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Statement of John H. Lichtblau
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on the
State/Federal Beaufort Sea Lease Sale
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My name is John H. Lichtblau. I am executive director of the Petroleum Industry Research Foundation, Inc., an organization which specializes in the study of petroleum economics. I would like to address myself to three aspects of the proposed Beaufort Sea Oil and Gas Lease Sale: (1) the national interest; (2) the impact of a Beaufort Sea oil discovery on the existing Prudhoe Bay petroleum infrastructure; and (3) the West Coast oil "surplus" and its effect on potential market outlets for oil discovered in the Beaufort Sea.

Regarding my first point, the national interest in the discovery of additional domestic oil and gas reserves, not much needs to be said. We are right now facing a dramatic reminder of how vulnerable this country has become as a result of its heavy and growing dependency on foreign oil. The current acute world oil shortage may be over by next year but it cannot be treated as just a brief aberration from the surplus situation of the previous five years. The new Iranian regime has informed the world that it intends to reduce its oil export volume indefinitely by up to 2.0 million B/D from the level permitted under the previous regime. The reduction is equal to nearly 4% of total current free world oil supplies. The recent sharp world oil price escalations, which have probably not yet run their course, have greatly strengthened Iran's determination and ability to maintain this policy.

Regarding Saudi Arabia, the world's largest oil exporter, it seemed reasonable until recently to assume that the imposed oil production ceiling of 8.5 MM B/D would be modestly but periodically

raised to reach at least 12 MM B/D by the mid-1980's to meet growing world requirements. Now, for a variety of political and economic reasons, this assumption may no longer be valid. At least, that is the new message coming out of Riyadh these days.

Thus, while the foreign oil resource base remains about the same as it was a year ago, the actual and potential availability of oil to importing countries, such as the U.S., has been reduced. Our efforts to meet this emerging new situation through improved energy conservation and the development of energy sources other than conventional oil and gas will of course count heavily in the long run. Nevertheless, it is unlikely that the growth in our oil imports can be arrested if we cannot reverse the steady decline in our conventional domestic oil production. Yet, in the last nine years the only year we were able to do this was 1978, when Prudhoe Bay production made its first substantial contribution to U.S. oil supplies. Now that this production has reached a temporary plateau, total U.S. oil production will probably once again decline. Meanwhile, domestic proved reserves are expected to continue to be depleted, with further declines anticipated in the ratio of reserves to annual production, a basic measurement of oil produceability. Last year in the lower 48 states, production was equal to just seven years of proved reserves, compared to about twelve years in the 1960's. A particularly disturbing fact is that the decline in the last five years has occurred in the face of sharply rising prices for new domestic oil. This could be an indication that the remaining

potential for conventional oil discoveries in the lower 48 states may be quite limited.

The Administration in its new report, Energy Plan II, expects domestic crude oil production to be maintained at approximately the current level over the remainder of the century. The report recognizes that conventional production in the lower 48 states will continue to decline but expects production from Northern Alaska to increase substantially from the current 1.2 MM B/D level, presumably on a sustained basis to the end of this century. According to all government and industry studies on the subject, this requires the discovery of substantial additional reserves at the North Slope. The President has recognized the national importance of finding more oil reserves at the North Slope, for in his recently enunciated policy to decontrol domestic crude oil prices he has proposed to exempt Alaskan crude production from any "windfall" profit or other special tax on oil prices. No other major category of domestic crude oil is given such a sweeping exemption under the President's plan. It can be assumed that the principal purpose of the exemption is not to maximize profitability from existing production but to create maximum incentives for the discovery and development of new supplies. According to the U.S. Geological Survey, the Beaufort Sea potentially contains the largest volume of such new supplies in Alaska and the second largest of any OCS geological province.

Now I would like to turn briefly to my second point, an analysis of the impact of additional North Slope crude production on established production in the area.

Currently, all North Slope production comes from one single reservoir of the Prudhoe Bay field--Sadlerochit. Production from this reservoir is expected to reach about 1.4 million B/D by year end and rise to 1.5 million B/D within a year or two thereafter. It is expected to stay at that level until 1989 or 1990 (assuming substantial water injections during the second half of the 1980's) and then start to decline. If the reservoir's associated gas is sold separately, rather than reinjected into the fields, the decline could start somewhat earlier.

Since Sadlerochit is by far the largest known reservoir in the Prudhoe Bay area, supplies from the other known reservoirs will increase total output only moderately during the 1980's and will probably not prevent the overall decline in Prudhoe Bay production from the end of the 1980's on. This means that in the absence of additional finds, the TAPS line may never be used at its maximum design capacity of 2 million b/d and could in fact become substantially underutilized within 9-10 years. This, in turn, could increase the future unit transportation cost of Alaskan crude, since the fixed costs of the pipeline may have to be spread over a progressively smaller volume of throughput as Sadlerochit production starts to drop. Thus, offshore production in northern Alaska would not supplant existing or potential North Slope onshore production but, rather, would supplement it, thereby reducing the future transportation cost for all North Slope crude. It should be pointed out in this connection that the Bureau of Land Management's Draft

Environmental Impact Statement estimates that production from the proposed Beaufort Sea lease sale could not reach significant levels before 1989 or 1990, about the time when output from Sadlerochit will have started to decline.

