissioner can go in terms of accommodating amendments to go into the contract that is forwarded to the Governor. As a basic tenet of contract law, there can be no contract unless there is a meeting of the minds among the parties to the contract about its terms.65 The contract as it reads when first presented for public comment will already reflect an agreement among the parties about its terms. Any subsequent changes to that language will need to be acceptable to the other parties as well as the State, or there won't be the meeting of the minds that is necessary for a contract toarise. The more important a change is, the greater the risk that it may not be acceptable to all parties. The Stranded Gas Act does not mention this, but it is something to be borne in mind.

Those changes would then be included in the contract that Governor transmits to the Legislature under AS 43.82.435 for an up-or-down vote.

It should be noted, however, that there is a significant practical limitation on how far the commissioner can go in terms of accommodating amendments to go into the contract that is forwarded to the Governor. As a basic tenet of contract law, there can be no contract unless there is a meeting of the minds among the parties to the contract about its terms.[65] The contract as it reads when first presented for public comment will already reflect an agreement among the parties about its terms. Any subsequent changes to that language will need to be acceptable to the other parties as well as the State, or there won't be the meeting of the minds that is necessary for a contract to arise. The more important a change is, the greater the risk that it may not be acceptable to all parties. The Stranded Gas Act does not mention this, but it is something to be borne in mind.

APPENDIX

After the State / National Affairs Committee finalized its draft of this first Volume, it solicited comments and corrections by 16 November 2005 from those people who had made presentations to the Committee. This Appendix contains the presenters' comments and corrections, in their entirety, that were received by that date.

Corrections of fact have been incorporated into the text of this first Volume.

THE ALASKA GASLINE PORT AUTHORITY'S COMMENTS

[the following, including quotation marks and page number citations, is verbatim; format has been changed for clarity]

Alaska Gasline Port Authority (AGPA):

Page 16, Paragraph 2

Comment: "The Alaska Gasline Port Authority has received a proposal from American Shipping Group/TOTE to meet the shipping cost and volume needs of the All-Alaska gas line project proposed by the Alaska Gasline Port Authority."

Page 20, Paragraph 4

Currently reads: "It proposes to include in its initial project a "Spur Line" from Glennallen to the existing natural gas grid in the Matanuska Valley, and a 'Y Line' from Delta Junction to the Canadian border where it would link to a separate Canadian line running from the boarder to Alberta and the Lower 48."

AGPA suggests: "It proposes to include in its initial project a "Spur Line" from Glennallen to the existing natural gas grid in the Matanuska Valley. The Alaska Gasline Port Authority is willing to arrange a pre-build capacity in the line between the North Slope and Delta for a 'Y line' through Canada should another party be interested in developing a line from Delta through Canada."

Page 20 and 21, Last Paragraph

Factual Updates: "The Port Authority is headed by a board of directors comprised of nine members, three chosen by each municipality. The representatives of the North Slope Borough are Harrold Curran, Dennis Roper and Richard Glenn. Those of the Fairbanks North Star Borough are Borough Mayor Jim Whitaker, Joe Thomas and Barbara Schuhmann. Those of the City of Valdez are City Mayor Bert Cottle, David Cobb and John Kesley. Mayor Jim Whitaker is chairman, Bert Cottle is vice-chair and Dave Cobb is the secretary.

Page 27, "Didn't Sempra Energy also file an application under the Alaska Stranded Gas Development Act?

Currently reads: No. Sempra Energy entered into an agreement in 2004 with the Alaska Gasline Port Authority to support the Port Authority's media campaign earlier this year advocating its "All-Alaskan" Gas Pipeline. That high-profile campaign in newspapers and on radio and TV featured endorsements by former governors Walter

J. Hickel and Jay Hammond,† by former state Senate President Rick Halford, and by former Wasilla Mayor Sarah Palin.

On 27 May 2005 Sempra Energy gave written notice to the Alaska Gasline Port Authority canceling its contract with the Port Authority. Sempra Energy had advanced over $6 million for the advertising campaign, which had failed to produce the progress on the political front that the company had hoped for.

AGPA suggests: "No. Sempra entered an agreement with the Alaska Gasline Port Authority to develop an All-Alaska gas line project that would deliver gas to Sempra's receiving facility in Costa Azul. Sempra funded the Alaska Gasline Port Authority and their effort to move an All-Alaska gas line project forward.

Sempra withdrew their participation in the project citing "little if any progress…with the most important players in the process, namely Governor Murkowski, Senator Stevens, and the North Slope Producers…The protracted political wrestling in Alaska is costly and very time consuming. While this is taking place, the West Coast market is being pursued by others."

COMMENTS BY A CONTRACTOR OF THE ALASKA NATURAL GAS DEVELOPMENT AUTHORITY

[Corrie Young, Administrative Officer for the Alaska Natural Gas Development Authority (ANGDA), sent the following request to that Authority's contractors:

"Dear ANGDA Contractors:

"Mr. Heinze requested that you to take a look at this Anchorage Chamber of Commerce / Gas Report and offer any comments (due Wed. Nov 16).

"Thanks,

"Corrie"

One ANGDA contractor, Mr. Brian Hoefler of Hoefler Consulting Group, offered comments, which follow verbatim:]

Corrie,

I read the report. My primary comment is excellent job! I think the Chamber has taken an extremely complex subject and laid out the important details in a manner than can be understood on several levels.

It should be a great step forward in raising the level of public sophistication about the decisions we will be facing shortly.

I really have no substantive comments. Is Volume II being written yet?
When will Volume I be released to the public?

Congrats to all involved.

Brian

ENDNOTES

1 Coal-bed methane is, as its name suggests, methane that has formed within a coal deposit and is trapped there. Coal has the physical property of being able to hold as much as six times as much methane in a given volume of coal as sandstone (the most common type of reservoir rock for conventional natural gas reservoirs) can, other things being equal. “Gas hydrates,” as described by the U.S. Geological Survey, “are naturally occurring ice-like substances composed of water and gas. Gas hydrates are widespread in permafrost regions and beneath the sea in sediment of outer continental margins.” T.S. Collett, “Alaska North Slope Gas Hydrate Energy Resources” (USGS Open-File Report 2004-1454), p. 1.

2 SOURCE: DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-2, Table IV.1 (“Oil and Gas Reserves — North Slope”) and p. 4-3, Table IV.2 (“Oil and Gas Reserves — Cook Inlet”).

