

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 86/2
477 SCOMM14: JOINT GAS PIPELINE COMM. (FINANCING) 1979-80

Responsibility for managing the reserve, which was created as a Naval Petroleum Reserve by executive order of President Harding in 1923, passed from the Navy to the Interior Department in 1977.

The federal government spent about \$50 million during the decade between 1944 and 1953 drilling in the reserve. Several small oil and gas fields were found during that time, including the South Barrow Gas Field that supplies the village of Barrow and the Naval Arctic Research Laboratory. Carter's budget proposal would postpone further exploration and development of the Barrow area gas field "until a comprehensive study on alternative fuel supply and distribution systems is completed."

During the energy crisis of 1973, Congress launched a seven-year exploration program that was to cost between \$600 million and \$700 million. The goal of the program is to establish an information base to assist Congress in determining the best use of the 23 million acre area.

An Interior Department spokesman said the decision to end drilling this year stemmed from a legislative mandate to report to Congress on NPRA by January 1980. Therefore, any information gathered in 1980 would be too late for inclusion in the report.

By this September, a total of 19 exploratory wells will have been drilled in NPRA. Seven wells planned for fiscal 1980 will not be drilled if the President's proposal prevails in Congress.

Alaska Senator Ted Stevens criticized the Interior Department "for not living up to its commitment to explore the entire area for oil and gas," according to press reports. Stevens is expected to try to increase funding for exploration when the budget reaches the Senate Appropriations Committee.

An executive of Husky Oil, the prime contractor in the USGS exploration program, said that based on work the firm has done so far, "it would be a disservice to walk away or close the area up as a wilderness and not drill more in the future."

NPRA was once considered a highly prospective area that might contain as much as 33 billion to 100 billion barrels of oil. However, the latest USGS estimate of the reserve's potential is only one to three billion barrels.

KUPARUK FIELD TO BE DEVELOPED

The Atlantic Richfield Company has told state officials it wants to produce 80,000 barrels of oil a day from the Kuparuk field near Prudhoe Bay beginning in 1982.

Although the field is believed to have a total of 3.5 billion barrels of oil in place, the physical characteristics for production are poor and it is not expected that more than 15 per cent of the oil ultimately will be recovered.

The first 20 square mile portion of the field planned for development is owned 100 per cent by ARCO; ARCO and other companies own the remaining 47 square miles of the field, which may be developed in the mid-1980s.

An ARCO spokesman said a formal "go-ahead" has not yet been received from the company's corporate headquarters, but this approval is expected by April 1.

The company declined immediate comment on whether it plans to seek an increase in capacity of the Trans-Alaska oil pipeline to accommodate the additional production, or whether the Kuparuk oil would displace some of ARCO's and other companies' production from the main Sadlerochit reservoir.

COOK INLET GAS DISCOVERY ANNOUNCED

The Simasko Production Company has announced a "significant" new gas find about six miles south of Tyonek, a Native village on the west side of Cook Inlet.

Company President Don Simasko said the formation is thought to be of commercial quantity, although it will be several weeks before its size can be estimated, the Associated Press reported.

Simasko has been conducting exploratory drilling in the area for three and a half years in conjunction with its partner, Pacific Lighting Gas Development Co., of Los Angeles. Pacific Lighting's parent company is one of the major sponsors of the Pacific Alaska LNG project, which would liquify gas from 19 Cook Inlet fields at a Nikiski plant for export to Southern California. The project has not yet received federal approval.

A Pacific Lighting spokesman said Simasko's characterization of the find "may be a bit too optimistic."

Other

MEXICAN OIL AND GAS ARE COMPETITION FOR ALASKA

The new oil and gas finds in Mexico represent major competition for Alaska's resources, a Congressional Research Service study says.

Mexican oil is expected to displace Alaska oil in the U.S. Gulf, and Mexican gas (if Mexico can be persuaded to sell it) probably would be much cheaper for Lower 48 consumers than Alaska gas brought by pipeline from the Arctic, the study said.

To the United States, the new Mexican oil represents an attractive alternative to imported OPEC oil, and the Mexican gas is cheaper than developing other "supplemental" supplies now under consideration, such as SNG, LNG and the Alaska pipeline.

Even though the United States is a natural customer for Mexico, many predict the U.S. will have to redefine its traditionally dominant

relationship with the emerging power on its southern border if it wants a secure, long-term supply of Mexican oil and gas. This may include more economic aid to Mexico, lower trade barriers on imports of Mexican textiles and produce, and a reversal of present moves toward stringent immigration controls.

While not all experts agree on the potential size of Mexico's resource base (see The Christian Science Monitor, December 4, for a pessimistic view), the predominant view is that Mexico sits on an enormous, largely unexplored sea of oil and gas. By one account, there may be enough petroleum in Mexico to supply all U.S. energy needs for 40 years at current rates of consumption.

"Intensive exploration in Mexico is turning up oil fields so immense that they could overturn the conventional wisdom about world oil supplies and significantly alter the geopolitics of energy," Science magazine reported December 22.

The numbers of "proved," "probable," and "possible" hydrocarbon reserves -- which have been revised steadily upward by Mexico for several years -- are large indeed. The Mexican government at year-end announced still another increase, setting proved reserves (based on actual drilling and development) at 40.2 billion barrels, with an additional 44.6 billion barrels probable. Total possible reserves were set at 200 billion barrels. (These figures include both oil and gas; about two-thirds are oil, one-third gas.) In contrast, the "super giant" Prudhoe Bay field has proved oil reserves of about 9.7 billion barrels, while Saudi Arabia has proved reserves of about 150 billion barrels.

According to the December 6 Congressional Research Service (CRS) report, "Mexico's Oil and Gas Policy: An Analysis," Mexico appears to have a lot of oil and gas, but "the true yield from discoveries beyond the proven reserve estimates will remain somewhat unknown until more developmental drilling takes place." Current indications, CRS said, "are that a significant hydrocarbon resource is present, perhaps in the 30 to 50 billion barrel range with the possibility of even a large amount."

One result of the large Mexican discoveries may be a reassessment of the fundamental notions underlying U.S. energy policy.

The dual premises of U.S. energy policy, as first articulated by the Nixon-Ford administrations after the 1973-74 embargo and upheaval in oil prices, are that the world is running out of energy and that the nation must curb its ravenous appetite for imported oil.

It was in the context of this widely held belief that Congress and present and past administrations decided the nation needed an expensive pipeline to transport Prudhoe Bay gas to the Lower 48.

The prospect that some of the world's richest oil fields may lie next door in a relatively friendly, non-OPEC country seems likely to further

undermine President Carter's vision of an energy crisis so serious and so imminent that it requires a response amounting to the "moral equivalent of war."

The New Republic reported in August that the CIA alerted Ford administration officials to the scale of the Mexican discoveries in 1976, more than a year before they were made public, but that both Ford and Carter ignored them in shaping energy policy because public opinion would have turned even more deaf to energy-crisis rhetoric than it already had.

Now that the administration's energy program finally has passed Congress, most signs indicate that President Carter is about to launch a campaign to secure long-term supplies to Mexican oil and gas, beginning with his visit to Mexico in mid-February.

However, the administration still is maintaining staunch public support for the Alaska gas line project, and it has placed acquisition of Mexican and Canadian supplies below all domestic sources, including Alaska gas, in its list of priorities.

At a January news conference, Carter said that there is "no short-term urgency about acquiring Mexican natural gas" because "we have at this moment a surplus of natural gas in our own country." The President observed that the Mexicans are "very independent regarding their decision on how rapidly to produce their gas and oil," and "we would not try to encroach on this independence, nor try to encourage them to more rapidly produce gas and oil than they themselves desire."

One of the President's first problems during his February visit will be to untangle the embarrassing loose ends from the natural gas sale killed early last year by Energy Secretary Schlesinger. It is widely perceived that the administration badly bungled the proposed sale of Mexican gas to six U.S. distributors at a price of \$2.60 per thousand cubic feet (mcf).

Petroleos Mexicanos (PEMEX), the national oil company, had signed a letter of intent to sell the gas and had nearly completed construction on a pipeline that was to stretch from Cactus in southeast Mexico to Reynosa just south of the Texas border.

But the Carter administration refused to approve the sale, arguing the U.S. could not pay Mexico 44¢ per mcf more than it was paying for Canadian imports (\$2.16/mcf). The administration also was not eager to point out the fact that its energy bill limited gas prices for U.S. producers to considerably less than Mexico was asking.

"When compared to future supplemental gas supplies available to the U.S. in the 1980's, such as Canadian imports, synthetic natural gas with naptha as a feedstock, Alaskan gas and coal gasification gas, Mexican gas appears to offer the greatest supply potential at a price with which only Canadian imports can compete," the CRS study said. "However, the political consequences surrounding the abrupt termination of natural gas

negotiations in early 1978 between PEMEX and six U.S. natural gas pipelines has made future U.S. access to Mexican gas highly uncertain."

Since the gas negotiations ended, Mexico has announced it no longer intends to export its gas to the U.S. but instead will create a nationwide distribution network to use the gas in Mexico. The U.S. refusal to accept the \$2.60 price, which was based on the world oil price and calculated in terms of the Btu value of No. 2 heating oil delivered to New York, reportedly was extremely embarrassing to Mexican President Lopez Portillo and created strong political opposition in Mexico toward any hydrocarbon exports to the United States. "The idea that Mexico should tighten its belt and sell off its resources to the United States for less than the world price resulted in nationalistic outrage, particularly in view of the history of petroleum relations between the two countries," Science magazine said.

But, if President Carter, who has been taking Spanish lessons for some time, is successful in smoothing relations and reopening the gas negotiations, and if agreement on a sales price ultimately is reached, the Alaska gas pipeline project could become even more uncertain.

The CRS report gives the following "reasonable estimates of supplemental gas source prices" and predicts that Alaska gas will be among the most expensive alternatives:

1985 SUPPLEMENTAL GAS PRICES (1985 dollars)

	PEMEX <u>1/</u>	CANADIAN GAS <u>2/</u>	SNG COAL <u>3/</u>	SNG CIL <u>4/</u>	ALASKA GAS <u>3/</u>	LNG <u>5/</u>
1985	\$4.14	\$3.56-5.14	\$7.32-8.04	\$5.00-6.75	\$5.58-6.30	\$5.15

1/ Assume 6 per cent annual increase in No. 2 fuel oil price.

2/ CRS estimate based on Canadian and U.S. gas pricing policy.

3/ Prices for SNG coal and Alaskan gas from DOE intervention before FERC, ANG Coal Gasification Company proceeding, FERC Docket Nos. CP75-278, et al. June 1, 1978, p.5.

4/ Estimate assumes naptha as the feedstock and is based upon conversation with Bill Norman, J. Makowski, Associates, Boston, Mass.

5/ Tenneco Atlantic Algerian project.

The export of Mexican crude oil on a large scale -- at this point considered more likely than gas exports -- also could have an impact on Alaska.

"Mexican oil will almost certainly displace a large amount of Persian Gulf oil and could displace some Alaskan oil on both the Gulf and Pacific Coasts of the United States," the CRS report said. "This could present a serious problem to Alaskan North Slope producers who have no export option and who need substantial sales in both markets in order to maintain production and pipeline throughput levels. Faced with large sunk costs and no real alternatives other than 'shutting in' capacity, these producers will probably discount Alaskan oil to whatever level is necessary to undersell Mexican oil and to maintain their market shares."

The CRS report also said the prospect of possible sales of Mexican oil on the U.S. West Coast "may aggravate the existing surplus there."

Compared to Mexican crude, North Slope oil is worth 38¢ a barrel less solely because of its lower quality.

Mexican crude is now discounted on the U.S. Gulf in order to displace Saudi light crude, the CRS report said, and this lower cost of Mexican oil already is causing North Slope crude to be further discounted by 29¢ to 58¢ per barrel in the U.S. Gulf (not counting the 38¢ quality discount). By 1985, the report said, the discount on Alaska oil in the Gulf could amount to 64¢ to \$1.28 per barrel, even if the proposed Sohio pipeline from Long Beach, California, to Midland, Texas is built.

"Mexico will probably price its oil just low enough to back out Saudi light, but not low enough to displace ANS (Alaska North Slope) crude on a large scale (at the Gulf)," the report said.

By the 1990's, there's going to be a lot of Mexican oil available in the U.S. Gulf, which "will place heavy competitive pressures on all other foreign sour crude oil. If shipments of ANS crude to the Gulf Coast were reduced as a result, then the throughput of the PACTEX Pipeline (Sohio pipeline) could drop below 500,000 b/d by 1985. This could mean consequent increases in PACTEX tariffs or lead to further discounts in the price of ANS crude oil to make it competitive," the CRS report said.

"The net effect, therefore, could be one of either discouraging domestic production, especially in Alaska, or of reducing the profitability of North Slope operations," the CRS report concluded.

HAMMOND REQUESTS SUSITNA APPROPRIATION

Despite the tight state budget and general cash crunch, Governor Hammond has asked the legislature to appropriate \$8.1 million to provide guarantees for studies on the Susitna hydroelectric project.

The legislature last session passed a resolution authorizing the Alaska Power Authority to sell bonds to complete a four-year, \$25 million "Phase I" study, but the authorization was made contingent on passage of federal legislation that would reimburse the authority with federal funds if the project turned out to be infeasible. This legislation failed to pass Congress.

Although Senator Gravel intends to resubmit the proposal to Congress this year, it is still necessary to consider other interim financing alternatives because federal authorization would come too late to do geological, biological and engineering tests during the 1979 summer season, the governor said in a letter accompanying his proposals, SB 63 and SJR 6.

"The possibility of a one-year delay must be carefully weighed along with the many uncertainties surrounding a project which I believe will prove to meet the three pertinent criteria by which all such projects should be adjudged; is it environmentally acceptable, economically feasible and do the majority of the people desire it," the governor said.

Hammond said positive action on the appropriation is needed by mid-February in order for the Corps of Engineers to mobilize contractors and move equipment to the study sites before breakup.

"Due to the obvious complexity of the situation, including the possibility of complete State financing of the entire \$25 million study effort should the Congress fail to adopt Senator Gravel's proposal, I request that you take the earliest opportunity to consider this appropriation and its companion resolution in order to satisfy yourselves that this is the proper way to proceed on this project," the governor said in his January 18 letter.

The Phase I study will address the environmental, economic, social and engineering feasibility of the massive project, which would involve construction of two dams on the Susitna River and 365 miles of transmission line. The project is now estimated to cost about \$2.7 billion.

KELSO DESCRIBES PLAN TO BROADEN CAPITAL OWNERSHIP

Louis Kelso, the maverick investment banker who wants to make ordinary people rich, will soon unveil a capital diffusion plan for Alaska that, if adopted, "will be a model for other states and for every developing economy in the world."

Kelso told a group of legislators recently he recommended a similar plan to the Shah of Iran 10 years ago. "If he had followed my advice, he'd still be in power today," he said.

Kelso's recommendations for the economic and operating structure of an Alaska General Stock Ownership Corporation (AGSOC) will be made in a written report to the legislature February 15. Authorization to make the profits of an AGSOC exempt from federal corporate income taxation was granted by Congress last fall at the urging of Senator Mike Gravel.

Kelso, who met with legislators in Juneau January 25 to get "policy guidance" on the AGSOC's structure, outlined restrictions imposed by the federal law and said he thinks the restraints "are ones that the State of Alaska would favor."

The new federal law allows states to establish private corporations for the benefit of their citizens. These corporations, if they meet certain requirements, will not be subject to federal income tax. Instead, the shareholders of the corporation, which must include every qualified resident of the state who chooses to participate, will be taxed on their daily pro rata shares of the corporation's taxable income.

Restraints imposed by federal law include:

- Shares of the corporation's stock can't be transferred for five years after their original issue unless the owner dies or moves out of the state. Kelso said he would recommend that the stock be held in escrow during the first five years.
- No one individual can own more than 10 shares of stock.
- At least 90 percent of the corporation's income not used for corporate operating expenses must be distributed to shareholders each year.
- All residents of the state are entitled to a stock interest in the corporation, but they must be residents at the time the AGSOC is chartered (a date to be set by the legislature) and must remain residents until stock is issued. Kelso said Attorney General Avrum Gross is attempting to develop a definition of "resident" that will withstand constitutional challenge, but "there is no way to define it so that sooner or later a court suit won't arise."

