

# Oklahoma Law Review

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Volume 38 | Number 5

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1-1-1985

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William W. van Holst Talley II

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### Recommended Citation

William W. Talley II, *National Security Implications of the International Trade in Petroleum Products*, 38 OKLA. L. REV. 831 (1985),  
<https://digitalcommons.law.ou.edu/olr/vol38/iss5/10>

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# NATIONAL SECURITY IMPLICATIONS OF THE INTERNATIONAL TRADE IN PETROLEUM PRODUCTS

WILLIAM W. TALLEY II\*

## I.

In 1984 world oil production increased for the first time since 1979, indicating that world oil markets are adjusting to the dramatic price increases that occurred in 1979 and 1980 in the wake of the Iranian revolution. National security implications of the world oil trade may have appeared to decrease during the past five years as oil imports met a declining share of total energy consumption by the United States and its allies. As oil prices have eroded, however, the structural shift away from oil has slowed. As oil regains or at least maintains market share, the national security worries associated with dependence on foreign oil resurface.

Twice in the last dozen years major interruptions in the world oil flow have occurred. The 1973-74 Arab oil embargo triggered the first "energy crisis," and the Iranian revolution brought the "second shock." With two-thirds of the free world's oil reserves located in the strategically vulnerable and politically unstable Middle East, additional interruptions are likely to occur.

To assess the impact on national security of the international oil trade, a review of the historical shifts in United States import volumes and sources should be made. As late as 1970, the United States imported 3.4 million barrels of oil per day. Most of this oil came from the Western Hemisphere, and almost none from the Middle East. Natural gas shortages in the United States during the early 1970s coupled with economic growth, however, created an increased demand for oil. By 1974, United States oil imports had almost doubled, exceeding 6.1 million barrels per day. A large percentage of the increase came from Saudi Arabia, Iran, and Nigeria. This increased demand for oil in the United States helped create the economic circumstances that allowed control of world oil markets to shift from the major international oil companies to the Organization of Petroleum Exporting Countries (OPEC).

The Arab oil embargo and the resulting price increases failed to dampen the United States' thirst for oil. The new, higher prices were eroded by inflation and United States oil imports resumed their climb, reaching a peak of 8.7 million barrels per day in 1977 and remaining at 8.5 million barrels per day in 1979, when imports reached 43 percent of our oil supply. That year, the United States imported more than 2.1 million barrels per day from the Middle East. Then came the second shock in 1979, with prices topping \$40 per barrel. This price shock threw the Western industrial nations into a severe

\* Ph.D., Nuclear and Chemical Engineering, President, the RAM Group, Ltd.

recession. Consumers moved away from oil in earnest, and world oil production began a four-year slide.

By 1983, United States oil imports fell to 5 million barrels per day, with only 575,000 barrels per day coming from the Middle East. United States oil imports crept up to 5.3 million barrels per day in 1984, but imports accounted for only 30 percent of our oil supply. United States crude oil imports in 1984 came from a variety of sources. Mexico, the largest source, supplied 658,000 barrels per day, followed by Saudi Arabia, the United Kingdom, Canada, and Indonesia. These five countries provided more than one-half of the United States' 1984 crude oil imports. Imports are expected to reach 5.5 million barrels per day in 1985. Thus, as the economy expands and oil prices decline, there appears to be an increasing dependence on oil imports again. Currently, oil is readily available from new sources outside the Middle East. But as production from these more secure suppliers declines, the United States will be back knocking on the Saudis' door for more oil in the 1990s. In fact, Chevron predicts that U.S. imports will reach 6.9 million barrels per day and account for 50 percent of U.S. oil supplies by the year 2000.

If a country seeks new oil supplies in the 1990s, most roads will lead to the Middle East, which currently holds nearly two-thirds of the free world's proven oil reserves. By the 1990s, at least five of OPEC's thirteen members, Ecuador, Gabon, Algeria, Nigeria, and Indonesia, are expected to need all the oil they produce for their own consumption. The focus of power in OPEC will shift back to the Persian Gulf states, principally Saudi Arabia, Iran, Iraq, and to a lesser extent, Kuwait and the United Arab Emirates.

## II.

The United States' primary adversary, the Soviet Union, is not only self-sufficient in energy, but is also a major exporter of oil and natural gas. The Soviet Union holds an estimated 81 billion barrels of crude oil reserves, more than any nation except Saudi Arabia. By comparison, U.S. crude oil reserves are reported to be 27 billion barrels. The Soviets also have 1,400 trillion cubic feet of natural gas reserves, more than any other nation and more than 43 percent of the world's total gas reserves.

Soviet oil exports to non-Communist nations worldwide totaled \$17.6 billion in 1984, compared to \$18.6 billion in exports to Communist countries. Soviet gas exports totaled \$3.6 billion to non-Communist countries in Europe, versus \$5.1 billion to Communist countries. Oil and gas exports are of enormous importance to the Soviet Union's foreign trade balance. In 1984 crude and products accounted for 41.5 percent of all Soviet exports and brought more than 60 percent of Soviet hard currency receipts from industrially developed, capitalist countries. From the standpoint of revenue, the Soviet Union's largest oil customers in 1984 were East Germany, Czechoslovakia, and Poland, followed by West Germany, Italy, Bulgaria, Finland, and France.