3 SOURCES: D.W. Houseknecht, “Conventional Natural Gas Resource Potential, Alaska North Slope” (USGS Open-File Report 2004-1440), p. 3; R.G. Stanley et al., “Oil and Gas Assessment of Yukon Flats, East-Central Alaska” (USGS Fact Sheet 2004-3121), table. The mean estimates just for these two regions — the North Slope and Yukon Flats — come to 149 Tcf, and this does not include other potential oil and gas provinces in the state such as the Nenana Basin or state waters in Bristol Bay.

4 SOURCE: T.S. Collett, “Alaska North Slope Gas Hydrate Energy Resources” (USGS Open-File Report 2004-1454), citing results of a 1995 USGS assessment of gas hydrates on the North Slope. The figure of 590 Tcf appears on p. 2 of the 2004 open-file report, while p. 3 of it cautions:

> The production potential of the Alaska North Slope gas hydrate accumulations has not been adequately tested. … In December 2003, the Canadian Mallik 2002 Gas Hydrate Production Research Well Program partners (including the USGS and the DOE [i.e., the U.S. Department of Energy]) publicly released the results of the first modern, fully integrated field study and constrained production test of a natural gas hydrate accumulation. The Mallik 2002 gas hydrate production testing a modeling effort has, for the first time, enabled rational assessment of the production response of a gas hydrate accumulation. …
>
> A growing body of evidence suggest that a huge volume of natural gas is stored as gas hydrates in northern Alaska and that production of natural gas from gas hydrates may be technically feasible.However, numerous technical challenges must be resolved before this potential resource can be considered an economically producible reserve.

5 These are short tons — that is, 2,000 pounds avoirdupois — instead of long tons (2,240 pounds) or metric tons (2,204.62262 pounds).

6 SOURCE: McGee & Emmel, “Alaska Coal Resources,” DNR Division of Geological and Geophysical Surveys Public-Data File 86-19 (1986), pp. 2 – 7, Table 2, available online at www.dggs.dnr.state.ak.us/scan2/pdf86/text/PFD86-19.PDF (last visited 9 October 2005).

7 The most recent estimate of conventional Cook Inlet gas reserves by the State is dated December 2004. DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-3, Table IV.2 (“Oil and Gas Reserves — Cook Inlet”). However, its figure of 2.087 Tcf for “[r]emaining recoverable reserves [is] based on the sum of forecasted production from <u>2003</u> through 2035.” *Id.*, p. 4-3, n. 1 (emphasis added). Annual Cook Inlet gas production has averaged 0.207 Tcf a year (*id.*, p. 4-27, Table IV.10) over the most recent five years (1999-2003) for which published data are available, which implies remaining reserves at the end of 2005 of approximately 1.466 Tcf. The U.S. Department of Energy (DOE) estimated the remaining gas reserves in the region to be 1.8 Tcf as of the beginning of 2004 (C.P. Thomas et al., *South-Central Alaska Natural Gas Study* (DOE: June 2004), p. 5), which implies remaining reserves at

the end of 2005 of about 1.386 Tcf. Our 1.43 Tcf figure splits the difference between these two figures as updated for estimated ongoing consumption through the end of 2005.

8 SOURCE: C.P. Thomas et al., *South-Central Alaska Natural Gas Stud*y (DOE: June 2004), p. 5; online at www.fe.doe.gov/programs/oilgas/publications/naturalgas_general/southcentralalaska_study.pdf (last visited 11 October 2005).

9 SOURCE: Id., p. 7.

10 SOURCE: DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-2, Table IV.1 ("Oil and Gas Reserves — North Slope").

11 SOURCE: D.W. Houseknecht, "Conventional Natural Gas Resource Potential, Alaska North Slope" (USGS Open-File Report 2004-1440), pp. 3 – 4. The mean estimates are 61.4 Tcf for undiscovered gas fields in NPRA, 11.7 Tcf for associated gas from undiscovered oil fields in NPRA, 3.8 Tcf for undiscovered gas fields in the "1002 area" in ANWR, 4.8 Tcf for associated gas from undiscovered oil fields in the "1002 area" in ANWR, and "the continuity of geology from NPRA eastward into the similar-sized non-Federal lands [i.e., state lands between the Colville and Canning Rivers] suggests that estimates for nonassociated natural gas resources may be on the same order of magnitude of those for NPRA [i.e., 61.4 Tcf]." *Id*. at 3.

12 SOURCE: T.S. Collett, "Alaska North Slope Gas Hydrate Energy Resources" (USGS Open-File Report 2004-1454), citing results of a 1995 USGS assessment of gas hydrates on the North Slope. The figure of 590 Tcf appears on p. 2, while p. 3 cautions:

> The production potential of the Alaska North Slope gas hydrate accumulations has not been adequately tested. … In December 2003, the Canadian Mallik 2002 Gas Hydrate Production Research Well Program partners (including the USGS and the DOE [i.e., the U.S. Department of Energy]) publicly released the results of the first modern, fully integrated field study and constrained production test of a natural gas hydrate accumulation. The Mallik 2002 gas hydrate production testing a modeling effort has, for the first time, enabled rational asessment of the production response of a gas hydrate accumulation.…
>
> A growing body of evidence suggest that a huge volume of natural gas is stored as gas hy drates in northern Alaska and that production of natural gas from gas hydrates may be technically feasible. However, numerous technical challenges must be resolved before this potential resource can be considered an economically producible reserve.

13 SOURCE: McGee & Emmel, "Alaska Coal Resources," DNR Division of Geological and Geophysical Surveys Public-Data File 86-19 (1986), p. 2, Table 2, available online at www.dggs.dnr.state.ak.us/scan2/pdf86/text/PFD 86-19.PDF (last visited 9 October 2005).

14 DNR's 1986 assessment of statewide coal resources includes 33.8 billion tons of "measured," "indicated & inferred," and "hypothetical" resource for the Susitna coal field, 0.27 billion tons for the Matanuska coal field, and 0.35 billion tons for the Kenai coal field. If there are 7 Tcf in these 34.4 billion tons, the average incidence is 0.203 Tcf of coal-bed methane per billion tons of coal resource. Multiply this times the 3500 billions of tons of coal that there might be on the Slope, and you get more than 700 Tcf.

15 Gas reserves figures are from DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-2, TableIV.1 ("Oil and Gas Reserves — North Slope"). Ownership percentages for individual fields in the table are from the unit descriptions in id., pp. 3-5 – 3-18, except for Point Thomson, for which the percentages are from *Anchorage Daily News* (5 October 2005), p. A-1, "State to Exxon: Develop field or lose it" and from the associated table ("Point Thomson owners") on p. A-10. The Producers' percentages of total proven North Slope natural gas reserves are calculated from the other data in the table.