Kelso also outlined a number of policy questions that the legislature will have to address:

- At what age should the citizen stockholders be allowed to vote their stock? Should children be allowed to vote, or should their parents be allowed to vote for them? Kelso said he thinks it is most sensible to specify that stock would not be voted until the shareholder reaches 19, Alaska's age of majority.
- Should an individual be required to sell his stock if he leaves the state, and if so, at what price and under what terms?
- How should the management of the corporation be structured? Kelso said he would recommend a nine-member Board of Directors, at least five of whom would have to be Alaska residents, to be initially appointed by the governor to staggered one-, two- and three-year terms and elected thereafter by stockholders to three-year terms.
- How should the transfer of stock be handled? Kelso said he would recommend that the corporation set up its own stock transfer department; the other alternative would be to do it through a bank.
- How will the corporation get money for the start-up costs of hiring management, getting legal advice, and investigating investment

possibilities? Kelso said between \$3 million and \$5 million would be needed for start-up costs, and the money could come from either a state grant or loan or a bank loan guaranteed by the state. Kelso said he prefers loans over grants because "this is intended to be a private enterprise, to pay all its costs, to stand on its own feet."

- How will the corporation get the billions of dollars needed to invest in large projects? ("The AGSOC is designed for big projects," Kelso said. "If it took on little projects, the income would be of no significance.") Using "project financing" techniques, the AGSOC would be able to borrow from conventional lending sources, although it would have to acquire a sizeable chunk of money in equity first. The equity could be loaned by the state, or the state could guarantee an equity loan. If the loan by the state comes from a state bond issue, or if the guarantee is an unfunded liability (as opposed to appropriation of a reserve), voter approval by referendum would be required.
- What project or projects should the AGSOC invest in? Kelso said his firm had studied one investment possibility, the Trans-Alaska oil pipeline, which "looked quite feasible." According to press reports, Senator Gravel's staff has calculated that an AGSOC purchase of British Petroleum's 16 percent interest in TAPS would generate enough earnings to pay expenses and debts and send about \$390 to every Alaskan.

Kelso and others point out that even though the federal law allows GSOC's to include only residents of the state and exclude future new residents, the plan may face constitutional challenges.

An analysis conducted by the Washington, D.C., law firm of Wilmer, Cutler & Pickering for the state Department of Revenue concludes: "In light of the history of constitutional challenges to a number of Alaskan laws that have treated residents more favorably than non-residents, an eventual constitutional challenge to the state's creation of a GSOC would not be unexpected." However, the consultants said, the plan can be structured in a way "that will minimize the possibility of success of any constitutional challenge," but a favorable result cannot be guaranteed.

The analysis said the most difficult problem with the GSOC is its "closed class" feature, which limits ownership to residents on a certain date and precludes persons who later qualify as residents from becoming shareholders.

Kelso suggested that one solution might be to allow new residents to purchase AGSOC stock at book value after a two-year waiting period.

Kelso is under contract with the Legislative Finance Division and the legislature's Joint Gas Pipeline Financing Committee.

HAMMOND APPOINTS OIL AND GAS CONSERVATION COMMISSIONERS

Three current state employees were recently appointed by Governor Hammond to serve on the new Alaska Oil and Gas Conservation Commission, which was created by the legislature last session.

Hoyle Hamilton, formerly director of the Division of Oil and Gas in the Department of Natural Resources, was named chairman of the commission. Lonnie Smith, formerly chief petroleum engineer for the division, and Harry Kugler, formerly chief petroleum geologist for the division, were named as the other two commissioners.

The new commission is an independent, quasi judicial body that has assumed the division's responsibility of administering the state conservation statute. Its duties include preventing the waste of oil and gas, protecting the rights of lease holders, and issuing drilling permits on all state lands.

The commission began operation January 1.

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ENERGY BACKGROUND REPORT FOR LEGISLATORS

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-- Compiled by Kay Brown, Policy Analyst --

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OIL SWAP PROSPECTS SUFFER SETBACKS

Legislators and Natural Resources Commissioner Robert LeResche have agreed to postpone temporarily a congressional lobbying campaign for the three-way royalty oil swap with Mexico and Japan, saying they will "keep a low profile" while Congress debates a proposed extension of the McKinney amendment.

House and Senate leaders met with administration officials April 10 to discuss recent setbacks in the state's attempt to convince President Carter, the Congress and the country that foreign exchanges of Alaska royalty oil are in the national interest and should be permitted.

Representative Stewart McKinney, a Republican from Connecticut, recently introduced legislation to extend indefinitely the restriction on exporting Alaska oil and reduce the already limited circumstances under which the President could seek congressional approval for the export of domestic oil. McKinney authored the current law severely restricting exports, which will expire June 22.

LeResche and legislative consultant Arlon Tussing said Sohio's tentative abandonment of its west-to-east pipeline and the Iranian revolution have set back the state's efforts by at least six months. October is about the earliest that President Carter might propose the swap to Congress, Tussing said.

"Were it not for two things, we'd be at the point of conducting a massive congressional lobbying campaign. One of those things is the Iranian revolution, which has put the whole world oil market in turmoil and made it practically impossible for us to negotiate a swap with Mexico, because the terms keep changing all the time," Tussing said. "The Mexicans don't know how much they can get in a straight sale to Japan, so how do we structure a swap until these things settle down? Mexico thinks right now it can get \$17.10 a barrel in straight sales to the United States. In that context, why would they bother going through the swap?"

If Mexico is able to get \$17.10 a barrel in the U.S. Gulf, then the state should be able to get \$3 a barrel more for Alaska oil sold in Japan, Tussing said, "and the swap makes the same sense as it did before."

On April 4, Mexico boosted its oil price by \$3 a barrel, a 21 percent increase.

Sohio's abandonment of the PACTEX pipeline has had a negative impact on the swap's chances of winning congressional approval, Tussing said, as

well as prompting "a flurry of cheap-shot demagoguery" and renewed expressions of patriotic desire for energy self-sufficiency.

"Right now I would judge that this is not the time for us to make waves with a unilateral assault on the sensibilities of Congress by trying to go ahead with a backdoor export, or trying to use some loophole in the law, or going to court," Tussing said.

Randall Moen, an attorney for the legislature's joint gas pipeline committee, urged the state to take more aggressive action by pursuing an exception in federal law that allows exchanges with the "adjacent foreign states" of Canada and Mexico. The state should complete negotiations on a swap with Mexico and Japan, apply to the Department of Commerce for an export license under the "adjacent foreign states" exception, and file suit against the government when it's rejected, Moen said. The Commerce Department interprets an adjacent nation exchange as one with "Mexico or Canada for consumption therein," Moen said, "which would preclude Alaska from any paper transaction with Mexico or Japan."

Nevertheless, Moen said, "it seems to me that if we are to be successful in the oil swap problem we must take the initiative by seeking relief through the courts, through Congress, through the President, through the Department of Commerce and Mexico. There are many ways to go about this, and we should use all means possible."

LeResche said that if the state attempts to take legal action under the "adjacent nation" exception, a restrictive version of the McKinney amendment closing the loophole is likely to become law.

Although the legislators eventually agreed to accept Tussing's low-profile strategy, several expressed concern over whether enough was being done.

"With Alpetco having a call on the oil in July of 1980, aren't we just kidding ourselves?" asked Representative Bill Miles. "Haven't we dropped the ball?"

Tussing responded that the "chances of Alpetco actually being eligible to purchase oil at that time are relatively small." Even if Alpetco does meet the requirements of its contract, he said, "it would be happy to step into the state's shoes on the swap."

Senator Bill Sumner said the state is losing \$100,000 a day because of the West Coast surplus, and "I'm getting the feeling that not enough is being done."

Assistant Attorney General Bob Maynard, who has assisted LeResche in negotiations with Mexico, said it is unclear whether the Mexico-Japan swap is still economically attractive for the state. Superior Court

Judge Compton's royalty oil decision means that the market must make up the difference in field charges the state will have to pay if it takes the oil in kind, Maynard said. (See page 9.)

Representative Chat Chatterton suggested the state investigate the possibility of purchasing producer oil for use in the swap to bypass this problem.

Senator Mike Colletta said he was "willing to concede that this is not the right time" to push ahead with an all-out lobbying campaign, "but in three or four months you've got to take positive action."

Tussing said he would investigate "new directions, other options," including the possibilities of swaps involving Israel and Canada, as well as continuing a "soft sell" in Congress on the state's position.

LeResche said the administration would meet with Pemex, the Mexican national oil company, at least one more time to see if the swap could be restructured under the new market conditions.

Although prospects for the swap looked promising when President Carter visited Mexico in February, congressional opposition has recently become more vocal.

Senator Henry Jackson of Washington, chairman of the Senate Energy and Natural Resources Committee and formerly a supporter of the swap, told a press conference in Seattle March 23 that the Alaska-Japan-Mexico oil swap is unlikely to win approval. "It's clear that it's not politically feasible. The Senate would not grant a waiver to the President for a swap," the Seattle Post-Intelligencer quoted Jackson as saying.

The Department of Energy has continued to express support for the swap before Congressional committees, and President Carter urged Congress to let the McKinney amendment expire June 22 in the background paper of his recent energy message, according to press reports.

MCKINNEY MAKES CASE AGAINST EXPORTS

Representative Stewart McKinney says the Prudhoe Bay oil producers have intended all along to export Alaska oil to Japan, and he's determined to stop them.

McKinney urged the Subcommittee on International Economic Policy and Trade of the House Committee on Foreign Affairs March 21 "to move this country farther down the road of self sufficiency by asking that the commitments made to this Congress in 1973 are commitments kept to this country in 1979."

The oil companies "are guilty of a breach of the promise to develop a domestic distribution system for Alaskan oil," he said. McKinney also told the subcommittee that:

- Sohio's decision to cancel the PACTEX pipeline is only further evidence of the long-term intent of the North Slope producers to force exports to Japan.
- The federal government should take action forcing the oil companies to make the necessary investments to convert from processing low sulfur Iranian oil to relatively high sulfur Alaskan oil.
- In the short run, surplus Alaskan oil should be stored in the U.S. Strategic Petroleum Reserve until such refinery capacity becomes available.
- To the extent that treaty commitments exist between the United States and other countries, like Israel, exports of Alaskan oil should be permitted.
- "What would be the attitude of the constituents of the members of this subcommittee if they saw foreign flag tankers carrying Alaskan crude oil to Japan while at the same time gas stations in their communities were closed on Sunday?"

Converse Hettinger, director of the Short Supply Division, Office of Export Administration of the Bureau of Trade Regulation, Department of Commerce, said:

- It is not clear whether short-term Alaska oil exports would discourage construction of the Sohio pipeline.
- The Commerce Department believes a rigid policy banning exports could operate as a long-term disincentive for production and exploration on the North Slope.

Assistant Attorney General Robert Maynard, appearing on behalf of the State of Alaska, told the subcommittee that:

- Of the numerous restrictions on exports in current law, the state has a problem with only one, which is contained in the McKinney amendment. "The exchange we are arranging can meet this standard, but we feel it is unduly restrictive nonetheless. We oppose the requirement that an export will have a positive effect on consumer oil prices by decreasing the average crude oil acquisition costs of refiners."
- Recognizing the political problems of explaining exports to the American people in a time of oil shortage, the state is not suggesting a repeal of all export restrictions, or even a major change

in existing export requirements. "We are simply advocating the beginning of a step in a direction that all seem to recognize as being in the real interest of the United States--even though it is one that public perception may not fully comprehend. We are simply asking for a relaxation of export restrictions, and the perfect opportunity is in the scheduled demise of the McKinney amendment."

Alvin Alm, assistant secretary for Policy and Evaluation, Department of Energy, told the subcommittee that the proposed McKinney amendment unnecessarily inhibits the ability of the President to make decisions in response to the energy needs and requirements of the country.

Gerald Rosen, director of the Office of Fuels and Energy, State Department, seconded that view, saying that because of international treaty provisions, such as the Sinai II Agreement with Israel and the International Energy Agency, the administration prefers minimal legislative restrictions on the President's authority to permit the export of domestic oil and consequently opposes the McKinney amendment.

SOHIO PULLS OUT

Standard Oil Co. of Ohio, the only major North Slope producer unable to sell the bulk of its Alaska production on the West Coast, apparently will not build its proposed oil pipeline from California to Texas.

Sohio officials say there is only a slim chance the project will be revived. Sohio Chairman Alton W. Whitehouse, Jr., said a "miracle" would be needed to save it.

President Carter proposed legislation to expedite the project in his national energy address April 5. Representative John Dingell, D-Mich., and Representative Morris Udall, D-Ariz., already had proposed a law that would allow Congress to pre-empt certain state and federal laws delaying the project, upon a recommendation from the president.

Whitehouse said Sohio was willing "to provide constructive assistance" for a few months "to see whether government can finally clear the way for the project to begin." But he said he doubted the Congress would pass legislation overriding California law; even if such a law could be passed, it probably could not be done in time to save PACTEX. The California legislature is unlikely to exempt the project from existing environmental laws, Whitehouse said.

"If somebody works a miracle--if lightning strikes quickly--and answers the difficult problems which remain, Sohio will reexamine the project," Whitehouse told congressional committees April 2. "But time and economics are running against all of us."

Sohio announced March 13 it would abandon PACTEX after spending four and a half years and more than \$50 million trying to get approval, because of endless regulatory delays, pending and threatened litigation and erosion of the project's once-attractive economics.

The \$1 billion project would have moved Alaska oil more than 1,000 miles inland from Long Beach to Midland, Texas; it was considered the leading contender among all proposals for long-term resolution of the West Coast oil surplus.

Sohio said its principal reasons for abandoning the project were:

Economic--If the pipeline had been operating in 1978, as originally projected, it would have had a cumulative throughput equal to all the surplus Alaska oil on the West Coast. After mid-1982, the remaining surplus to be moved through the line would have decreased to a level insufficient to support the economics of pipeline investment. Additional delays from litigation and obtaining final permits have pushed the startup date back to 1983.

In response to questions from Senator Henry Jackson, D-Wash., Sohio projected its 1982 North Slope wellhead netback at \$6.98 for oil shipped to the U.S. Gulf Coast through the Panama Canal, compared to a wellhead netback of \$7.48 for oil delivered to the Gulf Coast through PACTEX. The company said it currently has a North Slope wellhead netback of \$6.01 for West Coast sales, and a \$4.02 wellhead netback for oil shipped through the Panama Canal. (Figures obtained by the Legislative Affairs Agency Research Division show an average February North Slope netback of \$4.56 for oil moved through the Panama Canal.)

Inflation in the cost of the pipeline and terminal due to delay also adversely affected the project's economics.

Permitting delays--After more than four years of work, Sohio was unable to obtain all of the more than 700 state and federal permits required. Almost all of the remaining unresolved questions involved environmental reviews and approvals by California state agencies. "The complexity of the issues, the number of agencies involved, and the procedural requirements of law, gave rise to a lurking fear that a final answer could not be achieved, or what is more important, that it would be impossible to predict how long it will take to secure a final answer," the company said.

Litigation--Without pre-emptive California legislation, extensive time-consuming litigation was assured. Three cases already are pending in the California courts. These suits challenge the adequacy of the basic project Environmental Impact Report (required by the California Environmental Quality Act), the approval of the California Public Utilities Commission to convert part of a natural gas pipeline into the oil line, and the validity of the Port of Long Beach lease with Sohio.

Even if expediting legislation proposed by Sohio to the California legislature were passed, litigation challenging the legislation itself or actions of various California agencies pursuant to that legislation had to be expected, Sohio said. "We have been informed a number of times by several different persons of their intent to pursue legal action against this project at every possible juncture," Sohio said.

Gas pipeline availability--PACTEX would use two existing, unneeded natural gas pipelines owned by El Paso Natural Gas Co. and Southern California Gas Co. "We have recently been informed by a gas transmission company that natural gas production in the Southwest United States is not declining at expected rates, that current Canadian natural gas supplies could further increase the availability of natural gas in the Southwest and that additional supplies of natural gas may become available from Mexico. Sohio has no knowledge itself about the correctness of this assessment," Whitehouse said. The possibility the gas pipelines might be needed for gas is yet another issue that might be used to sidetrack resolution of the remaining problems.

Legislative solutions--Pre-emptive legislation overriding California environmental laws is unlikely to pass either the California legislature or Congress, the company said.

INTERIOR EVALUATES ENVIRONMENTAL IMPACTS OF PIPELINE PROPOSALS

The Department of Interior's Bureau of Land Management (BLM) is completing an Environmental Impact Statement on a number of oil pipeline proposals for moving Alaska oil eastward.

The bulk of work on the draft environmental analysis, which was reviewed at a series of public hearings in the Northwest and in Alaska this spring, relates specifically to the Northern Tier Pipeline proposal. The final EIS will be broadened significantly to include an environmental assessment of the Northwest Energy-Foothills Skagway-to-Alberta proposal, the Kitimat proposal, and the Trans Mountain Pipeline reversal, a BLM spokesman said at a public hearing in Juneau March 19.

