RESEARCH SUMMARY

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The West Coast Oil Surplus

Its Effect on Alaska's Petroleum Revenues

By Arlon R. Tussing

In the summer of 1978, the Alaska Legislature, alarmed over the potentially devastating effect of the U.S. West Coast oil surplus on Alaska's petroleum revenues, asked economist Arlon Tussing to analyze the problem and help devise a strategy for an international exchange of Prudhoe Bay royalty oil. The idea behind such an exchange was to avoid the extremely high transportation costs of shipping the oil to U.S. East Coast ports via the Panama Canal—costs that could drastically reduce the wellhead price of North Slope oil and thus Alaska's petroleum revenues. The following article, taken directly from Dr. Tussing's final report to the Legislative Affairs Agency (August 1979), describes the problem, efforts made to resolve it, and the reason why it no longer exists.

Introduction

The problem with which we were dealing over the last 14 months was the loss of state royalties and production taxes caused by the high cost of shipping "surplus" Prudhoe Bay crude oil to Gulf and East Coast markets. My main (but not exclusive) emphasis under the contract was to help the state legislature and administration develop and implement a strategy for relaxing federal restrictions on exports of North Slope crude oil. An important part of this strategy was to negotiate an exchange agreement for state royalty oil that could be licensed under existing law.

We did not achieve a liberalization of export rules, but the unexpected events that frustrated our campaign—the Iranian crisis and the huge increases in world oil prices that followed it—raised the value of Alaska crude oil by far more than the state ever expected to gain by way of exchanges.

Two recent events have ended, at least for the present, the State of Alaska's effort to negotiate and get approval for international exchanges of Prudhoe Bay royalty oil. The first is the agreement between the oil producers and the state regarding the price of Prudhoe Bay royalty oil, and the second is the adoption by both Houses of Congress of restrictive amendments to the Export Administration Act.

Prudhoe Bay Royalty Agreement

The North Slope oil producers have agreed to pay royalties to the State of Alaska on Prudhoe Bay crude oil on the basis of the federal ceiling price (about $13), commencing July 1, 1979. The Alaska Department of Revenue also plans to begin billing the producers for production taxes at the same rate. Before this action, the wellhead price (and hence the basis for royalties and production taxes) was a "netback" price, calculated by subtracting transportation charges from the value of the oil at the "refinery gate." One year ago the netback price ranged from about $7 down to about $1, depending upon its destination. The lower end of the price range reflected the cost of shipping oil through the Panama Canal to U.S. refineries east of the Rockies. All these prices were considerably less than the applicable federal ceiling price.

The state's immediate interest in crude oil exchanges, such as the proposed three-way transaction with Mexico and Japan, was to reduce this transportation cost burden on the state's royalty oil and on the taxable value of the producers' own North Slope oil. A longer-term concern was to obtain for the producers an assured market and an attractive netback price for any increased production, in order to encourage development and exploration for additional petroleum in Arctic Alaska.

Once the Iranian oil crisis and OPEC price increases raised the netback value of Prudhoe Bay royalty crude (and thus the tax-reference price of the producer-owned crude) to the federal ceiling price, the state's royalty and tax income became frozen at that level, regardless of the oil's destination or transportation cost. Hence, exports or exchanges can no longer improve the state's immediate royalty and tax position.[1]

[1]It is not as clear how the ceiling price and the absence of an export market will influence the producers' incentive to develop or find additional Arctic oil; the netback value of the nonroyalty oil—particularly Sohio's production—is still substantially less than the ceiling price, but this situation may not

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Effect of Decontrol

The state and the producers will be indifferent to the destination and transport costs of Prudhoe Bay crude oil only for so long as crude oil price controls last. The current price control authority expires on September 30, 1981, and the present Congress is not likely to extend that authority. President Carter has proposed escalating the "upper tier" price from its present level (about $13 plus inflation) up to the world price between July 1, 1980 and September 30, 1981. Once domestic, upper-tier crude oil is decontrolled, the wellhead price of Prudhoe Bay oil will again become a netback price, reflecting its value in outside markets, less transport costs to those markets. Under these circumstances, exports or international exchanges would once again be in the state's immediate and long-term fiscal interest.