16 SOURCE: DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-27, Table IV.10 ("Cook Inlet Natural Gas Consumption by Major Group, 1990-2003").

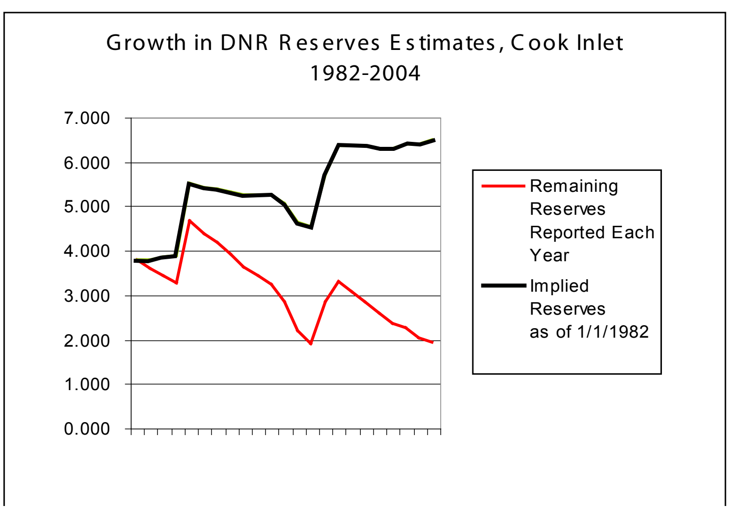
17 The graph was prepared by the State / National Affairs Committee using data set out in DNR Division of Oil & Gas, 2004 Alaska Oil & Gas Report (December 2004), p. 4-27, Table IV.10 ("Cook Inlet Natural Gas Consumption by Major Group, 1990-2003").

18 SOURCE: DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-25, Table IV.9 ("Gas Production-Forecast Cook Inlet").

19 DNR reported natural gas consumption of 0.0242 Tcf for "Gas Utilities" (i.e., the residential and commercial customers of gas utilities) in 1993 and 0.0330 Tcf in 2003. DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-27, Table IV.10 ("Cook Inlet Natural Gas Consumption by Major Group, 1990-2003"). The average annual rate of growth compounded itself 10 times from the 1993 base year to 2003, so it equals the 10th root of 0.0330/0.0242, or 1.032, which is a 3.2% annual growth rate.

20 DNR reported natural gas consumption of 0.0320 Tcf for electrical generation in 1993 and 0.0366 Tcf in 2003. DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-27, Table IV.10 ("Cook Inlet Natural Gas Consumption by Major Group, 1990-2003"). The factor for average annual growth (i.e., 1 plus the average annual rate of growth) compounded itself 10 times from the 1993 base year to 2003, so the annual growth factor equals the 10th root of 0.0366/0.0320, or 1.014, and the annual growth rate is 0.014 or 1.4 percent.

21 There is a phenomenon in Alaska and the Lower 48 where the estimates of fields' remaining reserves tend over time to increase the fields' initially estimated reserves. This phenomenon is called "reserves growth" and it is discussed in Thomas, Doughty, Faulder & Hite, *South-Central Alaska Natural Gas Study* (DOE: June 2004), pp.69-72. In Table 2.6 entitled "Estimates of economically recoverable gas reserves (Bcf) — January 1982 to January 2004" (id., p. 71), the authors of that report tabulated the estimated remaining recoverable reserves of Cook Inlet gas that were published by DNR in its Annual Reports each year from 1982 to 2004. Below is a graph showing DNR's figures published each year as its annual estimate of the then-remaining reserves (light line), and showing the implied reserves as of 1 January 1982 (dark line) when the cumulative actual production after that reference date is added back so that the reserves are all estimated as of the same starting point. The source of the actual annual gas production from 1982 on is DNR Division of Oil & Gas, *2004 Alaska Oil & Gas Report* (December 2004), p. 4-25, Table IV.9 ("Gas Production-Forecast Cook Inlet"), which has historical production data through 2003.



22 "The first major gas field, the Kenai gas field, was discovered by Union Oil Co in 1959 and was originally drilled as an oil prospect. This has been the case for virtually all gas discoveries in the [Cook Inlet] basin. The exploration objective was oil not gas. Only in the last few years has there been a concerted effort to explore for gas on its own merit." Thomas, Doughty, Faulder & Hite, *South-Central Alaska Natural Gas Study* (DOE: June 2004), p.48. "[M]ore than 95% of the gas was 'found' in the first 20 years of exploration in the basin and was a by-product of oil exploration." *Id.*, p. 49.

23 The report notes that the gas fields that have been discovered in the Cook Inlet area are all structural in nature — that is, the gas-bearing reservoir rock lies directly beneath impermeable strata that have been geologically shaped into large flattened-dome structures in which the gas is trapped inside the "ceiling." Other likely trapping mechanisms in the Cook Inlet area are:

- fault-blocks, where a gas-bearing stratum has been sheared off by a earthquake fault and now abuts an impermeable stratum that has been moved by earthquakes into position on the opposite side of the fault, so that the gas is trapped against that impermeable stratum; and
- stratigraphic traps, where the sands that originally formed the gas-bearing stratum were deposited nonuniformly so that the spaces within the sandstone get smaller and smaller in certain areas, until they get too small for the gas to migrate any further through the rock and the gas become trapped at that point within the sandstone layer. The report further notes that, as of the date it was written, there had not yet been any exploration in the Cook Inlet area for gas reservoirs formed through either of these other trapping mechanisms. Thomas, Doughty, Faulder & Hite, South-Central Alaska Natural Gas Study (DOE: June 2004), pp. 76-82. The authors of the report believe the potential gas reserves in these unlooked-for traps is significant — as much as 10 – 20 Tcf of gas in place with up to 85% of it being technically recoverable. *Id.*, pp. 85-93.

24 The source for the quip is the personal recollection of a member of the State / National Affairs Committee.

25 ENSTAR Natural Gas Company, *South Central Alaska Natural Gas Demand* (23 June 2005), slides for a presentation by Tony Izzo, president and CEO of ENSTAR; updated "Cost to Consumers" slide received 16 November 2006.