A new law passed last fall as part of the national energy program established an expedited procedure for presidential selection of one or more of the competing oil pipelines; the law required that Environmental Impact Statements on the proposals be completed by December 1, 1978. BLM was unable to meet that deadline, but it is expediting all oil pipeline applications.

Once the EIS process is completed, the Secretary of the Interior will recommend to the President which of the pipelines should be built. The President will choose. Once a pipeline is selected, the new law provides for expedited action on all federal permits, licenses and approvals for construction and operation of the system.

Most testimony at BLM's Alaska hearings on the Northern Tier draft EIS related to the Northwest Energy-Foothills proposal for a major oil port at Skagway and pipeline to Alberta. The reaction from Juneau residents was mostly negative; fishermen, conservation groups and the U.S. National Park Service questioned whether oil tankers could operate safely in Southeast Alaska waters without harming fisheries. Testimony at a March 20 hearing in Skagway was mostly positive; local residents emphasized the benefits of new jobs from construction and operation of the oil port.

Revenues

OIL REVENUE PROJECTIONS RISE

Projections of Alaska's oil and gas revenue released simultaneously on March 27 by the Department of Revenue and the Legislative Affairs Agency's Research Division both show sharp increases in fiscal year (FY) 1980.

The agency estimates that FY 1980 revenues will be about \$190 million dollars more than had been estimated in January by the Department of Revenue. The Department of Revenue's March estimate shows an increase of only \$90 million dollars for FY 1980. The increases are attributable principally to expected increases in pipeline throughput (from 1.19 million barrels per day to 1.35 million barrels per day) and to rising oil prices associated with the disruption of Iranian oil production.

In memoranda accompanying the estimates both the agency and the Department of Revenue emphasized the great uncertainties surrounding oil revenue projections. For example, actual FY '80 revenues could be as much as \$372 million dollars higher than the January estimates if the state should get favorable rulings on the TAPS tariff and royalty pricing cases currently pending, the agency said. On April 9 the state did receive a favorable ruling on its royalty suit, but state attorneys say the matter almost certainly will be appealed.

Both the agency and the Department of Revenue said unfavorable regulatory actions or natural disasters conceivably could reduce oil revenues to levels below those estimated in January.

"The currently optimistic outlook really represents no fundamental change in the state's long-term financial position. It remains our view and the view of almost all responsible parties who have studied the issue that the 'hard landing' occasioned by the eventual loss of Prudhoe Bay revenues remains a crucial problem for Alaska," the agency said.

Copies of the revenue projections issued March 27 by the Department of Revenue and the agency are available in the Research Division's office.

STATE WINS VICTORY IN ROYALTY SUIT

State Superior Court Judge Allen Compton has ruled that North Slope producers cannot charge the state for treatment and cleaning of royalty oil and gas taken in value.

The decision, issued April 9, will mean \$1 billion to \$1.3 billion in oil revenues alone to the state over the life of the Prudhoe Bay field if Compton's ruling is upheld on appeal. Field charges amount to \$1.11 a barrel. Under an interim agreement pending settlement of the suit, the companies have been charging the state an average of 64 cents per barrel for field expenses.

The state filed the suit in September, 1977, to resolve a dispute between the state oil and gas leasing laws and the actual language of the leases.

The state argued that the Alaska Constitution and state law require that its 12½ percent royalty share be valued as oil enters the Lease Automatic Custody Transfer Meter (LACT) of the TAPS pipeline. The statute says the royalty "shall not be less than 12½ percent in amount or value of the production removed or sold from the lease." The state contended that "production" has not occurred until the oil is in marketable form, which is at the LACT meter.

The oil companies contended that the legislature delegated the authority to determine the method of valuing royalty payments to the Commissioner of Natural Resources, who exercised that authority when the leases were sold. The leases say royalties are to be valued "at the well" if taken "in value," and the companies say that means somewhere in the field before the oil has been treated.

Compton said federal court decisions support the state's contention that oil and gas cannot be deemed "produced" within the meaning of the law until the oil and gas is in marketable form. He also said the Alaska Constitution clearly states that the state's resources should be developed "to provide the maximum benefit to the citizens of the State."

If the state takes its royalty oil "in kind," however, the companies are allowed to charge the state for "cleaning and dehydrating," which is specifically authorized in the leases, Compton said.

"However, pursuant to Constitutional mandate, the State may not take royalty 'in kind' unless, after said deductions, it will be in the best interests of the State to do so, which presumably means that it will be

receiving an amount at least as great as it would if the royalty was taken 'in value.' This is the only interpretation which would comport with the Constitutional requirement that the legislature develop the natural resources 'for the maximum benefit of its people,'" Compton said.

The Alpetco contract with the state for the purchase of Prudhoe Bay royalty oil specifically states that Alpetco will pay the "in value" price for oil and will reimburse the state for any costs incurred by the state solely because it took the oil in kind.

Compton's decision also applied to gas royalties, but the effect on the allocation of conditioning costs is not yet clear. Compton held that producers will have to bear all costs incurred prior to the gas entering the functional equivalent of the LACT meter into the Trans-Alaska pipeline.

Compton's decision on field costs affects roughly half the money at stake in the royalty suit. The calculation of tanker charges and other "downstream" issues have not yet been decided.

STATE AUDITS TANKER CHARGES

A study of tanker transportation economics by Martingale, Inc., indicates artificial inflation of the tanker charges claimed by some North Slope oil producers, Petroleum Revenue Director Tom Williams says.

The Petroleum Revenue Division has begun new audits of the oil companies' books as a result of the Martingale study, which was released in March.

"With respect to some of the companies, this will put their feet to the fire because they've claimed substantially higher costs than are indicated in Martingale," Williams said. "The differences are small for some companies, but there are some major differences. This puts the burden on the companies to document their costs and to rebut Martingale. They will in the course of this audit have the opportunity to come forward with evidence and supporting documents, and I don't want to prejudge their arguments."

The tanker charges for moving Prudhoe Bay oil from Valdez to the U.S. West and Gulf coasts affect the wellhead value of the oil, on which state royalties and severance taxes are based. The wellhead value is computed by subtracting the pipeline tariff, field charges and tanker charges from the destination sales price of the oil.

Whether the tanker charges claimed by the companies are too high will eventually be litigated as part of the state's royalty suit against the companies, now pending in state Superior Court.

The Martingale study, prepared for the legislature and the Department of Revenue at a cost of \$68,400, examines and estimates the costs for a variety of tanker arrangements used by North Slope producers for moving Prudhoe Bay oil to market.

OIL COMPANIES SUE STATE OVER CORPORATE INCOME TAX HIKE

The major North Slope oil producers, with the notable exception of Exxon, and their pipeline affiliates have filed suit against the state on grounds that the new oil and gas corporate income tax law is unconstitutional and discriminatory.

The suit, filed March 22 in Anchorage Superior Court, asks that the court prevent enforcement of the tax law passed by the 1978 legislature and order a refund of 1978 taxes paid under protest. The suit was filed by Arco Pipe Line Company, Atlantic Richfield Company, BP Alaska Inc., Sohio Natural Resources Company, Sohio Pipe Line Company--all the major North Slope producers except Exxon.

The oil industry met the Department of Revenue's March 15 deadline for payment of 1978 taxes under the new law--collectively paying \$162.5 million this year.

The companies charged in the suit that the tax was tailored essentially to cover only companies owning production interests at Prudhoe Bay and is therefore discriminatory. The companies also charged that the tax violates constitutional protection against double taxation. The tax violates the equal protection and due process clauses of the Constitution because the tax bears no "fair relation" to services provided by the state, the companies claimed.

State Attorney General Avrum Gross said state attorneys researched potential constitutional challenges to the tax before the governor signed it into law last year.

"A lot of the questions are close, but it was our belief then that the court would uphold the constitutionality of it, and we believe so now," Gross said.

Petroleum Revenue Director Tom Williams said the suit may be in court one to three years before a final decision is reached.

TAPS TARIFF SETTLEMENT PROPOSED

Federal Energy Regulatory Commission Administrative Law Judge Maxwell Kane has proposed a partial settlement in the Trans-Alaska Pipeline

tariff case that would substantially lower the state's cost of moving oil through the pipeline.

If the parties to the tariff case, which has been pending since the summer of 1977, agree to the settlement, the average tariff would be reduced to about \$4.78 per barrel at a throughput of 1.35 million barrels a day, down from the current average of \$6.21. State attorneys say oil company representatives have expressed little interest in discussing the proposed settlement.

The Legislative Research Division estimated that fiscal 1980 state revenues would be about \$123 million higher if the settlement is adopted.

If the parties to the case refuse to accept the settlement, the Administrative Law Judge would make a ruling that could be appealed to the full FERC. FERC's decision could then be appealed to the federal courts.

The proposed settlement affects only "Phase I" general issues of methodology. The main issue to be resolved in "Phase II" involves the costs of constructing the pipeline.

STATE OIL TAX POLICIES DRAW NATIONAL CRITICISM

Two prestigious business publications claimed recently that unreasonable state oil taxes have impeded exploration and development of oil and gas reserves and prevented the nation from achieving energy independence.

"The clearest reason why oil companies are pulling back on further Alaskan development is the state's grab-the-money-and-run tax policies," Business Week said in an editorial February 26. "Alaskan officials...should stop treating the oil companies as the answer to all state financial needs, present and future. Sticking it to them now may look politically appealing, but in the long run it could mean less income for Alaska and less vitally needed oil for the rest of the country."

Business Week's editorial was accompanied by a lengthy cover story, "The Great Alaskan Oil Freeze," which detailed the factors--high transportation and operating costs, environmental problems, state taxes, and lack of exploration opportunities--causing the industry to leave Alaska.

Several weeks later, the Oil and Gas Journal claimed that "Alaska is no longer the plundered state--through runaway taxation it has become the plunderer."

"Alaska has erected as severe a barrier to development as the U.S. Government and the environmentalists," the March 12 Oil and Gas Journal editorial said. "It must not try to emulate OPEC's sharing of resource profits. There is a limit to entrepreneurial patience."

Although oil industry spokesmen have been making the same points for a long time, the articles angered some legislators.

Republican Senator Bill Sumner of Anchorage, who opposed the corporate income tax increase on the oil industry last year, said he was concerned that "continued exploitation of one-sided facts or one-sided conclusions" may discourage some companies from future involvement in Alaska. "If I keep hearing this song sung to the extent that it is counterproductive to Alaska, the industry would have a problem with me...I'm wondering who's promoting (these articles) and I'm going to try to find out..."

"I'm prepared to review the oil taxation as it relates to the oil industry in Alaska. But what I'm not willing to do is to see this thing continue, the flames of this issue continue to be fanned to the point that it creates an adverse climate which serves to the detriment of the Alaska people," Sumner said at a March 16 meeting of the Senate Resources Committee.

Oil and gas consultant Milton Lipton agreed. "I felt very distressed about the (Oil and Gas Journal) editorial, not because I think Alaskan taxation in the petroleum field may not warrant legitimate and sensible criticism, but because the conclusions that were drawn from it were so extreme and I believe so wide of the mark and so inappropriate that it rather bothers me that the Oil and Gas Journal would do a piece such as that....I don't believe that the tax regime of Alaska is driving the oil industry away from exploration in Alaska," Lipton said.

Leasing

LEGISLATORS QUESTION TIMING, PREPARATIONS FOR BEAUFORT SEA SALE

Some legislators have raised questions about the Hammond administration's preparations for the December Beaufort Sea oil and gas lease sale, the state's first major lease sale since Kachemak Bay.

At an all-day hearing March 31, the House Resources and Finance committees heard about a dozen witnesses outline environmental, legal, economic and administrative problems that should be resolved if the sale is to proceed on schedule.

Spokesmen for Exxon and Chevron urged that the sale be held in December and that a cash bonus bidding method be used. The committees plan to hold another hearing in mid-April to take additional testimony from the oil industry on its ability to overcome environmental problems associated with drilling in Arctic waters.

Leadoff witnesses from the Legislative Affairs Agency research staff said that, in their view, the Division of Minerals and Energy Management has seriously underestimated the amount of work necessary to implement the new leasing law adopted by the legislature last year and is seriously understaffed for the job at hand.

Research Director Gregg Erickson pointed to recent management changes in the department as a reason for some of the problems in implementing the law. Preleasing regulations under consideration last year were dropped, Erickson said, "because of a perception on the part of the new division director, Mr. (Tom) Cook, that their adoption would even further complicate his already difficult tasks in getting state land under oil and gas lease."

Agency researchers also outlined problems that have developed in attempting to reconcile a large number of conflicting state and federal leasing laws and regulations. Issues not yet resolved include bidding methods, royalty requirements, length of leases, environmental stipulations and mitigating measures, unitization and other post-sale administrative activities, and an interim legal agreement to govern the disposition of bonuses and royalties from disputed acreage.

Spokesmen from the North Slope Borough, the area that will be most directly affected by offshore exploration in the Beaufort, said the sale is premature and should be delayed for environmental reasons. Borough Mayor Eben Hopson, who opposes any leasing beyond the Barrier Islands, said there is widespread opposition to the sale throughout the Borough and "my cooperative attitude is being maintained at increasing political cost."

Alaska Legal Services attorney Don Clocksin, representing the villages of Kaktovik and Nuiqsut and the City of Barrow, said his clients oppose leasing at this time inside as well as outside the Barrier Islands. "The basic position we take is that we do not know enough about the offshore area of the North Slope to proceed with a lease sale in that area at all at this time. We believe it is possible in the reasonably near future to have enough information, and assuming that information is positive...our clients take the position that as long as they can be assured that the activity can be done safely, their position will change and they will not oppose the lease sale," he said.

Clocksin said it is important to resolve environmental problems before leases are issued, because "industry takes the position that once they have leases, they have essentially an unalterable right to proceed with exploration and production. At the point the leases are issued, at least according to the industry point of view, we have lost much of our ability to restrict or prohibit certain types of dangerous activity."

The Department of Natural Resources did only a brief and "hopelessly inadequate" social analysis before deciding to hold the Beaufort sale, he said.

Clocks in and others questioned whether the technology currently exists for the oil industry to operate safely in the ice and permafrost conditions of the Beaufort Sea, particularly in the shear and pack ice zones in the area beyond the Barrier Islands.

Dr. William Sackinger, an associate professor at the University of Alaska's Geophysical Institute, said exploration could proceed in water depths of six to 35 feet, where there is some ice movement, but "I really think that we need a much longer data base to make a proper design for a production operation in that kind of water depth." The sale area encompasses water depths of up to 60 feet.

Some witnesses said industrial activity in the Beaufort Sea may harm the area's fish, wildlife and subsistence resources, particularly the endangered bowhead whale.

Chuck Evans of the Arctic Environmental Information and Data Center said it is going to take "at least two or three years to say definitely that bowheads do not occupy those waters (proposed for leasing) at any time." It is extremely difficult to predict the effect that industrial disturbance will have on wildlife, Evans said.

Much of the testimony at the hearing centered on administrative problems with the sale, in particular whether the Department of Natural Resources had conducted an adequate economic analysis to determine which bidding methods would best maximize the value of the resource. Legislators also wanted to know whether the administration was pursuing the best legal strategy in attempting to resolve an ownership dispute with the federal government over about 19 percent of the lands in the sale area.

Legislators questioned economist-consultant Arlon Tussing on how the unresolved West Coast oil surplus will affect bidding by the companies. "...If we have a cash bonus sale, those bonuses are going to reflect a great deal of uncertainty. The companies are almost certainly going to bid on the basis of what they anticipate the price will be of the marginal barrel on the Gulf and East coasts. They're going to assume that they're not going to be able to export and there will be no pipelines. These will be on top of the discounts with respect to engineering uncertainty, taxes, inflation and so on," Tussing said.

Natural Resources Commissioner Robert LeResche said that although many things remain to be worked out, the department will complete a responsible analysis of the problems in a timely manner.

"I can tell you that if we decide the best way to (lease) the Beaufort is net profits (bidding), we'll be perfectly capable of doing it within the time frame allotted. And despite Tom Cook's earlier unfortunate remark that it would be an administrative nightmare, there are ways we can make it administrable without a lot of problems," LeResche said.

The state will be assisted by 30 or 40 federal USGS employees who already have gathered a great deal of seismic and geologic data, he said. "I personally consider that perfectly adequate preparation and data-gathering for a sale of this magnitude."

DMEM CONSIDERS CASH BONUS BIDDING SYSTEMS FOR BEAUFORT SALE

Although no final decisions have yet been made, state officials involved in planning the Beaufort Sea lease sale currently favor a system of cash bonus bidding. This system might be coupled, however, with a lease that requires the producer to share his profits on a fifty-fifty basis with the state.