Adoption of Riegel Amendment

On July 21, the United States Senate adopted the Reigel Amendment to the Export Administration Act, under which exports or exchanges of North Slope crude oil would face an even more demanding test than that of the recently expired McKinney amendment. (The House of Representatives had already adopted similar language.) The new language requires the President to find not only that "(a) acquisition costs to [U.S.] refiners [be] lower than the acquisition costs such refiners would have to pay for the domestically produced crude oil in the absence of such an export or exchange," but also "that not less than 75 percent of the savings shall be reflected in reduced wholesale and retail prices of products refined from such imported crude oil."[3]

It is not difficult to structure an exchange agreement to meet this test *so long as gasoline refiner and retailer margins are controlled.* Under the present price control program, all increases or savings in refiner acquisition costs for crude oil are at least theoretically passed on in wholesale and retail prices. The ability of an export arrangement to meet the new test will be more problematical after petroleum product prices are decontrolled. The troublesome part of the test will not be the requirement that *refiner acquisition* costs be reduced. An exchange agreement can explicitly provide for such a reduction. The amendment's language does not say how large the reduction must be; and contrary to at least one newspaper account, 75 percent of the *transport cost* savings do not have to be passed on to refiners, much less to final consumers.

The real problem the President will have in making a finding under the amendment will be at the wholesale, and particularly at the retail, price levels. In an uncontrolled market, it is seldom possible to measure the influence of a single refiner's crude oil acquisition costs on petroleum product prices. Presumably, a refiner could reduce its own wholesale prices to reflect crude oil cost savings, but there is probably no practical (and lawful) way to prevent resellers from charging the going retail prices and thus reaping a windfall profit at the expense of the refiner.[4] I have not yet seen any way around this problem, but that does not necessarily mean that there is no such way.[5]

Assessment of Our Efforts

The campaign to liberalize federal export restrictions was not successful, but I believe that our overall strategy was correct. We were responsible for the U.S. Department of Energy's decision to reconsider the export questions, and to conduct a formal study of the issue (the Pugliaresi report). My own and others' continuous communications from Alaska to DOE officials clearly affected the report's conclusions and the Department's ultimate position in favor of exports. The proposed PEMEX[6] exchange turned out to be an excellent device for explaining our case, and we got good publicity and almost unanimous editorial endorsements from the national press (*New York Times, Washington Post, Wall Street Journal, Business Week, Los Angeles Times*, etc.). While the series of meetings between Alaska and California officials did not produce a joint position statement, I believe that they were invaluable in giving our people a better insight into both the economics and the politics of petroleum on the West Coast and nationally.

The North Slope producers gave some discreet moral support to the state's efforts, but the company (Sohio) that would have profited most from any exchange arrangement gave us precious little of even that. One can understand the companies' reluctance to campaign publicly for liberalization of export rules, lest they reinforce existing public suspicions of their motives for building TAPS in the first place. It is also reasonable that the companies might mistrust the State of Alaska and regard it principally as an adversary, because of recent

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last long. (Otherwise, the companies would not have been willing to pay ceiling price on Alaska's royalty oil in order to avoid having the state take its royalty in kind.) However, the spectacular rise in world oil prices since the Iranian crisis last winter has raised wellhead prices, even for Alaska oil moving through the Panama Canal, to far higher levels than the state was anticipating last year as a result of any crude oil exchange. Thus, the incentive of the companies to develop the Lisburne and Kuparuk formations and the Point Thomson field, to bid on Beaufort Sea acreage, and to continue exploration in Alaska, has been greatly strengthened, even without the prospect of export markets.