26 Presentation by Tony Izzo, president and CEO of ENSTAR, to the State / National Affairs Committee (31 August 2005).

27 In the early 1980s the Hammond Administration had a "petrochemicals task force" led by then- Lt. Governor Terry Miller of Fairbanks, which developed a fairly comprehensive report on the potential for a petrochemicals industry in Alaska, particularly in or around Fairbanks in conjunction with a gas pipeline along the Alaska Highway to the Lower 48.

28 SOURCE: Department of Energy, Mines, and Resources, Government of the Yukon Territory, *Mackenzie Gas Project*, "Gas Supply"; available online at www.emr.gov.yk.ca/pipeline/gas.html#supply (last visited 26 September 2005).

29 Technically the Dalton Highway does not run all the way to Fairbanks. It stops at its junction with the Elliott Highway near Livengood. From there the route to Fairbanks is south along the Elliott Highway to its junction with the Steese Highway at Fox, and then south along the Steese Highway to Fairbanks. See Morris Communications Co., *The Milepost* (57th ed. Anchorage, AK: 2005), pp. 496-498 (Steese Highway from Fairbanks to Fox), 502-505 (Elliott Highway from Fox to the junction with the Dalton Highway), and 507-518 (Dalton Highway from Elliott-Dalton junction to Deadhorse).

30 If you enlarge the maps for the "Northern" and "Southern" routes, you can read the legends on them which give the pipeline mileages for each route. The "Northern Route" is 1,619 miles long while the "Southern Route" is 1,962 miles. The "Northern Route" is 343 miles shorter, which is 17.5% of 1,962 miles.

31 Alaska Gasline Port Authority, Application of the *Alaska Gasline Port Authority to the State of Alaska for Approval under A.S. 43.82 the Alaska Stranded Gas Development Act* (27 Febr ary 2004), Exhibit 1, p. 8.

32 *See*, e.g., Alaska Gasline Port Authority, *Application of the Alaska Gasline Port Authority to the State of Alaska for Approval under A.S. 43.82 the Alaska Stranded Gas Development Act* (27 February 2004):

> The Alaska Gasline Port Authority[, b]y submitting this application, … expresses its intent to secure Alaska North Slope natural gas supplies, enter into contracts with natural gas, LNG and LPG purchasers both intrastate and for export, obtain financing for and contract to construct and operate a gas pipeline for the transportation of North Slope natural gas to market.
>
> This pipeline will consist of an overland gas pipeline from Prudhoe Bay, Alaska to tidewater at Valdez that will run parallel to the existing Trans-Alaska Oil Pipeline, with a line from Delta Junction to the Canada Border near Beaver Creek, Yukon Territory. Additionally, a line will be built from Glennallen, Alaska into the Matanuska-Susitna Valley, (approximately 125 miles) to connect with the existing South Central natural gas grid to provide gas to the Matanuska-Susitna Valley, Anchorage and the Kenai Peninsula (Project).

Id., p. 1 (footnote omitted). Note that the paragraph quoted above constitutes the definition of the Port Authority's "Project."

> The Port authority engaged the services of Bechtel Corporation to provide a comprehensive harddollar, not-to-exceed price for the Project. The initial Project consisted of a gas pipeline from Prudhoe Bay to run parallel to the Trans-Alaska oil pipeline, to an LNG liquefaction terminal in Valdez, utilizing existing permits. The Project has since been modified to include the addition of a line through Canada, which greatly increased the debt service coverage ratio as will be explained further in this application. Further, the Project includes a line from Glennallen to approximately Sutton to connect with the existing Southcentral natural gas grid in an addendum to the project cost estimate.

Id., p. 3 (footnote omitted). Note the omission of any reference to LNG tankers in the description above of the "initial" and "modified" versions of the Port Authority's "Project."

> The Port Authority's cost assumptions are extremely conservative, assuming no benefit from existing equipment and facilities present on the North Slope. Gas conditioning plant (8.7 Bcfd capacity)

Gas conditioning plant (8.7 Bcfd capacity) *(assumes no benefits from equipment at existing plant on North Slope)*	$4.3 billion
Pipeline: > 6 Bscfd from Prudhoe Bay to Delta Junction > 2.678 Bscfd delivered to Valdez from Delta Junction > 3.161 Bscfd delivered to Canada border from Delta Junction	$9.9 billion
LNG Plant and port Facilities: > Three trains – 15 million tons LNG per year > Train 1 completed in 49 months > Trains 2 & 3 completed in 6-months intervals	$3.7 billion
LPG Extraction Facility:	$0.5 billion
Total EPC Cost:	$18.4 billion

Id., p. 14. Again, note that, consistent with its definition of its "Project," the Port Authority in its cost figures above does not include any costs for LNG tankers or for any LNG regasification facility(s) to which the LNG would be shipped from Valdez. The conclusion to be drawn from these and similar passages in the Port Authority's application is that it expects the "LNG … purchasers" to provide these tankers and regasification facilities.

33 SOURCE: In-person presentation by Harold Heinze, Executive Director of the Alaska Natural Gas Development Authority, to the State / National Affairs Committee on 22 June 2005. Scott Heyworth attended that presentation and agreed with Mr. Heinze's remarks.

34 *Id.*

35 "In this chapter, … 'project" means the gas transmission pipeline, together will all related property and facilities, to extend from the Prudhoe Bay area on the North Slope of Alaska either to tidewater at a point on Prince William Sound <u>and the spur line from Glennallen to the Southcentral gas distribution grid</u> or to tidewater at a point on Cook Inlet, and includes planning, design, and construction of the pipeline and facilities as described in AS 41.41.010(a)(1) – (5)." AS 41.41.990(3) (emphasis added). As the emphasized portion of the statute states, the "Spur Line" that the Alaska Natural Gas Development Authority is currently authorized to include in its project is the one from Glennallen to the Matanuska Valley that would be built in conjunction with a main Gas Pipeline from the North Slope "to tidewater at a point on Prince William Sound[.]"

36 Article XI, section 6 of the Alaska Constitution provides, "… <u>An initiated law</u> becomes effective ninety days after certification [of the election results approving it], is not subject to veto, <u>and may not be repealed by the legislature within two years of its effective date. It may be amended at any time."</u> (emphasis added).

37 TransCanada calls the existing pipelines from Alberta to the U.S. West Coast and Midwest the "existing prebuild" of the Gas Pipeline from the North Slope that was begun by Foothills Pipeline, which Trans-Canada has since acquired as a subsidiary. Here is a map showing TransCanada's proposal:

TransCanada Corp., *Application of TransCanada Corporation ('TransCanada') and Alaskan Northwest Natural Gas Transportation Company ('ANNGTC') Submitted to the Alaska Department of Revenue Pursuant to AS 43.82.120 For Approvals under the Alaska Stranded Gas Development Act* (1 June 2004), p. 4.