The main points of this system now under discussion by personnel of the Division of Minerals and Energy Management (DMEM) in the Department of Natural Resources are:

- The state's nominal share of the net profits would be fixed at between 40 and 50 percent.
- The lease would be awarded to the bidder offering the highest cash bonus.
- Only 20 percent of the cash bonus would be required to be paid immediately, with the balance to be paid over as much as 10 years.
- Net profits payments would not be made to the state until the producer had recovered all investments in developing the tract, plus accrued interest; the bonus payment would not be counted as part of the development investment.
- The lease agreement would also provide for the payment of a minimum (12½%) royalty to the state.

Because of the allowance for capital recovery, little or no net profits would be paid to the state during the early years of production. However, the state would receive annual installments on the deferred bonus, and after production began, would also collect severance tax, the 12½% royalty, and probably income tax payments as well.

An important question not yet resolved, and one that would have significant impact on the amount of time that would elapse before the state started to collect its net profit share, relates to the rate at which the producer would be allowed to accrue interest expenses on his development costs. A relatively high rate of interest (18-20% per annum has been mentioned) would mean that a much longer period of time would elapse before the state would start to collect its net profit share.

Although the net profits leasing system described above is the one currently being given the most serious consideration by DMEM, and the one that has been embodied in informal draft regulations, three other systems also have been discussed. They are:

1. The so-called "British system," which the federal government currently favors as its system of choice if a net profits arrangement is adopted on any of the federal or disputed tracts leased in the Beaufort Sea. The biggest difference between this system and the one currently preferred by the state is that no interest on development expenditures would be allowed. Instead, the producer would be permitted to recover up to twice the amount invested in development of the tract before he would be required to start paying the nominal net profits share to the government.
2. The net income tax system, under which the existing state corporate oil and gas income tax calculations would be used to determine the net profits base. Under this system payments would be much more evenly distributed over the producing life of the lease. In addition, it would eliminate the need for both the producers and the state to keep separate sets of books for net profits lease accounting.
3. The so-called "annuity system," under which the development investment would be recovered with interest over some arbitrarily selected period of time roughly corresponding with the life of the field.

Even if the formal issuance of draft regulations governing net profits leasing is deferred until mid-July, that may not be sufficient time to thoroughly evaluate the relative merits of the four possible net profits leasing schemes, and the many possible variations among and within them. The actual computer analysis of the revenue impacts of the various systems has begun in earnest, but the system currently preferred by the state is the only one on which any detailed studies have yet been completed. The choice of the net profits leasing systems selected for computer analysis will have a crucial effect on the relative attractiveness of net profits leasing to the traditional cash bonus bid system.

INDUSTRY URGES RAPID OCS DEVELOPMENT; RURAL ALASKANS WANT DELAY

Coastal communities all around Alaska want the federal government to delay oil lease sales in Outer Continental Shelf waters, local government representatives, Native leaders and citizens told state and federal officials March 27.

The subsistence lifestyle of Bush Alaskans must be protected; oil companies should be encouraged or forced to hire local residents; more

money for local planning and impact assistance needs to be appropriated; and OCS leasing should proceed slowly in a manner that will not disrupt traditional lifestyles, the officials were told.

"Our area is at a very early stage of planning," said Diane Carpenter, a member of the Bethel City Council. "We realize oil development can't be avoided; our concern is the timing.... Maintaining subsistence resources is the primary concern.... This area needs money to plan for the impacts, and we may need more time."

Governor Jay Hammond scheduled the televised "town meeting of the air" to get comments from Alaskans on the Interior Department's draft proposed five-year OCS leasing schedule.

Thirty-one nationwide OCS sales are scheduled by Interior between now and 1985; 10 of them are in Alaska. Two of the Alaska sales--in the Chukchi Sea and St. George Basin--were included in the proposed plan on a fallback basis in case other planned sales eventually are deleted. (See chart, page 20, for list of proposed federal sales.)

Three areas listed in the earlier OCS plan--Hope Basin, the Southern Aleutian Shelf and Bristol Basin--were deleted from the latest draft plan.

Comments on the draft program are due April 20; Interior will submit a revised "proposed program" to Congress by June 18. After further comment from affected states and the public, a "final" version will be sent to President Carter and Congress late next fall.

While some rural Alaskans said the schedule was too rapid, industry spokesmen complained that it was not rapid enough.

"It is probably safe to say that under the proposed schedule, some of our nation's best prospects could not be brought into production before 1995," said Bill Hopkins, executive director of the Alaska Oil and Gas Association. "It is clear that the schedule does not emphasize the goal of bringing the more promising Alaska areas into play as a hedge against Iranian-scale energy disruptions a few years down the road."

Interior officials characterized the program as an attempt to balance the nation's thirst for oil and the fragile marine environment.

Industry interest in the Alaska areas proposed for leasing, and the U.S. Geological Survey's assessment of their hydrocarbon potential, are summarized in the chart below:

Oil and Gas Potential of Proposed OCS Leasing Areas

	<u>U.S. Geological Survey</u>				<u>Industry Ranking³</u>	
	<u>95%¹</u>	<u>5%¹</u>	<u>S/Mean²</u>		<u>Resource Potential</u>	<u>Interest in Exploration</u>
Beaufort Sea	0 0	7.6 19.3	3.28 BBO 8.2 TCFG		2nd of 22 areas	3rd of 22 areas
Gulf of Alaska	0 0	4.4 13.0	1.3 BBO 3.39 TCFG		17th of 22 areas	16th of 22 areas
Kodiak	0 0	1.1 3.5	0.23 BBO 0.69 TCFG		19th of 22 areas	21st of 22 areas
Cook Inlet	0.5 1.0	2.3 4.5	1.19 BBO 2.39 TCFG		16th of 22 areas	13th of 22 areas
Norton Basin	0 0	2.1 2.8	0.54 BBO 0.86 TCFG		9th of 22 areas	10th of 22 areas
Chukchi Sea	0 0	14.5 38.8	6.4 BBO 19.8 TCFG		10th of 22 areas	17th of 22 areas
Navarin Basin	0 0	1.9 4.8	0.36 BBO 0.93 TCFG		11th of 22 areas	12th of 22 areas
St. George Basin	0 0	5.1 13.1	1.32 BBO 3.37 TCFG		5th of 22 areas	9th of 22 areas

¹ These USGS probability rankings mean that, in the case of the Beaufort Sea, there is at least a 5 percent chance that no oil or gas will be discovered, and there is a 5 percent chance to discover more than 7.6 billion barrels of oil and more than 19.3 trillion cubic feet of gas.

² The expectation is that 3.28 billion barrels of oil and 8.2 trillion cubic feet of gas will be discovered in the Beaufort Sea.

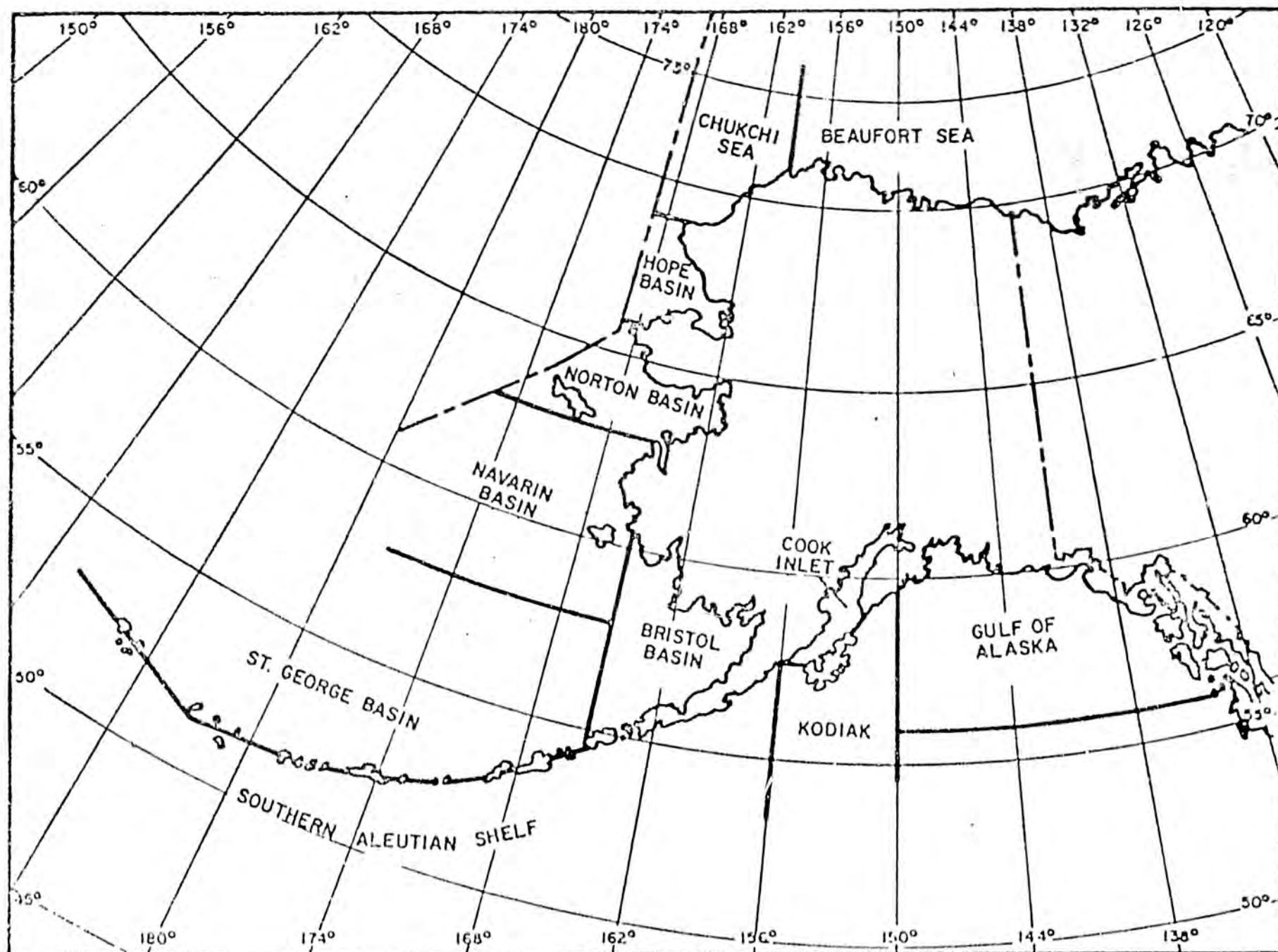
³ Expressed in relation to the 22 original areas throughout the U.S. (including the Gulf of Mexico, Atlantic and Pacific coasts) proposed by Interior for leasing in 1980-85.

State and Proposed Federal Oil and Gas Leasing Schedules

	<u>State</u>	<u>Federal</u>
1979	July Copper River Basin	
	Dec. Beaufort Sea*	Beaufort Sea*
1980	Early Arctic Slope relinquished tracts	
	Mid Cook Inlet south of Kenai River	Gulf of Alaska (October)
	Late Upper Cook Inlet (onshore, offshore, Susitna Valley)	Kodiak (December)
1981	Early Lower Cook Inlet* (offshore and onshore)	
	Mid Prudhoe Bay Uplands	Cook Inlet (September)
	Late Norton Basin* (offshore and onshore)	
1982	Early Beaufort Sea	
	Mid Middle Tanana Basin Copper River Basin	
	Late Southwest Bristol Bay uplands	Norton Basin (November)
1983	Early Upper Cook Inlet (onshore and offshore, Susitna Valley)	Beaufort Sea (February)
	Mid Chukchi Sea* (onshore and offshore)	
	Mid Norton Basin	
	Late Minchumina Basin	
1984		Cook Inlet (April) Chukchi Sea (December)**
1985		Navarin Basin (January) St. George Basin (February)**

* The state plans to coordinate these sales with the federal government.

** Contingency sales.



GAS PIPELINE DIFFICULTIES CONTINUE

The long list of regulatory roadblocks impeding construction of the Alaska Highway Gas Pipeline is slowly getting shorter, but the lack of a credible financing plan continues to stymie real progress.

Northwest Alaskan Pipeline Company, leader of the six-company consortium designated to build the Alaska segment of the pipeline, still publicly maintains its intent to secure private financing, as required by federal law, although it acknowledges this will be a difficult task.

Energy Secretary James Schlesinger told Congress several months ago that federal financing assistance might be necessary. President Carter, however, has not asked Congress to approve federal backstopping, and he is not expected to do so anytime in the near future.

President Carter reaffirmed his "strong commitment to the pipeline" after a meeting March 3 with Canadian Prime Minister Pierre Elliott Trudeau, but the President failed to mention the Alaska gas pipeline in his national energy message April 5. The President did finally submit to Congress his long-awaited proposal to slightly reorganize the federal bureaucracy and create the Office of Federal Inspector. The Federal Inspector, who has not yet been nominated by Carter, will have sole authority to supervise enforcement of permit regulations during construction of the Alaska pipeline.

Carter's proposal differs from the inspector envisioned in the 1977 President's Decision selecting the Alaska Highway route for the pipeline. The main difference is to strengthen the authority of the inspector by limiting appeals of his decisions.

While the federal government moved closer to getting its chief enforcement officer aboard, State Pipeline Coordinator "Mo" Mathews and more than half his staff resigned rather than move to Fairbanks.

Governor Jay Hammond promised while campaigning last fall that he would move the state inspector's office to Fairbanks to help boost the city's depressed economy. But Mathews said he didn't think the office should move until shortly before construction begins, probably in the early spring of 1982. A spokesman for the Department of Natural Resources said a replacement for Mathews probably will be named by May 1 when his resignation becomes effective.

In apparent response to pressure from the White House and Schlesinger, the Federal Energy Regulatory Commission (FERC) announced in February it would expedite progress on the unresolved tariff and Incentive Rate of

Return (IROR) issues by consolidating them in a single rulemaking proceeding. The State of Alaska objected to this procedure, claiming an evidentiary hearing is needed and an informal rulemaking is inadequate to address state concerns.

"There's been a lot of movement in the last few months. Things at FERC are heating up, and I think there's been a significant change in tone," said Assistant Attorney General Bob Maynard, who handles oil and gas matters for the state. "But it's still unclear whether all this movement means anything."

The announcement that Exxon USA and Pacific Gas & Electric Co. had completed negotiations on an agreement for the sale and purchase of about 225 million cubic feet of gas a day for 20 years was a boost for the project.

Northwest cited FERC's attempt to speed up resolution of the financial and regulatory issues as another encouraging sign of "renewed momentum." However, the regulatory logjam is far from broken.

In January, Northwest submitted a "checklist" enumerating more than 50 of the most critical items requiring immediate government action if the project is to be finished in late 1984. Yet there has been a conspicuous lack of action on most of the items, Northwest said.

"The commitment to expeditious implementation of the President's Decision with regard to the Alaskan gas project by senior administration officials is unquestioned," John G. McMillian, Northwest's chief executive officer, said in a March 20 update to Schlesinger on the project's status. "I respectfully suggest, however, that there is an urgent need to imbue such a determination at the sub-Cabinet and middle management levels."

The most pressing issues that must be resolved before June, Northwest said, include the Limited Reorganization Plan (which establishes the Federal Inspector), the commitment by the Secretary of the Interior to grant a right-of-way on federal lands, approval by FERC of system design specifications, resolution by FERC of the tariff and IROR, and final decisions on the environmental, construction and technical stipulations affecting pipeline route and design.

However, government memoranda on one pending matter--alignment of the gas pipeline in relation to TAPS--indicate that Northwest itself is responsible for a lot of the foot dragging. (See next item.)

In addition to problems on the regulatory front, no one as yet has been willing to put up the \$12 billion to \$14 billion needed to build the pipeline.

Consultants Arlon Tussing and Connie Barlow told the legislature in a final report, which will be released in mid-April, that the pipeline

cannot be financed and built unless the United States government guarantees at least part of the project debt.

This judgment, the consultants said, "is held almost unanimously by the natural gas transmission industry, Alaska gas producers, investment bankers, lending institutions, state and federal regulators, and concerned members of Congress. The only significant dissent we encountered in more than six months of investigation came from a few top officials of the United States Department of Energy and from Northwest...the project's principal sponsor.

"Northwest thereby bears a double handicap in moving ahead on any front. Not only does it have an unworkable financial plan, but because the gas producers, potential shippers (including Northwest's own partners), state officials and important parts of the federal bureaucracy all believe the plan is unworkable, they do not sense any urgency in cooperating with Northwest or with one another in resolving even the nonfinancial issues. Because the project's financing is not credible, in other words, the whole project as presently organized is not credible," Tussing and Barlow said.