The projected 10-year time span required to reach commercial production in the Beaufort Sea should also put to rest the argument sometimes heard that we should leave exploration of the Alaskan OCS for some later period. We have already done that by not leasing it earlier. Any action we take now won't really begin to benefit us until the 1990's.

Now I would like to address myself to the question of the so-called West Coast oil "surplus." As you know, the argument has been made with regard to any new leasing both in Alaska and in California, that as long as the West Coast produces more oil than it can regionally absorb, there is no justification to drill for still more oil, with all the attendant environmental risks, when this would only add to surplus. I submit that this argument is spurious. Certainly the West Coast has had a regional oil surplus since early 1978 when North Slope production began to exceed 700,000 B/D. Currently this surplus amounts to about 500,000 B/D. But in essence this is no different from the long-standing oil and gas "surplus" at the U.S. Gulf Coast which has traditionally supplied much of the requirements of these two fuels to the rest of the country. In the same way, all West Coast oil which cannot find a local market is transported to other U.S. markets, such as the Gulf Coast or the U.S. Virgin Islands,

where it displaces imported oil on a barrel-for-barrel basis. As a result, no West Coast crude oil production is now shut in for lack of market outlets, nor was this the case in the period immediately preceding the Iranian export interruption of last December which created the current world oil shortage.

In the first half of last year a small volume of California heavy crude production from old wells was shut in because of inability to dispose of it at prices acceptable to its producers. But the principal reason was not a market glut but the peculiar distortions which the government's crude oil entitlements system introduced into the California market. When this was recognized and remedied by the Department of Energy, production from the shut-in wells was resumed.

The "surplus" concept of West Coast crude is sometimes related to the relatively high cost of transporting Alaskan oil in excess of regional demand to other parts of the country. Recent shipping costs from Valdez to the Gulf Coast, the likely destination of most excess Alaskan crude, have amounted to approximately \$3.00/bbl. Last year, this resulted in an average wellhead price of less than \$4.50/bbl for such excess crude, raising the legitimate question whether that price was sufficient to encourage the exploration for additional North Slope oil reserves. The price may well have been too low for that purpose. Thus, ways to reduce the transportation cost for North Slope crude have been actively pursued by both the producing companies and the government. One widely publicized alternative would be the

construction of a pipeline from the West Coast to the interior; currently at least three such proposals are under active consideration. Another alternative would be to permit exportation of incremental Alaskan crude production to Japan under a swap agreement which would require Japan to provide the U.S. with an equal volume of foreign crude. Both these approaches to reducing the freight cost of North Slope crude remain under consideration. Since they are economically sound, it is probable that one or both will be carried out long before commercial production from the Beaufort Sea could begin.

There is also the likelihood that the West Coast itself will require additional volumes of Alaskan crude during the 1980's. Last year the region (PAD V) consumed about 2.6 million B/D of which some 550,000 B/D consisted of imported crude oil. By 1990, PAD V consumption will have increased by about 500,000 B/D, assuming a modest 1.5% annual growth rate. If during the same period imports are to be reduced from last year's level, PAD V may require an additional 800,000 B/D of locally produced crude oil by 1990. Most of this addition would have to come from the North Slope since production in the rest of PAD V is not expected to register substantial net increases during this period.

But perhaps even more important for the economics of North Slope crude than future transport cost savings and increased regional markets is the fact that the current wellhead price for Alaskan crude shipped to the Gulf Coast is at least \$3.50/Bbl higher than it was at the end of the year. The relentless OPEC price increases of the

last 5 months have of course not been good news to the U.S. economy. But they inevitably increased the profitability of competitive supply sources, both conventional and new ones. Accordingly, the value of Alaskan oil has substantially improved since last year. Further improvements are likely, given the expectation that the world price of oil will continue to move up in real terms during the 1980's. This has enhanced the economic attractiveness of exploration in the Beaufort Sea and, probably, the chance of success, since more companies may wish to participate in the search and may be willing to invest more capital in it than would have been the case under the previous wellhead value for Alaskan crude in excess of West Coast demand. Of course, the Alaskan state and the federal government also stand to benefit directly from the higher price. It may bring in higher bonus payments for the leases and, if oil is found, it would significantly raise royalty and tax payments to the federal and state government entities, from the estimates made in the Draft Environmental Impact Statement on the basis of last year's wellhead prices.

Thus, to sum up: locating of new oil deposits in the U.S. is of the highest national priority, and the Beaufort Sea has one of the largest potentials for the discovery of new deposits; a ready market exists for any oil found in the Beaufort Sea; and, finally, recent foreign oil price movements have significantly improved the economic attractiveness of Alaskan oil.

The conclusion emerging from all these considerations is that from a political and economic point of view it is imperative that the proposed Beaufort Lease Sale be held at the earliest possible moment.

Trying to reverse the growth in our oil import requirements has become a matter of utmost urgency. Otherwise, these requirements will remain a threat to our security because of our continuing high degree of dependency on unstable foreign supply sources, as well as a threat to our economy because of the highly negative impact of these imports on our balance of payments.