38 IRS Private Letter Ruling 03.02-01 (24 January 2000), published as Exhibit 4 to the Port Authority's *Application of the Alaska Gasline Port Authority to the State of Alaska, for Approval under A.S. 43.82 the Alaska Stranded Gas Development Act* (27 February 2004).

39 Id., pp. 3-4: "Section 103(a) of the Internal Revenue Code provides, in part, that except as provided in subsection (b), gross income [of a bondholder] does not include interest on any state or local bond. Section 103(c)(1) provides that the term 'state or local bond' means an obligation of a state or political subdivision thereof. … Based solely on the representations made and the definition of the term 'political subdivision' in [Treasury Regulation] § 1.103-1(b), we conclude that the Authority is a political subdivision."

40 *Id.*, p. 4: "[T]he Authority is not required to file federal income tax returns or pay federal income tax on its income."

41 Alaska Gasline Port Authority, *Application of the Alaska Gasline Port Authority to the State of Alaska, for Approval under A.S. 43.82 the Alaska Stranded Gas Development Ac*t (27 February 2004), Exhibit 1, p. 2.

42 *See* www.gov.state.ak.us/boards/rosters/board212.html (last visited 19 October 2005).

43 *See* AS 41.41.990(3) (defining "project" for the Gas Development Authority).

44 The Alaska Natural Gas Development Authority was created by the State of Alaska through a voter initiative as "a public corporation and instrumentality of the state within the Department of Revenue." AS 41.41.010(b). It has an independent legal existence separate and apart from the State. AS 41.41.010(c).

45 SOURCES for data for first 9 months of 2005 or figures as of 30 September 2005 are: ExxonMobil Corporation SEC Form 8-K, Exhibit 99.2 at www.sec.gov/Archives/edgar/data/34088/-000003408805000154/r102705992.htm (10/27/05); Royal Dutch Shell p.l.c. SEC Form 6-K at www.sec.gov/Archives/edgar/data/1306965/00016854805000124/qraq3fina-lengels.htm (10/28/05); BP p.l.c. SEC Form 6-K at www.sec.gov/Archives/edgar/data/313807/000119163805002078/-bp200510256k.txt (10/25/05); ConocoPhillips SEC Form 8-K at www.sec.gov/Archives/edgar/data/-1163165/00011575 2305009190/0001157523-05-009190.txt (10/26/05); and Chevron Corporation SEC Form 8-K, Exhibit 99.1 at www.sec.gov/Archives/edgar/data/93410/000095013405019931/- f13812exv99w1.htm (10/28/05). SOURCES for data for first 6 months of 2005 or figures as of 30 June 2005 are: ExxonMobil Corporation SEC Form 6-K at www.sec.gov/Archives/edgar/data/34088/-000003408805000119/r10q080405.htm; ConocoPhillips SEC Form 6-K at www.sec.gov/Archives/edgar/-data/1163165/000095012905007608/h2740e10vq.htm; Eni S.p.A. SEC Form 6-K at www.sec.gov/- Archives/edgar/data/1002242/000131143505000025/sj0905en6k.htm (9/21/05); and TOTAL S.A. SEC Form 6-K at www.sec.gov/Archives/edgar/data/879764/000095012305011538/y01174e6vk.htm (9/27/05). CAUTION: Hyphens at the line breaks in the citations above are not part of the URLs.

46 The objections of the states of California, Washington and Oregon to the FTC's settlement with BP were dismissed by the federal judge handling the consolidated antitrust cases, when she approved that settlement. [47] The figures for ConocoPhillips include the 1.8805236% of the Oil Rim and 0.2629370% of the Gas Cap that Phillips already owned in its own right in the Prudhoe Bay Unit. These changes in the percentages for BP, ExxonMobil and ConocoPhillips were made on 12 April 2000 and were retroactive to the first of that year.

48 SOURCE: ConocoPhillips' website (last visited 21 October 2005).

49 BP later bought out the other partners in the Milne Point Unit.

50 TransCanada Corp., Ap*plication of TransCanada Corporation ('TransCanada') and Alaskan Northwest Natural Gas Transportation Company ('ANNGTC') Submitted to the Alaska Department of Revenue Pursuant to AS 43.82.120 For Approvals under the Alaska Stranded Gas Development Act* (1 June 2004), p. 9.

51 "Consequently, ANNGTC (and its parent company, TransCanada) remain the sole and rightful holder of U.S. government-sanctioned, FERC certificates to construct the Alaskan Segment of the ANGTS [i.e., the Alaska Natural Gas Transportation System]." *Id.*

52 SOURCE: *Application of Mid-American Energy Holdings Company and MEHC Alaska Gas Transmission Company, LLC to State Of [sic] Alaska Department of Revenue for approval [sic] under the Alaska Stranded Gas Development Act* (22 January 2004), p. 9.

53 SOURCE: Enbridge Inc., *2003 Annual Report*, appended as Schedule 1 to *Application of Enbridge Inc. ("Enbridge") to the Alaska Department of Revenue Pursuant to AS 43.82.120 for Approvals under the Alaska Stranded Gas Development Act* (30 April 2004).

54 Enbr*idge Inc., Application of Enbridge Inc. ("Enbridge") to the Alaska Department of Revenue Pursuant to AS 43.82.120 for Approvals under the Alaska Stranded Gas Development Act* (30 April 2004), p. 7.

55 SOURCE: *Application of Enbridge Inc. ("Enbridge") to the Alaska Department of Revenue Pursuant to AS 43.82.120 for Approvals under the Alaska Stranded Gas Development Act* (30 April 2004), pp. 7 – 10.

56 See 45 U.S.C. § 1207(a)(6), enacted by Public Law 97-468, title VI, § 608 (14 January 1983) ("Alaska Railroad Transfer Act"); 26 U.S.C. § 115 (Internal Revenue Code); and 26 U.S.C. § 149(c)(2)(A) and (c)(2)(C)(ii) (Internal Revenue Code), enacted by Public Law 99-514, § 2 (22 October 1986) ("Tax Reform Act of 1986").

57 As of 31 August 2005 the Permanent Fund had assets of $32.03 billion and liabilities of $1.11 billion, for a net worth of $30.92 billion (unaudited figures); *see* Alaska Permanent Fund Corporation, *Monthly Report* (August 2005), p. 1; available online at www.apfc.org/iceimages/financials/2005_8_fin.pdf (last visited 5 October 2005).