"Thus, any entreaties to the other parties by Northwest's chairman, 'jawboning' by the Secretary of Energy, or declarations of faith by the President of the United States come to nothing--they only seem to confirm what many of the parties suspected all along, that Messrs. McMillian, Schlesinger and Carter don't know what they are talking about," the consultants said.

The Alaska legislature and state administration appear firmly convinced that too many unknowns remain for the state to pledge \$1.5 billion to the project at present.

Despite an ultimatum from McMillian to Governor Hammond in February, which stated that private financing would be impossible unless the state unconditionally committed \$500 million in preferred equity and approved issuance of \$1 billion in tax-exempt revenue bonds during the current legislative session, legislation authorizing the state commitment was never introduced for consideration in either body of the legislature.

The possibility remained that the legislature might authorize a fact-finding evaluation team, or a negotiating team, of legislators or administration officials to pursue the possibility of a direct state commitment over the interim, an approach supported by some members of the Senate and the administration.

The state House passed a non-committal resolution of support for the project in early March; House leaders subsequently informed the governor that "no further action" should be expected from the House this session on proposed negotiations with Northwest.

Nevertheless, Northwest in March kicked off a public relations and advertising campaign calculated to win support for its proposed special election on a \$500 million general obligation bond issue for the project. Legislative attorneys said it probably was illegal to issue g.o. bonds for the pipeline, and it appeared unlikely the legislature would approve such an election.

Northwest released a statewide poll by the Rowan Group of Anchorage showing that from 50 to 56 percent of the 800 people surveyed approved of state financial participation in the gas pipeline.

However, a survey of Southcentral residents by Representative Randy Phillips found that 81 percent of 487 people responding to his questionnaire opposed the investment of surplus state funds in the gas pipeline.

Northwest hired a team of lobbyists to seek support in the legislature, including the governor's former executive assistant, Kent Dawson, and former state Representative Bob Bradley of Anchorage. A citizens' group headed by Anchorage businessman Les Gunderson and state Republican Party Chairman Yvonne Alford set out to get 100,000 signatures on petitions urging the legislature to negotiate with Northwest.

The issue of federal expectations for financial participation by the state government was addressed in a study by Joseph Chomski and Richard Haggart of the law firm Birch, Horton, Bittner and Monroe. The study concluded that there is not a general expectation in Washington that the state will financially participate in the project.

However, Chomski and Haggart said, the federal government possesses a large arsenal of weapons, ranging from the ability to control state oil and gas production decisions to the ability to prohibit oil exports and swaps, that could be used as leverage to force state participation.

The legislature received a wide range of advice on whether, when and how to pledge state money to the project. Alaska Senator Ted Stevens said state guarantees secured exclusively by revenues derived from the sale of North Slope gas would be a reasonable way to proceed; he said a state commitment would help assure private financing.

The Anchorage Times called McMillian's urgent request for assistance "an unattractive deal" for the state. "If the traditional financial centers of the nation find (investment in the pipeline) a bum deal, why isn't it a bum deal for the state, too?" the Times asked in a February 12 editorial.

Legislative consultant Milton Lipton said the nation's desire to tap Alaska's natural gas resources makes it very likely the pipeline eventually will be built, although "this doesn't necessarily mean that...the partners of the present Northwest consortium will be the ones that will build the pipeline." Lipton said he found it troublesome that the state

had been asked to conclude the terms of its participation before seeing how it would rank among other creditors and among other equity participants. He suggested that the state wait to see a complete financial package before making a commitment.

Some of the regulatory matters affecting progress of the pipeline are discussed in more detail below:

Conditioning costs

In early February, FERC issued a proposed rulemaking that would require North Slope producers to bear all costs of processing and conditioning Prudhoe Bay gas. FERC wants the producers to pay for these costs, estimated at 30 to 60 cents per mcf, out of the money they'll receive from selling at the ceiling price established in the new Natural Gas Policy Act. No adjustments for conditioning above the ceiling price would be allowed under FERC's proposal, except in "special hardship" cases.

FERC said this allocation of costs would enhance financeability of the pipeline, improve marketability of the gas, avoid the complications of incremental pricing, and generally be in the public interest.

In formal comments filed in March, Exxon, ARCO and Sohio strongly objected to FERC's proposal, contending, among other things, that it is contrary to Congressional intent, discriminatory and a disincentive both to production of Prudhoe Bay gas and to further exploration and development in Alaska and other frontier areas. The producers argued that conditioning Prudhoe Bay gas is a function related to transportation, not production. They urged FERC to wait for the execution and submission of gas purchase contracts before taking up the issue of gas conditioning.

The State of Alaska, making arguments similar to those advanced by the producers, said the FERC conditioning proposal was premature and was causing unnecessary confrontation and delay. The state said there is nothing in the record to support the assertion that an adjustment for conditioning costs would affect marketability of the gas. Whether the state will have to pay conditioning costs on its royalty share may be determined by the outcome of litigation now pending in state court.

The FERC staff, the New York Public Service Commission and the California Public Utilities Commission all endorsed the commission's proposed policy.

Neither Northwest Alaskan nor the Alaskan Northwest partnership filed comments on FERC's conditioning proposal. One member of the Alaska partnership, Pacific Interstate Transmission Company (which also is involved in construction of the Western Leg), said its ongoing gas sale negotiations with ARCO were suspended after FERC's proposed rule was

issued. Since FERC's present position may continue to impede delivery of Prudhoe Bay gas to the Lower 48, Pacific Interstate urged FERC to reexamine its position and "permit the gas producers to collect such allowances for gathering and conditioning costs as are appropriate and justified to reflect the unique and special circumstances that exist for Prudhoe Bay gas."

Subsequently in a round of "reply comments," Exxon said its negotiated gas sales contract with PG&E provided for sale "at or near the inlet to the conditioning facility." This means PG&E could bear all, or almost all, of the conditioning costs, exactly the opposite of the FERC proposal. Observers predicted the matter ultimately will be settled in court, unless FERC reverses its current position.

On March 5, the State of Alaska filed a "freedom of information" request with FERC seeking release of all studies, documents and communications related to the conditioning issue. State attorney Robert Loeffler said he has been informed that FERC will refuse to release about 50 conditioning-related documents, and he said he is considering suing FERC over the issue. "It just doesn't seem right to me that FERC should adopt this important rule without making their documentation and records available for comment and response by the affected parties," Loeffler said.

Observers said FERC might take final action on its proposed conditioning rule by mid-May.

Tariff and IROR

FERC announced February 22 that it intended to consolidate the remaining unresolved IROR and tariff issues into a single rulemaking proceeding. A 90-page "omnibus proposed rulemaking" was issued April 6; comments on the proposal are due May 4.

The Alaskan Northwest partnership filed its proposed tariff structure with FERC March 12. The tariff document sets out the framework for rates and charges for gas transportation through the pipeline.

Alaska told the commission in formal comments and at discussion conferences that some of its concerns might not be adequately addressed in an informal rulemaking, and said it may request formal evidentiary proceedings on some issues. Alaska said it was concerned with, among other things, how tariff charges will be allocated between methane and heavier liquids, how rates will be established for new shippers in the future, how much CO₂ will be permitted in the pipeline, and how the zone tariff will be structured.

Alaskan Northwest had urged FERC to expedite consideration of the complex financial structure. The partnership said it is of "critical importance" that FERC settle the upper and lower limits for the rate of

return allowed on the Alaska segment, and other related issues, by May 15 if the 1984 completion date is to be met.

Pressure and design

On March 2, the Alaskan Northwest partnership asked FERC to approve design specifications for the pipeline. These specifications designate a 48-inch pipeline with a maximum working pressure of 1260 psig, and would provide an initial capacity of 2.0 to 2.4 billion cubic feet a day (expandable up to 3.2 Bcf a day with additional compressor stations).

Alaskan Northwest said it had investigated various alternative pressures, but had concluded that its proposal was the best economic selection for delivering volumes up to 3.4 Bcf a day. Alaskan Northwest said it had considered and rejected a higher pressure system suggested by the State of Alaska that would enable movement of a greater volume of liquids for extraction and potential use in developing an in-state petrochemical industry.

Alaskan Northwest asserted that its proposed 1260 system would not impede the petrochemical development plans of the state, since this system could transport all of the ethane and propane in the Prudhoe Bay gas stream. While a higher pressure system could carry greater volumes of heavier hydrocarbons (primarily butane), these liquids would not be useful in a petrochemical plant, nor could they be transported in the Yukon section of the line.

In addition, Alaskan Northwest said, if the conditioning plant were moved to Fairbanks (as proposed by Earth Resources Co. of Alaska) and if most of the ethane and all heavier hydrocarbons were removed at Fairbanks, total deliverable energy through the project would be reduced by 20 to 25 percent. "This substantial reduction would render the project infeasible," the partnership said.

In reply comments, the State of Alaska said no evidence had been presented in the record to substantiate the partnership's claims that all ethane and propane can be carried at 1260 psig. If the partnership's assumptions are accurate, the state said, it does not object to approval of a 1260 system. However, more CO₂ should be allowed in the gas stream, and Fairbanks should not be foreclosed as a location for the conditioning plant, the state said. The project's Environmental Impact Statement will investigate Fairbanks as a location for the conditioning plant; if Fairbanks turns out to be a better place than the North Slope, the system would have to be redesigned from Prudhoe Bay to Fairbanks, the state said.

FERC is expected to approve the 48-inch, 1260-psig system in late April or early May.

Western and Eastern Legs

Canada's National Energy Board (NEB) said in a report released February 28 that the country has 2 trillion cubic feet of surplus gas that can be exported during the next eight years.

This conservative estimate of Canada's gas surplus falls far short of the 8 trillion cubic feet needed to satisfy all the export applications currently on file with the NEB. One of those applications by Pan-Alberta Gas Ltd. of Calgary is linked to prebuilding of the Alaska Highway gas pipeline southern sections.

Alaskan Northwest and U.S. energy officials said the NEB report was favorable to the Alaska Highway gas pipeline project because it clearly demonstrated the limits of Canadian supplies and would add urgency to U.S. efforts to tap North Slope gas.

Alaskan Northwest is counting on prebuilding of the Western and Eastern legs of the system for the early export of surplus Canadian gas, in order to facilitate financing of the entire system.

A Canadian newspaper, The Financial Post, said the NEB report jeopardized the prebuilding scheme. "The (NEB) determined Canada simply didn't have enough surplus gas to warrant exports of the magnitude needed by the Alaska Highway (project)," the newspaper reported March 17.

Canadian officials continued to emphasize their reluctance to approve exports for the Alaska Highway pipeline's southern sections until financing is arranged for the Alaska segment.

"Canada would need to be fully satisfied expeditious construction of the whole project would proceed as planned" before allowing exports for the prebuilt sections, Peter Towe, Canadian ambassador to the U.S., said in a March speech.

TAPS OWNERS QUESTION PROXIMITY OF GAS PIPELINE

Owners of the Trans-Alaska oil pipeline say it may not be possible to build the gas pipeline alongside TAPS, as Northwest Alaskan has planned.

In a February 15 letter to Interior Secretary Andrus, the TAPS owners cited a number of factors--possible damage from blasting and equipment during construction, slope stability and soil liquefaction, erosion control and surface drainage, alternation of the hydraulic regime in rivers and flood plains, effects upon the thermal regime, below ground pipeline soil support, work pad stability, ditching effects, and hindrance to TAPS monitoring and maintenance by Alyeska--that could prevent a close alignment between the two pipelines.

"The TAPS owners are not questioning the technical feasibility of constructing an Alaskan Natural Gas Transportation System. Rather, they are seriously questioning the compatibility of the gas line with TAPS.... It may be that many of the proximity issues can only be resolved on a mile-by-mile basis, i.e., at the time a notice-to-proceed is issued. It may be that the gas line cannot be constructed proximate to TAPS at any point. In any event, additional information must be submitted by Northwest before the issue of gas line proximity to TAPS can be considered," said Alyeska President Frank Turpin.

Northwest has been trying since December to secure "provisional approval" for its proposed alignment of the Alaska gas pipeline in relation to the TAPS oil pipeline; this approval is needed for Northwest to give FERC a reliable estimate on the cost of the project.

Government agencies responsible for approving proposed alignment for the gas pipeline agree with Alyeska that the information submitted by Northwest is inadequate. A joint report by BLM's Alaska Pipeline Office, the State Pipeline Coordinator's Office, the Corps of Engineers, the U.S. Fish and Wildlife Service, the Environmental Protection Agency and the U.S. Geological Survey stated: "Proposed alignment sheets and narrative description of the proposed route submitted by Northwest Alaskan Pipeline Company are inadequate to review for provisional alignment approval. Criteria for route selection was not a part of the submittal, therefore making a thorough review impossible."

LEGISLATURE CHANGES APPROVAL PROCEDURE FOR GAS PIPELINE FINANCING AUTHORITY

The Alaska House and Senate have adopted legislation that will make it more difficult for the Gas Pipeline Financing Authority to gain legislative approval to issue \$1 billion in tax-exempt revenue bonds for the Alaska Highway gas pipeline.

Under the 1978 law that established the financing authority, a financial plan submitted by the authority would have been approved in 30 days unless disapproved by one house or conditionally approved by both houses.

But under an amendment sponsored by Representative Russ Meekins of Anchorage and adopted in the House April 9 by a vote of 35 to 3, the authority's financing plan would be disapproved unless approved or conditionally approved by both houses within 60 days after presentation to the legislature.

"I think we made a real mistake last year and I'm trying to remedy that mistake," Meekins said. "We reversed the normal process of this legislature.... This (amendment) puts the burden of proof on the people who want the billion dollars, and not on those who are opposed to it."

The House also adopted an amendment to existing law that moved the date for submitting a financial plan back to the first day of the next legislative session.

The Gas Pipeline Financing Authority, in compliance with current state law, submitted a "financial and Alaska impact plan" to the legislature on March 14. But because of delays and other problems, the authority said a complete plan is impossible at this time and recommended that the plan be "conditionally approved."

The House adopted a resolution conditionally approving the plan; the resolution said no bonds can be issued until the plan is amended and again approved by the legislature.

No matter what the state legislature does, the authority cannot issue the tax-exempt revenue bonds unless and until Congress amends Section 103 of the Internal Revenue Code, an action many observers consider unlikely.

"A year ago when we wrote the enabling legislation, we thought that by now we would have some concise, clear answers to the question of financing the gas line, especially so far as those questions relate to the bonding authority," said Representative Bill Miles of Anchorage. "Our position is that we don't have the answers...they haven't been forthcoming, the federal government has been slow in responding and we just can't make a decision at this time. It would be absolutely irresponsible for us to do so."

But Representative Brian Rogers of Fairbanks, arguing against HB 438 that makes changes in the financing authority's procedures, said the bill "puts the House on record as favoring delaying any financing of the project, regardless of merit, for at least a year.... This bill puts roadblocks in the financing authority, and I think will delay the time when people in my district, and a lot of other districts, will be going back to work."

On April 12, the Senate adopted the amended House version of HB 438 by a vote of 13 to 5; the Senate adopted the resolution conditionally approving the financing plan by a vote of 12-7. Without action by both houses conditionally approving the plan, or action by one house to disapprove, the plan would have taken effect April 14. Some legislators wanted to prevent the plan from taking effect in its current form in order to foreclose any possibility that bonds could be issued without further legislative action.

WILDERNESS VS. OIL DEBATE ACCELERATES IN CONGRESS

The coastal plain of the Arctic National Wildlife Range (ANWR) may soon play host to seismic teams and drilling rigs as well as migrating snow geese and Porcupine caribou.

The ANWR, a nine million-acre area in the state's extreme northeast corner, was established by President Eisenhower in 1960. The range is part of a larger potential oil and gas basin encompassing most land north of the Brooks Range from the Canadian border to the Chukchi Sea.

Environmentalists and the Carter administration consider ANWR highly sensitive to industrial disruption, extraordinarily pristine, and "the last place in the world" that oil development should take place.

The oil industry, pro-development interests and the State of Alaska say the area should be explored and thoroughly assessed before it is permanently designated as wilderness, where all development is prohibited.

Although proposed wilderness status for ANWR is one of the most controversial provisions of the environmentalist-backed d-2 proposals, the oil industry has other problems with them as well. Industry spokesmen argue that even though most of the state land now considered to have a "high potential" for oil and gas accumulations is outside proposed withdrawals, exploration activities generally are at a very early stage and much of the land proposed for withdrawal has not been properly evaluated. Lack of access across the withdrawals will make it very difficult to build onshore support facilities, roads and pipelines necessary to develop remote deposits, they say.