[2]The degree to which the state will be concerned with markets and transportation costs will be affected by the form and rates of the proposed crude oil excise tax ("windfall profits" tax). In the form passed by the House of Representatives (a 70-percent tax on prices above $7.00 per barrel), the incentives for both the state and the oil companies with respect to the sale of North Slope oil would be profoundly changed. I plan to treat this question in a later report.

[3]Exports of oil to an "adjacent foreign state to be refined and consumed therein, in exchange for the same quantity of crude oil" do not require a Presidential finding or Congressional review, but they must also "result through convenience or increased efficiency of transportation in lower prices for consumers of petroleum products" according to the standard quoted above.

[4]There may be special situations where exchanges could create large and measurable consumer savings, for example, in small and isolated markets for which the ability of one or more refiners to exchange crude might affect overall product price levels. For example, if some refiners in Montana could obtain new supplies of light Alberta crude in exchange for ANS crude shipped by supertanker to eastern Canada, competition could well result in all of the crude oil price savings being passed to Montana consumers. Consumer savings could even exceed 100 percent of crude oil acquisition cost reductions, as non-exchanging refiners reduced their own prices to meet competition from those with the cheaper crude.

[5]The only forum for challenging the President's finding, however tortuous or controversial it may be, seems to be the Congress itself. The Riegel Amendment (like the TAPS Act export restriction, and unlike the old McKinney Amendment) interprets the failure of *both Houses* of Congress to overturn a Presidential finding within 60 days as "approval" of the proposed export. Thus, the crucial test established by the Amendment is not the measurement of consumer savings, but the *willingness of the President* to make a finding (however he chooses to measure consumer savings), and to use his influence to head off a Congressional veto.

[6]Mexico's national petroleum company.

controversies over state taxes and other policies.

Sohio's active cooperation would have been essential to the success of the PEMEX exchange proposal, however, and neither Commissioner LeResche nor I was ever able to get responsible officials of the company into concrete discussions. And if any one event was decisive in turning Congress against liberalizing exports of Alaska oil, it was Sohio's abrupt termination of the PACTEX project (Pacific Coast—Texas oil pipeline) after a number of influential Congressmen had sponsored legislation responsive to *the very problems Sohio had told them* were holding up construction. My small sampling of Congressional sentiment last spring turned up a remarkable amount of bitterness over this action, and a determination to prevent Sohio from making a profit on its "double-dealing" by using exchanges as an alternative to building PACTEX.

It was in Congress that our efforts clearly failed, and we *may* have failed only for lack of trying. I am not certain that the outcome would have been different if we had tried a real lobbying effort (supported by a broader national publicity campaign), but the state did not make a serious effort to influence Congress. Neither the state administration nor the legislature even made an explicit decision *not* to do so; the question was just put off again and again, until it was too late.

As it happened, DOE continued to lobby against new restrictions to the every end, and there was considerable support in both Houses for a liberal policy. Senator Stevens, without any campaign on our part, was able to get 30 votes for an amendment that would have covered the kind of exchange the state had attempted to negotiate with PEMEX.

Related Issues

In addition to attempts to liberalize federal oil export rules and negotiate specific royalty oil exchanges, the Legislature and state administration devoted attention to other measures directed at reducing the West Coast oil surplus. Among these were measures to (1) induce West Coast refineries to run more Alaska North Slope (ANS) crude oil (and to modify those refineries as necessary to that end) and (2) evaluate proposed West-to-East oil pipelines. The outlook on each of these issues has changed considerably in the last few months, and major uncertainties still exist.

Use of ANS Crude Oil in West Coast Refineries

The loss of Iranian oil imports and Indonesian oil imports (bid away by Japanese refiners to replace Iranian crude) has induced West Coast refiners to use more Prudhoe Bay crude oil in 1979 than they did last year, more than any public report had indicated they were capable of using. These developments have raised the average netback price of North Slope crude oil, but with certain undesirable side effects: the use of more ANS crude oil lowered refinery capacity use rates and relative gasoline yields on the West Coast. Both effects contributed powerfully to last Spring's gasoline shortage and the resulting gas lines in California and Washington.[7] Over a longer period, the mismatch between West Coast refineries and ANS crude could be resolved, at least in theory, by investment in additional hydrocracking facilities at West Coast refineries. Market and regulatory uncertainties, however, make such investments even more questionable than they seemed in 1978.