58 It would not be hard to change the law to allow the Permanent Fund to own the Gas Pipeline as an "investment." Under AS 37.13.120 (entitled "Investment responsibilities"), as amended by § 1 ch 46 SLA 2005, the Trustees of the Alaska Permanent Fund Corporation may alter their list of authorized investments at any time merely by adopting a regulation to that effect, subject only to the "prudent investor rule."

59 The federal power to preempt state regulation of the Gas Pipeline arises from the authority of Congress to regulate interstate and foreign commerce under the Commerce Clause:

> The Congress shall have Power … To regulate commerce with foreign Nations, and among the several States, and with the Indian Tribes[.]

U.S. Constitution, Article I, section 8, clause 3. Congress has exercised this authority in enacting federal statutes conferring jurisdiction and regulatory authority on FERC to regulate pipelines involved in the interstate transportation of natural gas. See, e.g., Natural Gas Act, 15 U.S.C. §§ 717 et seq., as amended. FERC actions take pursuant to this statutory authority from Congress are paramount over any state statute, regulation or administrative order, under the Supremacy Clause:

> This Constitution, and the Laws of the United States which shall be made in Pursuance thereof … shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or tLaws of any State to the Contrary notwithstanding.

U.S. Constitution, Article VI, clause 2.

60 If the "All-Alaskan Route" project is built and the LNG is shipped in LNG marine tankers from Valdez to Kitimat in British Columbia, there could well be some issues about how regulatory jurisdiction over the tariffs for the marine leg of the transportation would be divided between FERC and the Canadian NEB. Since there is nothing but common sense to require that the FERC-regulated part and the NEB-regulated part add up to 100% of the marine transportation leg, it is at least a possibility that the two agencies' parts would add up to something either greater or less than 100 percent. In such a situation there would be a difference in methodology between the "All-Alaska Route" and a pipeline to the Lower 48, but whether this difference is favorable or unfavorable for Alaska would depend on whether the sum of the two parts is less than 100% or more than 100 percent.

61 AS 43.82.900(13) (definition of "stranded gas").

62 AS 43.82.100(2).

63 AS 43.82.210(a) lists the following kinds of taxes from which a project and its sponsors may be exempted by a

contract under the SGA:

(1) oil and gas production taxes and oil surcharges under AS 43.55;
(2) oil and gas exploration, production, and pipeline transportation property taxes under AS 43.56;
(3) *[repealed, §6 ch 34 SLA 1999];*
(4) Alaska net income tax under AS 43.20;
(5) municipal sales and use tax under AS 29.45.650 – 29.45.710;
(6) municipal property tax under AS 29.45.010 – 29.45.250 or 20.45.550 – 29.45.600;
(7) municipal special assessments under AS 29.46;
(8) other state or municipal taxes or categories of taxes identified by the commissioner [of revenue.]

Since the last item allows the commissioner to exempt a project and its sponsors from any state or municipal taxes or "categories of taxes" that the commissioner chooses, it allows the commissioner to extend the exemption under the contract to any and all taxes.

64 There were three different explanations to the Constitutional Convention by the Finance and Taxation Committee about sections 1 and 4 of its draft Article IX. The first was in the Committee's Commentary on the Article that

Fin. & Tax Committee Draft Article IX	*Fin. & Tax Committee. Commentary*
Section 1. The power of taxation **shall never be surrendered; and shall never be suspended or contracted away, except** *as provided herein.* Section 4. The real and personal property of the State and of its political subdivisions shall be exempt from taxation under such conditions and with such exceptions as the legislature may direct. All or any portion of property used exclusively for non-profit religious, charitable, cemetery, or educational purposes as defined by law, is exempt from taxation. OTHER EXEMPTIONS OF LIKE OR DIFFERENT KIND *may be granted by general law*; and until otherwise provided by law, all exemptions from taxation validly granted are retained. [emphasis added]	[Sec. 1. Taxing Power] The power to tax is never to be surrendered, but *under terms that may be established by the legislature*, **it may be suspended or temporarily contracted away**. THIS COULD INCLUDE INDUSTRIAL INCENTIVES, FOR EXAMPLE. [Sec. 4. Exemptions from Taxation] All property owned by the state and its subdivisions is exempt from taxation unless the legislature directs otherwise. An exception from tax immunity might be appropriate if a government engaged in what is normally a private business, such as operating a ski resort, a moving picture theater, or a swimming pool. The second sentence of this section is intended to exempt from taxation that part of the property of religious, charitable, cemetery, or educational organizations which is actually used for these purposes, as the legislature may direct. But their property used for other purposes would be taxable, for example, an office building owned by a college as part of its endowment. THE LEGISLATURE IS AUTHORIZED TO MAKE FURTHER TAX [EX]EMPTIONS TO ENCOURAGE, AMONG OTHER PURPOSES, NEW INDUSTRY, and all valid current exemptions are continued. [emphasis added]

The text in bold font in the two documents shows clearly that the inference of the "except clause" in section 1 was indeed intended to allow for taxation power to "be suspended or temporarily contracted away." The ALL CAPPED font shows "industrial incentives" to be the purpose for the "except clause" in section, and further shows the link between those "incentives" and the "Other exemptions " allowed under section 4. The commentary about section 4 specifically ties the "Other exemptions" language in that section to the concept of using such "tax [ex]emptions" to provide for the "industrial incentives" that the "except clause" clause in section 1 opens the door for.

The second explanation to the Constitutional Convention about how sections 1 and 4 work was made by the secretary of the Finance and Taxation Committee, Delegate Barry White, when the proposed Article was before the Convention in First Reading. See Alaska Legislative Council, 2 *Constitutional Convention: Minutes of the Daily Proceedings* (Juneau, AK 1965), pp. 1109-1111 (19 December 1955 – 42nd Day), for the text of Delegate White's comments. Once again, here are the text of the sections side by side with what was said about them:

Section 1. The power of taxation shall never be surrendered; and **shall never be suspended or contracted away, except** *as provided herein.*

Section 4. The real and personal property of the State and of its political subdivisions shall be exempt from taxation under such conditions and with such exceptions as the legislature may direct. All or any portion of property used exclusively for non-profit religious, charitable, cemetery, or educational purposes as defined by law, is exempt from taxation.