The oil industry also claims that its activity at Prudhoe Bay has had very little negative impact on delicate ecological systems and wildlife.

An orderly assessment of Alaska's resource potential, including exploration of ANWR, is a necessary and prudent step in light of the national energy crunch, the urgent need to increase domestic production and the decline of nuclear power since the near-disaster at Three Mile Island, development forces have argued.

Although not addressed specifically in the state's d-2 "consensus points," lawyer-lobbyist John Katz said the state is supporting an orderly, environmentally sensitive approach to exploration on ANWR's coastal plain. Katz said the state has not taken the lead in advocating any particular plan but "basically has been supporting what (the oil companies) have been arguing for."

These arguments apparently are winning new support in the U.S. House of Representatives. The House Committee on Interior and Insular Affairs, chaired by Morris Udall of Arizona, on March 1 reported out a less restrictive bill than Udall's new version of H.R. 39. The Huckaby substitute, as it is called, would allow limited exploration of the coastal plain of ANWR.

The House Merchant Marine and Fisheries Committee on April 9 adopted a bill industry may like even better, the Breaux substitute. The measure was approved earlier by a Merchant Marine subcommittee on fish and wildlife, chaired by John Breaux, D-La. It mandates a seven-year resource assessment study of the range's coastal plain, which would include oil and gas exploration and biological wildlife studies.

Katz said the House is most likely to vote on d-2 sometime between April 30 and mid-May. Senate energy Chairman Henry Jackson, D-Wash., has said he won't begin markup in the Senate until the House has acted.

The major provisions of the pending bills as they affect ANWR are summarized below:

Udall bill (HR 39)--Sponsored by Udall and 139 other members of the House. The new HR 39 is considered by industry to be decidedly more antidevelopment than the version the House approved last session by a vote of 277 to 31. The new HR 39 would designate 84.5 million acres of wilderness, including the ANWR and some of the National Petroleum Reserve in Alaska. The bill would expand the size of ANWR by 9.9 million acres.

Durkin bill (S 222)--Sponsored in the Senate by John Durkin, D-N.H., and 17 other senators. This bill is nearly identical to the new version of HR 39.

Huckaby bill (HR 2199)--Sponsored by Representative Jerry Huckaby, D-La., and adopted by the House interior committee. This is essentially the same "compromise" bill nearly adopted last year but killed by Alaska Senator Mike Gravel at the last minute. Provisions in the bill affecting oil and gas development include:

- ANWR is not wilderness. A six-year study of ANWR's oil and gas potential would be conducted; no drilling could occur without congressional approval. ANWR would be expanded by 8.4 million acres.
- The Interior Secretary would have to make prompt decisions on whether to approve or reject lease applications in "refuge" withdrawals, which are open to oil and gas leasing under current law.
- The federal government would study the entire North Slope to ascertain oil and gas potential.

- The Interior Secretary would be directed to facilitate oil and gas leasing for non-North Slope, on-shore federal lands not included in conservation units.

Breaux amendments to HR 39--Sponsored by Breaux and adopted by the House Merchant Marine and Fisheries Committee. Provisions affecting ANWR include:

- The Interior Secretary is directed to conduct a two-year study of fish and wildlife of the coastal plain, and to assess the impacts of human activities.
- The Interior Secretary has two years to adopt regulations governing exploration activity on the coastal plain; the regulations must be accompanied by an environmental impact statement on exploratory activities.
- After regulations are adopted, "any person" may submit one or more plans for exploratory activity to the secretary for approval. "Exploratory activity" means surface geological exploration or seismic exploration. The secretary must approve the plan if it is consistent with the regulations.
- Five years after the bill is enacted, any person may apply for a permit authorizing the drilling of off-structure stratigraphic test wells in the coastal plain. The secretary has to hold at least one public hearing in Alaska before deciding whether to issue a permit.
- Not later than seven years after the bill is enacted, the secretary would recommend to Congress whether further exploration, and development and production, should be permitted, considering the area's petroleum potential and possible adverse effects on wildlife.

Jackson bill (S 9)--Sponsored by Jackson, and essentially the same bill the Senate Energy Committee reported out last fall. This bill would direct the Interior Department to conduct an eight-year study of ANWR, including some oil and gas exploration, to determine if the area should be permanently set aside as wilderness. Congress would have 60 days to approve or disapprove a recommendation from the Interior Secretary on whether the government should conduct exploratory drilling in ANWR. At the end of the eight-year study, the president would recommend to Congress whether the area should become wilderness.

The bill would expand the size of ANWR by 5.6 million acres.

PACIFIC ALASKA LNG PROJECT GETS FAVORABLE RULING FROM FERC

The Federal Energy Regulatory Commission has refused to consolidate the application of a new proposed California LNG terminal with pending proceedings of the Pacific Alaska LNG project.

Supporters of the Pacific Alaska LNG project had strongly opposed consolidation, saying that the resulting delays might be enough to kill their project.

FERC decided April 5 to deny the request of the Southern California LNG Terminal Company for consolidation of its application for a terminal at Deer Canyon, California, with that of Western LNG Terminal Associates, which has proposed a terminal at Point Conception, California.

Western's LNG terminal would receive Cook Inlet gas liquefied at Nikiski and shipped to southern California, as well as liquefied natural gas from Indonesia.

The Western LNG terminal, the Pacific Alaska LNG project, and the Pacific Indonesia LNG project are sponsored jointly by subsidiaries of Pacific Lighting Corp. and Pacific Gas & Electric Co.

The State of Alaska, the State of California and the California Public Utilities Commission supported the Pacific Alaska project sponsors in fighting the proposed consolidation. California said in comments to FERC that the majority owner of Southern California LNG (SCLNG) Terminal Company is also an owner of the Deer Canyon property proposed as a terminal site. When it became clear that Western LNG would not purchase Deer Canyon as the site for its terminal, SCLNG was formed as an allegedly competitive LNG application, California said.

California said that Deer Canyon already has been considered and rejected as a possible LNG terminal site by agencies and staffs of the State of California and the federal government.

The Pacific Alaska LNG project has been pending before federal regulators since 1974. (See Energy Background Report #3, December 8, 1978, for background on the Pacific Alaska project.)

GAO REPORT CRITICIZES GOVERNMENT EXPLORATION PROGRAM IN NPRA; CONGRESS DEBATES FURTHER FUNDING

A report by the U.S. General Accounting Office says the Interior Department's multi-million dollar North Slope exploration program has been needlessly rushed and hampered by a lack of clear objectives and definitive plans.

The federal government has spent more than \$600 million drilling 19 exploratory wells (all dry holes) in the National Petroleum Reserve in Alaska (NPRA) since 1974.

"We believe the exploration program is not being directed to either maximize chances for discovering hydrocarbons or provide for an overall assessment of the hydrocarbon potential of NPRA," the GAO report said. Because the program has attempted both to test major structures for commercially producible oil and gas and to obtain stratigraphic data for the entire 37,000 square miles of the reserve, neither goal has been accomplished.

The program has been rushed by Congressional deadlines of April, 1979, and January, 1980, for completion of studies on the reserve's oil potential and future uses. The GAO recommended in its December report that Interior develop an explicit plan for further exploration, seek an extension of the study deadlines, and consider allowing private industry to conduct any additional exploration and development as a way to cut costs.

The Carter administration apparently ignored the report in recommending to Congress that drilling be halted this September, a year ahead of schedule. "My personal recommendation is that we put it on the shelf and wait to see if it is needed," Interior Secretary Cecil Andrus told a congressional committee.

But the administration's proposed cutback has met stiff resistance in Congress, and it appears likely money will be added to the fiscal 1980 budget for the exploration and assessment program.

Representative Morris Udall of Arizona joined the Alaska congressional delegation and others in support of continued drilling. "In my attempts to prevent oil development of the Arctic Wildlife Range, I point out there are plenty of other sites in Alaska for oil exploration and production," Udall said. "One of those sites is the NPRA."

Alaska Senator Ted Stevens called the administration's plan to end exploration "one of the worst decisions I've ever seen in my years in government" and threatened to use it against President Carter in the 1980 presidential campaign.

Royalty Oil and Gas Development

ALPETCO OUTLINES PRODUCT SLATE

ALPETCO, which has a contract to purchase Prudhoe Bay royalty oil for use in its planned refinery and petrochemical facility, says gasoline and jet fuel will be its principal products in the early years of operation.

ALPETCO President Gordon Cain appeared before the Senate Resources Committee March 8 to brief legislators on the company's progress since last June. ALPETCO is moving ahead with the design and configuration of a facility that will meet environmental and marketing considerations, he said.

Cain said the company's preliminary product slate includes principally no lead gasoline, regular gasoline and jet fuel. The facility also will make enough diesel fuel for the Alaska market, a small amount of heavy fuel oil for sale in the Alaska market three aromatics (benzene, toluene and xylenes), naptha (which eventually will be used as a feedstock for ethylene production), some carbon black and sulfur.

The plant configuration and product output were determined by considerations of (1) the North Slope crude, which is heavy and high in sulfur content, and (2) the West Coast market, which has a surplus of residual fuel oil and little demand for home heating oil, Cain said. Cain stated that the presently proposed plant design and output would help solve critical problems, because (1) ALPETCO will produce no lead gasoline, which is in short supply; (2) ALPETCO will not contribute to the West Coast residual fuel oil surplus; and (3) ALPETCO will use 150,000 barrels a day of crude which otherwise would have been surplus on the West Coast and would have to be shipped to the East Coast at considerable cost.

When questioned, Cain said he anticipated that downstream petrochemicals, such as styrene, phenol and ethylene products, would come on stream two years after the refinery/petrochemical complex had been in operation.

Cain indicated that the fuels products would be marketed on the West Coast, and the petrochemicals would be sold in Japan, South Korea and Taiwan, as would be the naptha, provided an export permit could be obtained.

ALPETCO and its environmental consultant are continuing to work closely with the Department of Environmental Conservation and the Environmental Protection Agency in the preparation of the draft Environmental Impact Statement, which is due in October of this year.

Cain said ALPETCO expects financing arrangements for the facility to be completed in the near future. ALPETCO believes it will have long-term contracts for 90 percent of the product output signed by mid-summer, he said.

As expected, Natural Resources Commissioner Robert LeResche approved Valdez as the site for the proposed facility on March 5.

GAS LIQUIDS AND ROYALTY GAS PIPELINE STUDIES PROPOSED

Appropriations for engineering feasibility studies of gas liquids and royalty gas pipelines from Prudhoe Bay to tidewater appear likely to be approved by the legislature this session.

The Senate unanimously approved a \$275,000 appropriation (CS SB 128) March 19. The Senate bill would give the Legislative Council \$200,000 to be used by the Senate Resources Committee in studying the engineering feasibility of a gas liquids pipeline, and \$75,000 to be used by the Legislative Council Interim Committee on Rural Energy Policy in evaluating the benefits of in-state use of royalty gas.

A similar House measure (CS HB 239) appropriating \$450,000 for gas liquids and royalty gas pipeline studies has been approved by the Resources and Finance committees, and is pending in the Rules Committee. The House bill is sponsored by 33 members.

Consultant Joe Moore of Bonner & Moore Associates, Inc., earlier recommended an engineering feasibility study of a gas liquids pipeline as a way to help the state promote development of a petrochemical industry. (See Energy Background Report #4, Feb. 1, for details.)

Other

LEGISLATURE CONSIDERS HYDROELECTRIC FUNDING

An \$8.1 million appropriation to fund feasibility studies for the Susitna hydroelectric project, and a \$7.3 million appropriation for four other hydroelectric projects, are pending in the legislature.

The Senate in February approved an \$8.1 million special appropriation to the Alaska Power Authority to be used as a reserve to guarantee tax-free revenue bonds for Susitna Phase I feasibility studies, which will cost at least \$25 million.

The Internal Revenue Service said in March it would not approve the authority's financing scheme; the authority then began examining other approaches in an attempt to keep the four-year Phase I studies on schedule. One suggested approach was to ask voters to approve a \$25 million general obligation bond issue for the studies, but questions were raised about the legality of issuing g.o. bonds for studies.

The authority decided April 9, based on recommendations from the governor's Devil Canyon Task Force and interested legislators, to seek an \$8 million direct appropriation from the legislature. Expenditure of the money would be contingent on one of two things happening:

1. Senator Mike Gravel is successful in achieving passage of federal legislation to guarantee federal reimbursement for state money spent on the Phase I studies if the project is determined not feasible; or
2. If Senator Gravel fails to get such legislation passed, a reasonable alternative program has been developed to construct the project without federal participation.

"Absent some completely unforeseen event occurring, the general fund would be the only source of funds available to finance either approach, but might be paid back if Gravel's plan is approved," the governor's task force said in a memo. "In either proposal, the money required could become part of the project financing if the project is constructed."

The authority will develop alternate approaches, considering construction by both the Army Corps of Engineers and private firms, between now and the end of the 1979 congressional session, said Terry McGuire, a financial adviser to the authority.

McGuire said the problems in designing a workable and legal financing plan have put the project substantially behind schedule. The authority earlier had requested prompt legislative action so the corps could proceed with field engineering studies this spring and summer. Some of the lost year can still be salvaged if the appropriation is approved quickly enough to get biological studies underway by summer, McGuire said.

The Susitna appropriations bill and a companion resolution are pending in the House Resources Committee.

The House already has approved \$7.3 million for the Alaska Power Authority's revolving fund for hydro projects in Ketchikan (\$3.1 million), Kodiak (\$2 million), Cordova (\$250,000) and Wrangell-Petersburg (\$2 million). Those appropriations are pending in the Senate Finance Committee.

RURAL ENERGY COMMITTEE PLANS CONFERENCE

The Legislative Council's Rural Energy Committee is planning a conference on state energy policy alternatives May 16 and 17 in Anchorage.

The committee, chaired by Senator Frank Ferguson of Kotzebue, has retained Alaska Native Foundation President Roger Lang under a \$48,000 contract to organize the conference, which will bring together consumers, planners, regulators, producers, utility companies and others concerned about developing a long-range state energy policy.

"There's no plan now," Lang said. "Our plan seems to be to move our oil and gas resources out of the state as quickly as possible. Is that what people want? ...Citizens ought to be getting some benefit from these resources besides money into the state treasury."

Lang said he expects that issues such as the high cost of home heating, the lack of in-state oil and gas delivery systems, and the role of coal and hydroelectric power will be discussed at the conference.

The committee plans a second meeting in September or October to develop recommendations for the governor and the legislature based on the findings of the May conference, Lang said.

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED
AS A UNIT IN THE ORIGINAL DOCUMENT.

AN OVERVIEW OF NATURAL GAS AND GASLINE ISSUES

By Kay Brown, Assistant to Senate President John L. Rader

and

Connie Barlow, Assistant to Natural Resources Commissioner
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I. INTRODUCTION

Throughout this year and next the legislature and several agencies within the executive will be confronted by two major issues relating to the proposed Northwest Gas Pipeline.

- (1) What should the State do with its royalty share of Prudhoe Bay gas?
- (2) What role should the State play in financing the proposed pipeline?

Not only might these decisions affect billions of dollars of State money, but the underlying facts, principles, and relationships are extremely complex--and to a large extent unknown. As a result, the spectre of dealing with these issues becomes downright formidable.

This paper is an attempt to lay out these facts, principles, and relationships in a comprehensible fashion. It attempts to touch on the full range of gasline considerations and to unravel these inter-relationships. It also is designed to supply the technical tools by which each issue can be approached.

A grasp of the engineering and economic principles is essential; but once this is surmounted, the policy considerations can and must be explored.

Note: This report was updated and revised on June 2, 1978. For that reason, references made to the "Overview" memorandum

in the Bache Halsey Stuart Shields consultant report ("Analysis of Proposed Financial Support for Northwest Alaskan Natural Gas Pipeline Project," May 24, 1978) do not correspond to page numbers in this document.

II. WHO IS INVOLVED?

The principal actors in the gasline debate are:

Gas producers and owners

Gas purchasers

Gas transportation (pipeline) companies

Investors

Government regulators

Landowners

GAS PRODUCERS AND OWNERS

A. Gas Producers

The Prudhoe Bay producers are those companies which hold State leases for oil and gas resources on the North Slope. Since geologic conditions mean individual producers draw oil and gas from a common pool (Sadlerochit), allocation of produced oil and gas was negotiated and set forth in a Unit Agreement. Practically all of the oil and gas production is allocated to three companies: SOHIO, EXXON and ARCO.