It is ironic that one year ago, Alaska and California officials were working together on measures *to increase* the absorption of ANS crude oil on the West Coast. Today, the California Energy Commission has become concerned about the unacceptably *high* dependence of California on ANS crude (about 45 percent) and is looking into means to reduce that dependence and establish contigency plans to deal with a possible cutoff (resulting, for example, from a pipeline failure or a fire at Valdez).[8]

Refinery Modifications and Grassroots Refineries on the West Coast

It is not clear how recent and prospective developments in crude oil markets affect the long-term outlook for refinery modifications. On the one hand, it appears that the *average* gravity of crude oils available to U.S. refiners generally and to West Coast refiners in particular will continue to decline. Light (high gasoline) crudes are becoming scarcer everywhere, while new supplies of liquid hydrocarbons seem to be mostly of medium to heavy grade. Thus, the cutoff of imports from Alberta, the decline of Cook Inlet production; reduction of Indonesian and Nigerian imports; and increased volume of ANS crude (including heavy crude from Kuparuk and Point Thomson), California heavy crudes, syncrudes from tar sands or oil shale, etc., will call for major modifications in existing refineries.

On the other hand, industry and government projections published even before the recent upheavals showed that West Coast gasoline demand would be practically stagnant until about 1984 and would decline thereafter. Nationwide gasoline demand was expected to peak in about 1986. Higher gasoline prices, new conservation policies, and recession may mean that present U.S. and West Coast refineries already have as much gasoline capacity as the industry will *ever* need. As far as I know, no government or industry body has yet published new gasoline demand projections, and until the shape of future federal policy with respect to fuel efficiency, lead content, and emission standards is clear, *no one* is likely to invest in additional gasoline-producing capacity.

Another important area of market and regulatory uncertainty, particularly on the West Coast, concerns heavy fuel oil. West Coast refiners already produce more residual oil—particularly high sulfur residual oil—than West Coast markets can absorb. Air quality standards demand desulfurization before this product becomes an acceptable industrial or electric utility fuel. But what will be the impact of the fanatically restrictive regulations that DOE has published under the Powerplant and Industrial Fuels Use Act, for the purpose of discouraging industrial and electric utility consumption of oil? What will become of President Carter's promise to halve utility oil consumption by 1990? How much natural gas will be available for boiler fuel? Without answers to these questions, refiners will not know if it would be profitable to invest in fuel oil desulfurization facilities.

Thus, refinery modifications are indeed required if the United States is to use an increasingly heavy-grade supply of crude oil, but modifications to produce what?

These problems are even more acute for any proposed grass-roots refinery, such as Alpetco. The conventional wisdom in the oil industry has been all along that there is no room in the market for a new grass-roots refinery on the West Coast, and that increased capacity, if needed, can be added more cheaply at existing plants. If higher oil prices and a new thrust for energy conservation mean that U.S. and West Coast refin-

[7]This situation could have been largely or totally offset by exchanges of ANS crude for either Indonesian crude and/or imported gasoline.

[8]While it was about 6 weeks before the impact of the Iranian shutdown was felt in the United States, California officials believe that a cutoff of ANS crude would cause noticeable shortages in about 7 days, and would result in serious economic disruption within 2 weeks.

ery capacity are already adequate or excessive,what indeed is Alpetco to produce and for whom, and why would any prudent lender commit funds to Alpetco, at least until things "settle out" a bit?[9]

West-to-East Oil Pipelines

Thus far, the State of Alaska has not taken a public position on any of the proposed West-to-East oil pipelines. Generally, our political strategy was to profess no opposition to any of the proposals and to limit any export license schemes proposed by the state to volumes "in excess of West Coast demand plus the capacity of any *in-place* West-to-East pipeline system in North America." (Former Commissioner of Revenue Sterling Gallagher was outspokenly opposed to all of them, however, on the ground that none would produce an acceptable netback price for North Slope crude oil.)