OTHER EXEMPTIONS OF LIKE OR DIFFERENT KIND *may be granted by general law*; and until otherwise provided by law, all exemptions from taxation validly granted are retained. [emphasis added]

Secretary White's explanation in First Reading

Section 1 is a rather routine statement that the power of taxation shall never be surrendered or contracted away. *The reason for the division of the thought there and the addition of the words, "except as provided herein" is to remove doubt as to what we might mean later on down in the article* BY PROVIDING EXCEPTIONS.

Section 4 deals with exemptions from taxation, most of it is pretty standard. The reason in the first sentence for the words, "with such exceptions as the legislature may direct" in referring to taxation of real and personal properties of the state and of its political subdivisions, is to leave to future legislatures the decision as to whether normally business enterprises of the state or political subdivision should or should not be taxable. The exemption given to religious, charitable, cemetery, or educational purposes is pretty standard. These are the only ones we have attempted to spell out here. **AND THEN IN THE LAST PARAGRAPH OF THAT** section it provides that OTHER EXEMPTIONS *may be provided by general law*. THIS WOULD ALLOW FOR, AMONG OTHER THINGS, FOR A GRANTING OF TAX INCENTIVES TO NEW INDUSTRIES. [emphasis added]

Once again, as one reads the passages in the different styled fonts in their respective contexts, the logical and contextual linkages between the passages of the same style is clear, and those linkages are also consistent with what the Committee itself said in its *Commentary*.

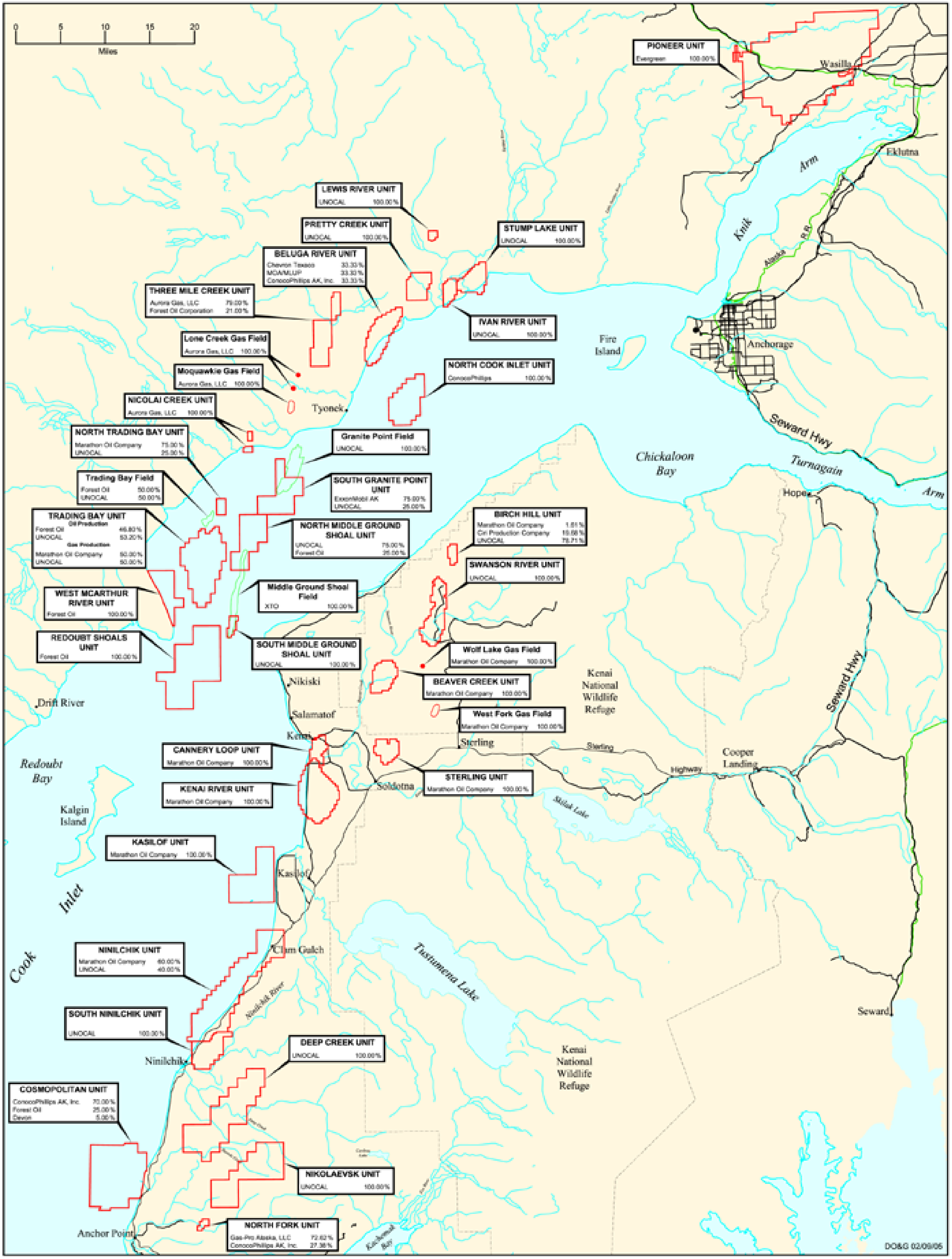
The third explanation to the Constitutional Convention about how sections 1 and 4 work was made by Delegate Leslie Nerland, who was the chair of the Committee on Finance and Taxation. See Alaska Legislative Council, 3 *Constitutional Convention: Minutes of the Daily Proceedings* (Juneau, AK 1965), pp. 2301-2301 (16 January 1956 – 55th Day) for Mr. Nerland's statement. It was made when the proposed Article was before the Convention in Second Reading. Below are the text of sections 1 and 4 and what was said about them, side by side:

Fin. & Tax. Proposal	*Chairman Nerland's explanation in Second Reading*
Section 1. The power of taxation shall never be surrendered; and **shall never be suspended or contracted away, except** as provided herein. Section 4. The real and personal property of the State and of its political subdivisions shall be exempt from taxation under such conditions and with such exceptions as the legislature may direct. All or any portion of property used exclusively for non-profit religious, charitable, cemetery, or educational purposes as defined by law, is exempt from taxation. OTHER EXEMPTIONS OF LIKE OR DIFFERENT KIND *may be granted by general law*; and until otherwise provided by law, all exemptions from taxation validly granted are retained. [emphasis added]	Section 1 of this proposal has been altered slightly from the usual wording of a number of state constitutions and also the model state constitution in that which, as some of you perhaps might have noticed, generally reads, "The power of taxation shall never be surrendered, suspended or contracted away." **THE COMMITTEE FELT THAT DEFINITELY THE POWER OF TAXATION SHOULD NEVER BE SURRENDERED SO WE INSERTED A SEMICOLON,** BUT WE DID FEEL THAT THERE WOULD POSSIBLY BE OCCASION AND GOOD JUSTIFICATION IN THE FUTURE FOR SUCH THINGS AS ALLOWING AN INDUSTRY-WIDE EXEMPTION TO ENCOURAGE NEW INDUSTRY TO COME IN AND THAT IS THE REASON **for the particular wording there**. *That is provided for under Section 4.* Section 4, the thought was to exempt the state [and] its political subdivisions from taxation under such provisions and such exceptions as the legislature may direct. There are certain conditions under which these properties might be subject to taxation, and the more or less standard phrase of all or any portion of property used exclusively for non-profit, charitable, cemetery, or educational purposes as defined by law is exempt from taxation AND THIS IS THE PROVISION THAT ALLOWS FOR SOME EXEMPTION OR INDUCEMENT TO INDUSTRIES OR SIMILAR THINGS. [emphasis added]

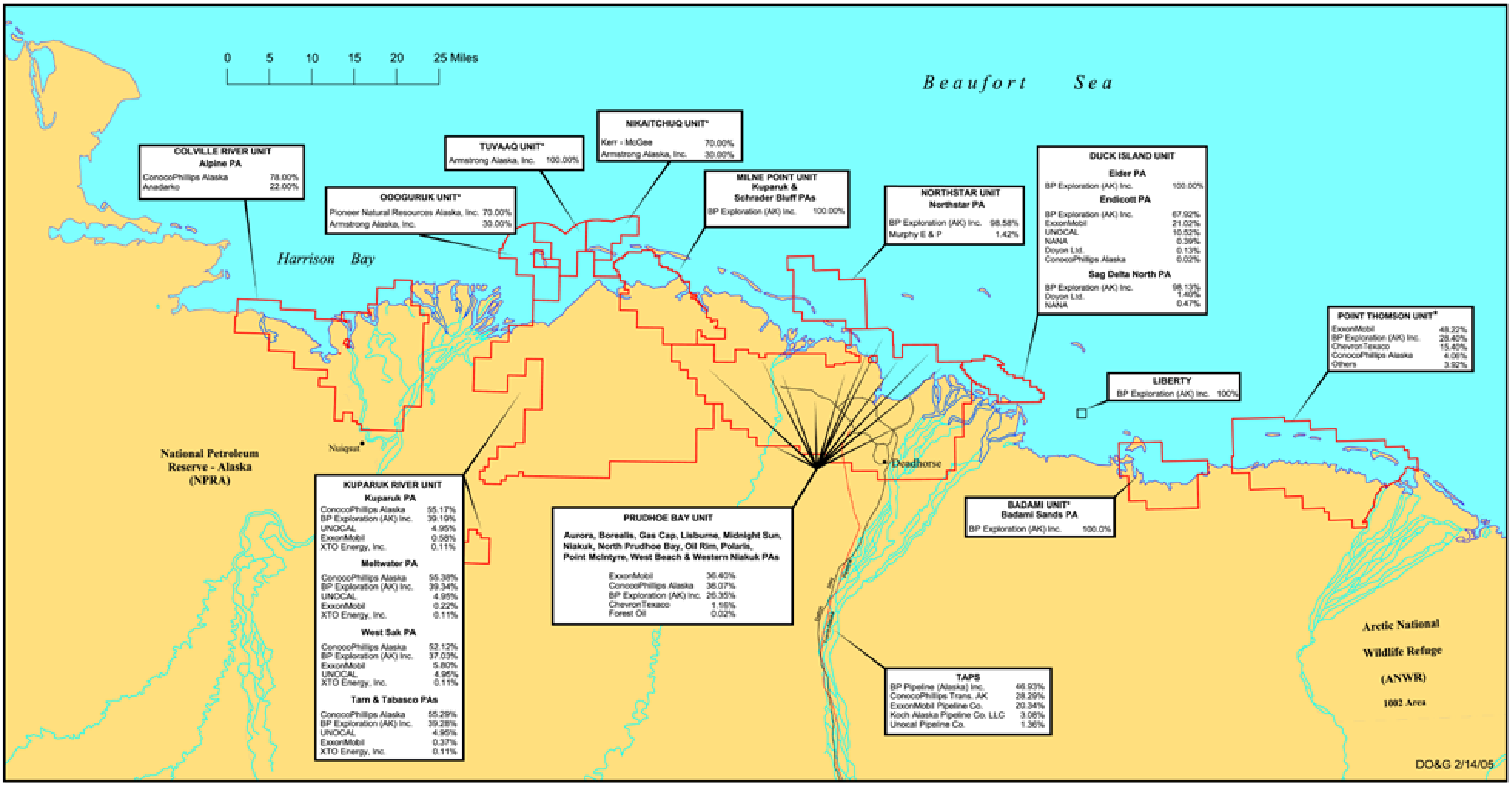
Here, too, the capped font shows the purpose of the "except clause" in section 1 to be to provide tax exemptions as incentives to attract industry, and that the "Other exemptions" clause in section 4 is the provision authorizing those exemptions. The italics in Delegate Nerland's explanation makes it explicit that the exception "provided herein" to which section 1 refers is the tax exemptions "granted by general law" in section 4. And again, the linkages between the passages in the same font styles are the same as the linkages found in the first two explanations to the Constitutional Convention about sections 1 and 4 work and interface with one another.

65 *See*, e.g., *Merriam-Webster's Dictionary of Law* (© 1996), entry under "contract" (available online at http://dictionary.reference.com/search?q=contract (last visited 27 October 2005)): "Contracts must be made by parties with the necessary capacity (as age or mental soundness) and must have a lawful, not criminal, object. Except in Louisiana, a valid contract also requires consideration, mutuality of obligations, and a meeting of the minds" (emphasis added). (For the benefit of the curious, the reason Louisiana does not come within this rule is that it is the only state in the U.S. whose source of law is not the common law originating in England. Louisiana was claimed for France by explorer Robert La Salle when he discovered the Mississippi River in 1682, it remained French until 1763 when it was ceded to Spain, and it had just been ceded by Spain back to France when President Thomas Jefferson bought it from Napoleon in 1803. The source of its laws is the system of French law now known as the Napoleonic Code.)

Cook Inlet Oilfield and Pool Ownership



North Slope Oilfield and Pool Ownership



*When there is no production or PA, percentages are based upon working interest ownership on an acreage basis.