OIL & GAS PRODUCERS

Company	%Gas Cap Gas ¹	%Solution Gas ²	%Total Gas ³	%Total Oil
SOHIO	15%	53%	27%	53%
ARCO	42%	20%	36%	20%
EXXON	42%	20%	36%	20%

- 1/ Gas cap gas is produced from the gas layer which rests on top of the oil zone. This gas is produced only when a decision is made to withdraw gas from the gas cap. Such a decision would only be made when the gas is intended for sale.
- 2/ Solution gas is the gas dissolved in the oil which is necessarily produced with the oil. Until sale arrangements are made for this gas, it must be reinjected, flared or used as fuel for field operations.
- 3/ Total gas production is based on DNR estimates of producible gas cap gas of 19.5 trillion cubic feet and producible solution gas of 8.0 trillion cubic feet (gas cap=70%; solution=30%), and represents the weighted average of each company's respective allocation of gas cap gas and solution gas.

B. Gas Owners

The producers are all owners of North Slope gas. While not a producer, the State of Alaska is also a gas owner by virtue of a clause in the lease agreements which entitles the State to a 12 1/2% royalty share. Hence, the real ownership of Prudhoe Unit gas is as follows:

GAS & CRUDE OWNERS

Owner	%of Gas Cap and Solution Gas	%Oil
SOHIO	23.5%	46.5%
EXXON	31.5%	17.5%
ARCO	31.5%	17.5%
STATE OF ALASKA	12.5%	12.5%

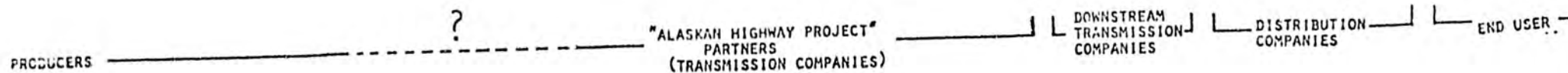
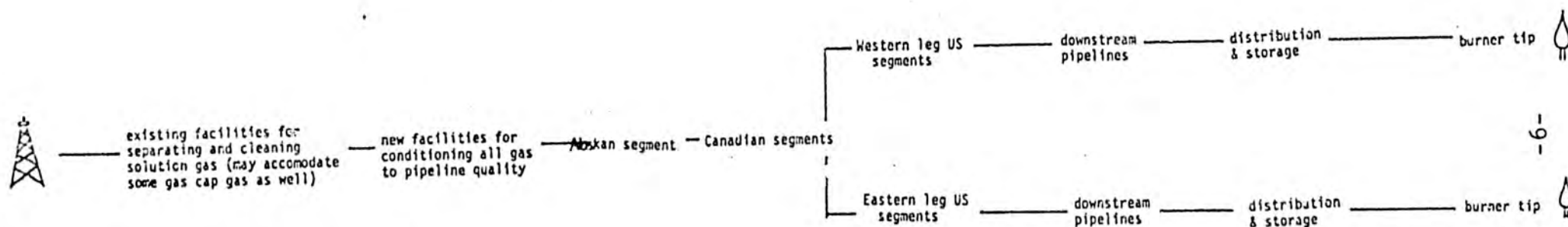
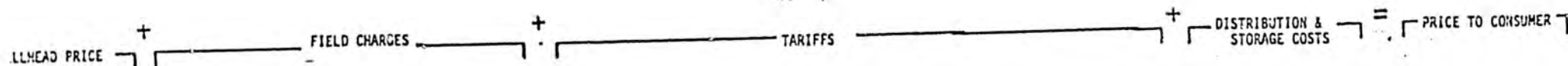
GAS PURCHASERS

A. Potential Purchasers

The marketing of Prudhoe Bay gas is very different from that of oil. To a large extent the Prudhoe producers are both buyers and sellers of North Slope oil. For example, Exxon is an "integrated" oil company, and it is, therefore, in Exxon's interest for its production arm to "sell" oil to its refining subsidiaries. On the other hand, the major oil companies have never been involved in gas transportation and marketing beyond the field. Gas was historically a nuisance by-product of oil production destined for flaring.

The purchasers of North Slope gas, instead, will be gas distribution companies and interstate gas transmission (pipeline) companies with established fuels markets. End consumers purchase gas from these companies for commercial and residential heating, power generation by electric utilities, and industrial use as boiler fuel, process gas and petrochemical feedstocks. (See attached chart.)

TRACKING THE FLOW OF GAS FROM THE WELLHEAD TO THE CONSUMER BURNER TIP



Customers who use the gas for heating and power are primarily interested in "dry gas" (composed of methane, which is abbreviated C¹). This is the type of gas produced in Cook Inlet and used in Anchorage households. However, North Slope gas is "associated" with an oil reservoir and therefore also contains heavier hydrocarbons (C², C³, C⁴ - ethane, propane, butane) which can be burned as fuel but have alternative uses as petrochemical feedstocks for the production of plastics and other man-made materials. As such, these gas "liquids" may attract purchasers from the petrochemical industry, either those interested in locating a new facility in Alaska, or those with existing plants elsewhere along the pipeline route.¹ Dry gas and gas liquids can either be sold separately to different purchasers or in combination to a single purchaser.

The State might also play the role of a gas purchaser if it chooses to negotiate a trade with the producers. A portion of its royalty share of dry gas could be offered for sale to enable purchase of producer liquids, if this would provide a more attractive volume and type of resource for encouraging petrochemical development in Alaska.

^{1/} Fertilizer companies and fuels companies may also be interested in the methane for production of ammonia/urea or methanol.

POTENTIAL PURCHASERS

Interstate Gas Transmission Companies

Gas Distribution Companies

Petrochemical, Fertilizer and Methanol Companies

State of Alaska

B. Conditions Affecting Sales to Purchasers

Which, if any, of the above potential purchasers will eventually sign gas purchase contracts depends, in part, upon economic considerations. The considerations include what price gas owners view as acceptable, and how much the purchaser is willing to pay (taking into consideration other gas sources or alternative fuels). In addition, if demand surpasses available reserves, competition may weed out certain types of purchasers.

However, sales will also be affected by State and federal intervention. On the State side, the State as royalty owner may grant a sale preference to a particular purchaser, such as a petrochemical company or Alaskan gas distribution company, so as to meet goals other than strict monetary return.

On the federal side, FERC retains powers over those gas sales. While FERC's jurisdiction is technically complex¹, the

¹/ FERC has approval authority over "sales for resale in interstate commerce," and it authorizes the use of pipeline capacity over any sale, regardless of whether it possesses direct sale approval powers.

end effect is that FERC can assert power through some mechanism over virtually any sale of gas which uses an interstate line. FERC can exercise this power freely to accomplish any defensible public purpose.

In addition to FERC's normal powers, the President's Decision, as approved by Congress, clearly charges the Secretary of Energy to use his or her approval authority to ensure equitable distribution to all parts of the country. If producer/purchaser negotiated sales result in a West Coast/East Coast market ratio vastly different from 30%/70%, FERC is empowered to require adjustments in sales.

CONDITIONS AFFECTING SALES TO PURCHASERS:

Economic/Marketing

State Policy for sale of its royalty gas

Federal regulation:

FERC authority to approve sales

DOE authority to approve East/West distribution
of sales

TRANSPORTATION COMPANIES (Pipelines)

This whole gasline question came to the fore because three competing consortiums of interstate transmission and distribution companies (originally, Arctic, El Paso and Alcan) approached FERC for approvals to construct a pipeline to transport gas from Prudhoe Bay to the Lower 48.

A. Gas Purchasers' Involvement in Pipeline Ownership

It is an open question whether potential gas purchasers have taken the lead in securing Alaskan pipeline ownership positions because they need to ensure a means to transport purchased gas to market, or because they view an equity position as a worthwhile investment in and of itself. Unlike most gas pipelines in which transport of gas is at the sole discretion of the owners, the Alaska gasline will be a "common carrier," meaning equal opportunity for gas shipments must be afforded all interested parties (just like the TAPS oil line). Hence, a gas purchaser who owns a piece of the pipeline gains no special benefits with respect to transportation access than does a non-pipeline owner. In regard to the desirability of pipeline ownership as an investment, the Alaska project has several unique features which may detract from the usual desirability of earning an assured rate of return as a regulated utility. These factors include the tremendous scale and technological uncertainties of the project, the uncertainty of delivered throughput and the imposition of a "variable rate of return" which subjects a company's profits to the risks of cost overruns. It appears likely that the opportunity to achieve a higher than normal rate of return will have to be afforded in order to compensate for these additional risks.

B. Gas Owners' Involvement

1. The Producers - Producers will not join the pipeline consortium as equity owners for two reasons. First, as previously mentioned, the integrated oil companies have

traditionally avoided downstream transportation and marketing of gas produced in association with oil. Second, the President, in his decision, specifically opposed producer participation in pipeline ownership, due to real or imagined anti-trust considerations raised by the Justice Department in its July, 1977, report to the President.

2. The State of Alaska - The President's Decision cast the State as a beneficiary of the pipeline, and assumed that the State would therefore find it in its interest to participate in pipeline financing, including consideration of investing risk capital in an equity position. The report argued that the State, like the producers, would benefit from the pipeline in that a pipeline would facilitate the sale of its royalty gas. In addition, the State stood to gain from an increased tax base, economic development, and jobs. Unlike the producers, the federal government appears to have found no anti-trust problems with State involvement in pipeline ownership.

C. Federal Government Involvement in Pipeline Ownership

It can be argued that the federal government has an interest in assuring the marketing of Prudhoe gas, so that its goals with respect to energy self-sufficiency through increased domestic production of oil and gas are met. However, the President and Congress have specifically mandated that no federal participation will occur. Congressional action would be required to change that decision. The decision was based on several factors, including a concern about risking taxpayer capital for the benefit of gas consumers, and a fear of setting a precedent for federal involvement in other large-scale energy projects.

POTENTIAL PIPELINE OWNERS

Gas Purchasers (Pipeline and distribution companies)

State of Alaska

D. The Composition of the "Alaska Highway Pipeline Project"

The "Alaska Highway Pipeline Project" (formerly Alcan) is a loose consortium of nine U.S. and Canadian companies, each with their own membership structures. These nine companies are organizing to construct eleven separate parts of the Pipeline Project which begins on the North Slope and ends in Illinois ("Eastern Leg") and California ("Western Leg"). These nine companies can, therefore, be expected to file at least eleven separate tariffs with the appropriate U.S. and Canadian agencies. The following pages portray these pipeline companies and their jurisdictions along the pipeline route.

The names of these pipeline companies and of their member pipeline and gas companies are a bit confusing. For example, "Alaskan Northwest" is the name of the newly formed company in charge of the Alaskan segment of the pipeline. "Northwest Alaskan" (a subsidiary of Northwest Pipeline of Salt Lake) is one of the six member companies of "Alaskan Northwest."

Some of these pipeline companies have been in existence for a long time (such as Pacific Gas and Electric), and are included in the Pipeline Project because they will be "looping" their existing lines¹ in order to carry the North Slope gas. Others, like Alaskan Northwest, are organizing as new pipeline companies

*
① "Looping" entails laying additional pipeline alongside an existing line to increase capacity.

(generally composed of new subsidiaries of existing pipeline and distribution companies) and will be laying pipe along routes where no gaslines now exist. These latter types of companies are continuing to develop their membership structures which will probably remain in flux until gas sales are consummated.

ORGANIZATION OF THE "ALASKA HIGHWAY PIPELINE PROJECT"

(1) Alaskan Northwest Natural Gas Transportation Company

members: Northwest Alaskan Pipeline Company ("operating partner")
(subsidiary of Northwest Pipeline Company, Salt Lake)

Northern Arctic Gas Company
(subsidiary of Northern Natural Gas Co, Omaha)

Pan-Alaskan Gas Company
(subsidiary of Panhandle Eastern Pipeline Co, Houston)

United Alaska Fuels Corporation
(subsidiary of United Gas Pipeline Co, Houston)

* Natural Gas Corporation of California
(subsidiary of Pacific Gas and Electric, San Francisco)

Pacific Interstate Transmission Company
(subsidiary of Pacific Lighting Corp, Los Angeles)

(2) Pacific Gas and Electric (existing company)

(3) Pacific Gas Transmission Company (existing company)

(4) Northern Border Pipeline Company (currently being organized by
Northern Natural Gas Co, Omaha)

(5) Foothills Pipeline (S. Yukon) Ltd

members: Foothills Pipeline (Yukon) Ltd.¹ (100%)

(6) Foothills Pipeline (N. British Columbia) Ltd.

members: Foothills Pipeline (Yukon) Ltd.¹ (51%)

Westcoast Transmission (49%)

(7) Foothills Pipeline (S. British Columbia) Ltd.

members: Foothills Pipeline (Yukon) Ltd.¹ (51%)

Alberta Gas Trunkline (49%)

(8) Foothills Pipeline (Alberta) Ltd.

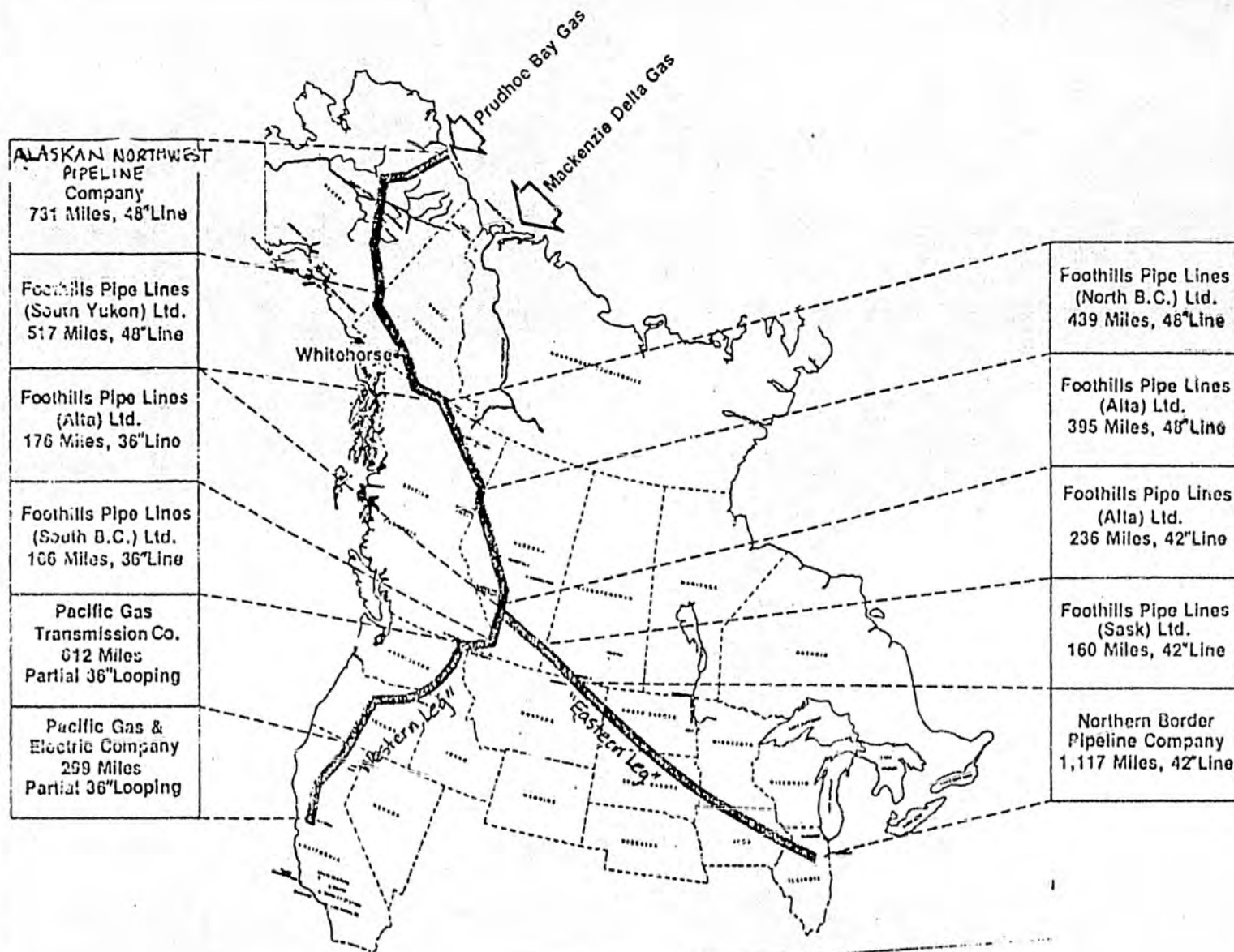
members: Foothills Pipeline (Yukon) Ltd.¹ (51%)

Alberta Gas Trunkline (49%)

(9) Foothills Pipeline (Saskatchewan) Ltd.

members: Foothills Pipeline (Yukon) Ltd.¹ (100%)

¹ Foothills Pipeline (Yukon) Ltd. maintains at least a 51% interest in each of the 5 "Foothills" pipeline consortiums. It is composed of 50% Alberta Gas Trunkline and 50% Westcoast Transmission.