None of the proposed pipelines (PACTEX, Trans-Mountain, Northern Tier, Kitimat, Skagway, or Big Delta) is economic on the basis of production in excess of West Coast demand from proved reserves at Prudhoe Bay. All of these systems depend for their viability and financing on (a) transportation of *increased* volumes of Middle Eastern or Indonesian crude oil to the U.S. Midwest, (b) *increased* North Slope production from presently undeveloped or undiscovered reserves, or (c) both.

It has always been doubtful whether *any* of the proposed systems was competitive with expansion of existing mid-continent pipelines for carrying additional overseas crude oil. Now, however, the President has declared that *no increase* will be permitted in imports above 1978 levels. This announcement may be naive or disingenuous or both, but an actual policy of this sort would destroy the economic rationale for all of the West-to-East pipelines. With only the *assured* surplus of West Coast crude as an assured throughput, the cost of transporting ANS crude to Chicago on Northern Tier, for example, would be higher than for transshipment through the Panama Canal.[10]

Summary and Conclusion

In summary, the West Coast oil surplus is not currently costing the state any royalty or tax revenue on its Prudhoe Bay crude oil. International exchanges of crude oil, our preferred remedy for the surplus, will moreover be politically (and probably legally) infeasible for some time.

These changed circumstances were unforeseen and largely unforeseeable, and I believe that the state's basic strategy was a sound one: to structure an exchange of royalty oil that would conform to existing law and at the same time to urge a liberalization and regularization of oil export rules. We were completely successful in educating and persuading the Department of Energy, energy analysts generally, and the influential media of the merits of our case, but we failed utterly in Congress. That failure may have been inevitable, but possibly it was because we simply did not try.

Higher world oil prices, the prospect of domestic crude oil and petroleum product price decontrol, and their impact on product demand; the proposed "windfall profits" tax; the announced ceiling on oil imports; and other market and policy developments, have radically changed the outlook for refinery conversions and grassroots refinery construction, and for proposed West-to-East oil pipelines. They will surely have an impact on Alaska's interest in the different projects. I hope to report to you in some fashion on these issues over the coming year.

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[9]There are other imponderables in the present situation. The so-called windfall profits tax, for example, may *create* large windfall profits for those integrated oil producers that can post low wellhead prices in sales to their own refineries, thereby avoiding the tax and making greater profits in refining and marketing. Other companies might have an incentive to acquire or build refineries to take advantage of this loophole: would Sohio consider building a West Coast refinery (despite a probable surplus of refining capacity in the industry as a whole)? How would Alaska's fiscal interest in in-state refining be affected by the tax? (That is, are there circumstances under the windfall profits tax in which the state treasury would be better off with lower royalty oil prices and higher *ad valorem*, corporate income, or special franchise taxes on Alaska refiners?) Definitive answers will not be possible until the tax is enacted, but as far as I know, no one has yet begun to take a systematic look at these questions.

[10]Only one of the pipeline sponsors has so far publicly recognized the changed circumstances. Foothills has announced that it will withdraw its application for a port at Skagway and concentrate on its Delta Junction-to-Keg River alternate. According to the pipeline company, the President's declaration removed ". . . all justification for any new oil port on the West Coast of North America." The only foreseeable function for a new pipeline system is to move Arctic oil, and even so they admit that their pipeline would be economic only on the basis of ". . . *increased* production from Prudhoe Bay, the Beaufort Sea, and adjacent areas." [emphasis added]. For this purpose, Foothills argues that all-pipeline transportation is the cheapest and most environmentally acceptable.

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