LENDERS

If a gas pipeline is constructed, it will mean that a sufficient quantity of equity and debt capital was raised to finance construction of the required production and transmission facilities. In addition to investment in the pipeline itself, a variety of investments (for gathering and conditioning and water injection) may be necessary in the Prudhoe field, "upstream" of the gas pipeline inlet. It will be necessary to allocate these field costs between gas production (which places the responsibility for securing capital upon the producers), and gas transportation (which places financing responsibility upon the pipeline owners).

A. Investors in Production Facilities

Equity will, of course, be provided by the producers, if the producers determine that the investment is worth the benefits to be gained at this time by sale of their gas. Debt capital would be raised from the private financial community. It is unclear as to what expectations FERC and the producers may have with respect to State participation in equity or debt arrangements. The State did not provide any capital during the construction of oil production facilities.¹

1/ Senator Stevens at one point did advocate State participation in the conditioning facilities.

B. Investors in Transportation (pipeline) Facilities

The parties which may contribute equity as pipeline owners were discussed in the previous section on Transportation Companies. In addition to equity, there are several potential sources of debt capital.

1. Private - The private capital market is the most apparent debt investor.
2. Producers - FERC foresees investment by the producers in pipeline facilities as highly unlikely; especially since pipeline construction will necessitate concomitant field expenditures for gathering, conditioning, and water injection, much of which may be the unavoidable responsibility of the producers.
3. State of Alaska - Both the transportation consortium and the federal government are urging Alaskan investment in the gas pipeline.
4. Federal Government - The President's decision, and congressional approval thereof, prohibits debt or equity investment by the federal government.
5. The Pipeline Company - Presumably all capital (including borrowed capital) contributed by the member companies will serve as equity, as a high equity/debt ratio makes the debt investment more secure and hence easier to obtain.

POTENTIAL INVESTORS IN FIELD PRODUCTION FACILITIES

Equity: Producers

Debt: Private
State

POTENTIAL INVESTORS IN TRANSPORTATION (PIPELINE) FACILITIES

Equity: Pipeline Companies
State

Debt: Private
State
Producers (highly unlikely)

LANDOWNERS

The route of the pipeline will traverse lands held by the United States, Canada, several states and provinces, municipalities and private parties. Purchase or right-of-way lease of these lands must be negotiated between the pipeline company and landowner. The gas pipeline company has a great deal more power in so doing than did the TAPS oil company, Alyeska. This is because, unlike an oil line, an interstate gas line acquires condemnation powers upon receipt of its Certificate of Public Convenience and Necessity. Alyeska's only course of action was to appeal to a government entity to condemn lands on its behalf. These gasline condemnation powers likewise extend to Canadian companies which receive certificates from Canada's equivalent of FERC - the National Energy Board.

GOVERNMENT REGULATORS

United States

Congress
Federal Energy Regulatory
Commission (FERC)
Department of Energy (DOE)
Economic Regulatory Authority
Federal Inspector
Executive Policy Board
Other federal agencies
Alaskan National Gas Pipeline Office
State of Alaska
State Utility Commissions

Canada

Parliament
National Energy Board
(Others not discussed
here)

The United States

Congress: The role of Congress in the Alaska gasline project essentially ended last November with approval of the President's "Decision and Report to Congress on the Alaska Natural Gas Transportation System," which selected the Alcan route through Canada over two competing proposals. This action was taken pursuant to the provisions of the Alaska Natural Gas Transportation Act (ANGTA) of 1976.

FERC: The DOE and FERC were created by Congress last summer. FERC is an umbrella-regulatory commission, independent and responsible to Congress. FERC was given the powers of pipeline certification formerly held by the Federal Power Commission as well as the oil pipeline tariff authority formerly held by the Interstate Commerce Commission.

In December, pursuant to provisions in the ANGTA, FERC vacated the prior proceedings before the commission (filed by El Paso and Arctic Gas) and issued a conditional Certificate of Public Convenience and Necessity to Northwest.

FERC is responsible for federal oversight of the Alcan project prior to construction. Before construction can begin, FERC must issue a final Certificate of Public Convenience and Necessity. In the course of pipeline regulation since passage of the Natural Gas Act in 1938, actions of the FPC, the courts, and now FERC have resulted in development of a considerable body of law delineating the factors to be considered in making a determination to certificate a pipeline. Analysis and a satisfactory finding are required in each of these areas before certification: financing, tariffs, marketability (including setting a wellhead rate, if necessary), gas reserves and deliverability, processing and conditioning, accounting procedures and construction cost control. In fact, FERC can impose any terms and conditions to the certificate that it finds necessary to protect the public interest.

FERC also must consider environmental impacts of the project under the National Environmental Policy Act (NEPA). Having completed the EIS process, FERC's primary environmental responsibility now centers on "site specific" activities. FERC must consider and approve the location of the pipe and other design criteria which will mitigate environmental problems.

Department of Energy: The ANGTA places some responsibilities for this project in the DOE. Among these, DOE must develop an organization plan for the office of the Federal Inspector and define the relationship of that office to the Executive Policy Board (discussed below).

Joint DOE/FERC responsibilities: In addition to FERC's normal regulatory responsibilities regarding pipeline certification, the President's Decision gives FERC and DOE additional duties because of the unique nature of the project and its international implications. The required DOE/FERC areas of action include: choosing the size of the Eastern and Western legs of the pipeline, overseeing relations with Canada under the Bilateral Agreement, passing on any proposed predeliveries of Alberta gas, assessing the capacity requirements of the pipeline against the available Alaskan and Canadian reserves, and examining the proposed financing package in the light of national and international concerns of the United States.

Economic Regulatory Authority: The Economic Regulatory

Authority within DOE has the power to approve all exports and imports of gas. This means that ERA is involved in consideration of the so-called "Alberta gas swaps" in which early deliveries of Canadian gas will be made to the U.S. in anticipation of future North Slope gas being provided to Canada.

Federal Inspector: The office of Federal Inspector, created by the ANGTA, will exercise an expanded federal role in the project's management and construction. The President will appoint the Federal Inspector with the advice and consent of the Senate. Duties of the Federal Inspector include:

- establish joint surveillance and monitoring agreement with the State of Alaska;
- monitor compliance with laws, certificates, rights-of-way, permits, leases and other authorizations;
- monitor construction schedules, quality of construction, cost control, safety, environmental protection objectives; and
- keep Congress and the President informed on progress of the project.

The President's report to Congress contemplates a change in federal law to give the Federal Inspector field-level supervisory authority over the enforcement of stipulations, terms and conditions by those federal agencies having statutory responsibilities over various aspects of the project. In addition, FERC may decide to delegate its cost approval authorities to the inspector, so that acceptance of project costs for the purposes of tariff-setting will occur as the expenditures are made, rather than through the usual post-construction audit.

Executive Policy Board: The Federal Inspector will be

subject to the ultimate policy direction and supervision of an Executive Policy Board, made up of the Secretaries of the Interior, Energy, and Transportation, the Administrator of the Environmental Protection Agency and the Chief of the Army Corps of Engineers.

Other federal agencies: All federal agencies will retain their existing authorities, pursuant to ANGTA, to issue original certificates, permits, rights-of-way and other authorizations, and to prescribe any appropriate stipulations, terms, and conditions permissible under existing law. Agency Authorized Officers, representing their respective federal agencies, will directly enforce the stipulations, terms and conditions--subject to supervision by the Federal Inspector.

Alaskan Natural Gas Pipeline Office: The Federal Inspector and Agency Authorized Officers will constitute an Alaskan Natural Gas Pipeline Office.

State of Alaska: State officials (staffed by a Pipeline Coordinator within the Department of Natural Resources) will cooperate with the Federal Inspector in establishing a joint surveillance and monitoring agreement similar to the one in effect during construction of TAPS. In addition, the State's regulatory authority will include these areas:

--Conservation laws: The State Department of Natural Resources, Division of Oil and Gas Conservation, and the Alaska Oil and Gas Conservation Committee (within DNR) have the statutory power to "prevent waste" of oil and gas produced in the State. This authority is a key factor which will determine how much gas is available for shipment through a pipeline. Pursuant to this authority, the Conservation Committee last

↓
What⁷²³ About ECONOMIC WASTE? AGO 532683

June issued Conservation Order No. 145, which approves an operating plan for the Prudhoe Bay field. The order approves offtake of 2.7 billion cubic feet a day of raw gas (which would yield pipeline quality gas of 2.0 bcf/d) and declares that this offtake is "consistent with sound conservation practices based on currently available data." The order also says that "large scale source water injection will probably be necessary to maximize oil recovery." However, it does not make production of gas contingent on the installment of water injection facilities by the producers. "The offtake rates approved by the Committee at this time must be established without the benefit of production history," the order says. "Therefore, these offtake rates may be changed as production data and additional reservoir data are obtained and analyzed."

O. K. "Easy" Gilbreth, Director of the Division of Oil and Gas Conservation and chairman of its Conservation Committee, told a congressional committee last fall that the State believes "there is no sound technical reason to delay, provided that the operators adopt and implement a source water injection program by the time gas sales start. If the operators do not implement a source water injection program, then gas sales will have to be limited or postponed in order to avoid jeopardizing ultimate oil recovery."

Although the State has the authority to shut-in or reduce gas production to prevent waste, some fear that it may be practically or politically impossible to take such an action once the gasline is under construction or in place.

A bill pending in the Legislature (CSHB 830) by Representatives Chat Chatterton and Hugh Malone would transfer the State's conservation authority from the Department of Natural Resources to an independent agency.

--Right-of-way Leasing Act: Northwest will make application to the Department of Natural Resources seeking right-of-way certificates for portions of the pipeline that cross public State lands. If the State refused to grant these rights-of-way, however, Northwest could still obtain the land through condemnation powers it will receive upon final FERC certification.

--Alaska Pipeline Commission: The Alaska Pipeline Commission has no jurisdiction over the tariff charged for intra-state shipments of gas in an inter-state pipeline.

--Local hire: The State's "local hire" law, implemented by the Department of Labor, is currently under review by the U.S. Supreme Court.

State public utility commissions: Public utility commissions in the United States regulate sales in which the buyer and seller are both located in that State. For example, FERC will approve the sale of gas from EXXON to a pipeline transmission company.

* A State PUC will then approve the sale from that transmission company to a local distribution company.

Canada

Parliament: An Agreement between the United States of

America and Canada on Principles Applicable to a Northern Natural Gas Pipeline, (sometimes called the Bilateral Treaty), was approved by the Canadian Parliament last year. The treaty covers a broad range of issues, including: a construction timetable, pipeline capacity, financing, taxation, tariffs and cost allocation, and regulatory authorities.

The Canadian Parliament in April approved the Northern Pipeline Act, which sets up a single regulatory agency for planning and monitoring construction of the Canadian segments.

National Energy Board: The NEB is FERC's Canadian counterpart and will have similar responsibilities and authority.

The NEB has broad discretion in deciding on applications of public convenience and necessity for pipelines. Canadian procedures for implementing a decision on the gas pipeline appear to be less complicated than U.S. procedures. The State Department and other federal agencies advised President Carter last summer that delays related to approval by regulatory authorities are less likely to occur in Canada than in the U.S.

The NEB already has established the pipe diameter and pressure for Canadian segments of the line.

III. ENGINEERING AND SCIENTIFIC CONSIDERATIONS:

PIPELINE DESIGN AND FIELD ACTIVITIES

BACKGROUND

The design of the pipeline (and compressor stations) establishes thresholds for the volume of gas and its quality that may be transported through the line. The various elements of pipeline design, in turn, determine the field activities (conditioning) which must take place in preparing the gas for pipeline transport.

Questions relating to pipeline design and conditioning are based on two considerations:

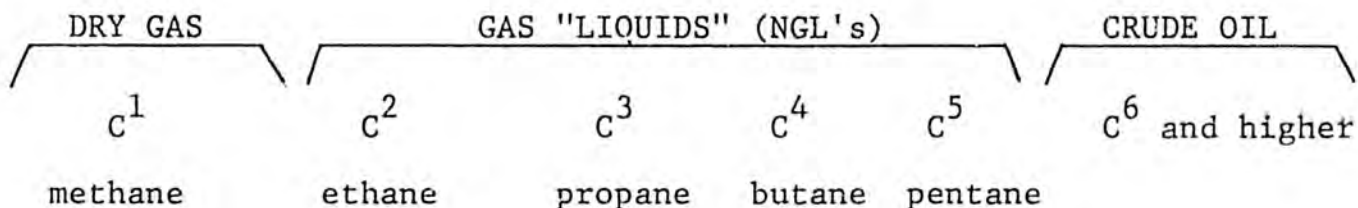
1. What quality of gas is to be transported through the line; and
2. What is the volume of gas?

Resolution of these questions by the producers, State, FERC, investors and gas purchasers will require a complex balancing of economic and regulatory factors, as well as the technical characteristics of oil, gas, and transportation facilities.

A. Gas Quality

The Prudhoe Bay reservoir contains crude oil and "associated gas" in the form of "gas cap gas" (located above the crude layer) and "solution gas" (dissolved in the crude). The hydrocarbons in these gas and oil layers represent the entire spectrum.

For the purposes of this report, these hydrocarbons will be referred to as "dry gas," "gas liquids," and "crude oil" as follows:



The purpose of the Northwest pipeline is to transport those hydrocarbon components that physically cannot, or economically will not, be carried in the existing TAPS oil line. These remaining components represent dry gas and gas liquids. The first question to resolve is, "What can TAPS be expected to carry?"

1. Transport of Gas Liquids in TAPS

Note: Most of the technical interpretations cited here are extracted from SOHIO and ARCO letters to FERC dated March 9, 1978, and March 27, 1978, respectively.)

a. Physical Constraints for Transport of Liquids in TAPS

Crude oil emerging from the Prudhoe Bay reservoir is extremely hot; however, the delivery temperature of crude to the TAPS line is regulated at no greater than 140 degrees F, with a maximum

"vapor pressure"¹ of 14.7 psia² which is equivalent to natural atmospheric pressure at sea level. At a higher temperature, or if the crude composition resulted in higher vapor pressure qualities, then the line would be threatened by the presence of two "phases" of hydrocarbons--those which flow as a liquid, and those which flow as a vapor or gas. "Two-phase flow" in either oil or gas lines results in difficult and hazardous operating conditions.

While the crude cannot be allowed to enter TAPS at a temperature of more than 140 degrees F, it has a minimum temperature limit as well. Crude must be supplied to TAPS at a high enough temperature to ensure that by the time it reaches Valdez, it will not have cooled into an immobile sludge ("wax" precipitates as the temperature cools.) SOHIO reports that this lower temperature threshold for pipeline entry is about 100 degrees F, + 10 degrees; and ARCO reported the threshold at 105 degrees F.

Presently, the crude delivered to the TAPS line is at the maximum temperature (140). Under these conditions, SOHIO believes the line can carry much of the pentanes (no butanes or lighter
* components).

1/ Vapor pressure for oil is the pressure at which any decrease will cause the lighter hydrocarbons to enter the gaseous phase. This vapor pressure is determined by the composition of the oil. Oil with no NGL's will have a low vapor pressure. Oil with NGL's will have a higher vapor pressure.

2/ Pressure is expressed as psi, psia or psig. The differences will be ignored for the purposes of this report.

In summary, there are two competing physical factors which are considered by the producer in choosing whether and how much gas liquids to ship through the TAPS line. Reduction of crude temperature will allow more liquids to be carried; however, this means that in the event of a temporary pipeline shut-down, the risk that crude might turn into a semi-solid sludge will increase. Hence, there are very definite physical characteristics which limit the type and amount of liquids which TAPS can accommodate.

* { It is safe to say that most pentanes could physically be put into TAPS and possibly some butanes.

b. Economic Constraints for Transport of Liquids in TAPS

Even if the maximum volume of butanes and pentanes were transported through TAPS in the crude stream, it may be a useless gesture. While TAPS can accommodate crude with a 14.7 psia vapor pressure, tanker limits are 14.0 and Los Angeles air pollution regulations set the maximum limit on crude to be stored there at 11.1. Lower vapor pressures are attained by removing the lighter liquid components. Hence, unless a butane/pentane purchaser is waiting in Valdez, these components are destined to greet the "thermal oxidizers" (otherwise known as flares). Transporting butanes and pentanes through TAPS for flaring in Valdez is of questionable economic merit.

2. Transport of Gas Liquids in the Gasline

Once it is determined how much of the gas liquids TAPS can and will carry, the question turns to the physical and economic constraints of the gasline.