After start-up of the new export natural gas pipeline from western Siberia, West Germany became the Soviet's largest gas customer, buying \$1.4 billion

in 1984. Czechoslovakia was second with \$1.3 billion in gas purchases, and Italy third, with more than \$1 billion in gas purchases.

With its huge gas reserves, the Soviet Union is expected to increase natural gas use by its industries, leaving more oil available for export. However, if the Soviet's oil situation deteriorates to the point that it needs to import oil, there is the risk that it could decide to annex Middle Eastern oil fields rather than paying for the oil.

### III.

For United States allies in Western Europe, the energy security picture is improving. These nations currently produce 3.8 million barrels of oil per day, with most production coming from the British and Norwegian sectors of the North Sea. Clearly the advent of North Sea production has had a major impact because as recently as 1975 Western Europe produced only about 500,000 barrels per day.

In 1974, Western Europe imported 14.8 million barrels per day, including 10.2 million barrels per day from the Middle East, 3.2 million barrels per day from Africa, and 1 million barrels per day from Eastern Europe, including the Soviet Union. This represented 97 percent of Western Europe's total oil consumption. Thus, at the time of the Arab oil embargo, people began to realize how vulnerable Western Europe was to an oil supply cutoff, even though the embargo was primarily directed against the United States.

Through a combination of energy conservation, fuel switching, and increased North Sea production, Western Europe has been able to cut its imports significantly. For example, in 1984, Western Europe imports dropped to 8.6 million barrels per day, including only 3.7 million barrels per day from the Middle East. Thus in 1984 imported oil accounted for 70 percent of Western Europe's total oil consumption. Even though the picture has improved dramatically since 1974, Western Europe remains vulnerable to a major interruption in its oil supplies from the Middle East and Africa and in its oil and natural gas imports from the Soviet Union. Moreover, most of Western Europe's oil production is from the North Sea and is thus vulnerable to sabotage or military attack.

In the event of a major interruption in Western Europe's oil supplies, the United States would be obligated to "share the shortage" through emergency procedures established by the International Energy Agency (IEA). These sharing arrangements are designed to reduce the economic leverage that any group of producing countries could apply to consuming nations by an embargo.

OPEC production peaked in 1979 at 30.9 million barrels per day, more than one-half the world's total oil production. By 1984, however, OPEC production had fallen to 17.5 million barrels per day, only 34 percent of the world's total oil production. OPEC is currently capable of producing about twice its current 16 million barrels per day. The combination of stable or declining oil demand in the major oil-consuming nations and increased oil- and natural gas-producing capabilities in many parts of the world has left OPEC with sharply reduced market power.

While OPEC production was declining, non-OPEC producers increased their production by 7.6 million barrels per day. In addition to the gains in Western Europe mentioned earlier, other major producing gains were recorded in Mexico, Brazil, Egypt, and India. The Soviet Union, by far the world's largest oil producer at 12.2 million barrels per day, recorded a small decline in 1984, its first in forty years.

#### IV.

The increased geographical diversity of available oil and natural gas supplies reduces the national security risks associated with oil imports in the future. Exploration in non-OPEC areas, however, has declined with falling oil prices, so major changes in the world's proven oil reserves are not expected.

In addition to diversifying sources of oil imports, national security can be enhanced by replacing oil imports with other sources of energy. For example, the United States currently has a natural gas deliverability surplus of about 3 trillion cubic feet annually. This surplus gas could be used to displace 1.5 million barrels per day of imported oil, nearly one-third of current oil imports.

A national policy that seeks to minimize oil imports for national security reasons could take advantage of the breathing space provided by the current world oil surplus. The basic strategy would encompass maintaining domestic oil production at current levels, approximately 8.9 million barrels per day. With sufficient domestic refining capacity, this domestic oil production can more than meet the U.S. demand for transportation fuels. Production of domestic natural gas and coal could be increased to meet industrial, commercial, and residential demand for stationary energy consumption. Oil and natural gas imports from Canada and Mexico could then be used to meet any unfilled demand. With appropriate environmental and tax policies, a national goal of eliminating oil imports from the Eastern Hemisphere could be achieved. Domestic synthetic fuels could then enter the market when economically justified.

The United States' allies have also made progress in shifting to other energy sources. The International Energy Agency, which represents industrialized nations in Western Europe, including the United States, Canada, and Japan, reports that since 1973 its members have increased their output of coal by more than 29 percent, nuclear energy by more than 270 percent, and hydroelectric power and other energy sources by more than 21 percent. Oil now provides about 44 percent of the total energy demand for IEA countries, compared to 51.4 percent in 1973. The agency projects that oil's share of the total energy market will fall to 39 percent in 1990 and to 34 percent by the year 2000. Although oil imports are projected to increase to offset declining domestic production, oil imports as a percentage of total energy requirements of the consuming nations are expected to remain around the current level of 22 percent until 1990, then fall to 20 percent by 2000.

#### V.

According to Tom Cutler, of the United States Department of Energy and chairman of the North Atlantic Treaty Organization's Petroleum Planning

Committee, the United States military demand for oil during 1984 totaled 486,500 barrels per day, down more than 50 percent from the 1969 Viet Nam peak of 1.1 million barrels per day. On a global basis, the handful of regional conflicts and domestic insurgencies served to boost Allied military demand in 1984 to near 5 percent of total world consumption, or an estimated 2.5 to 3.5 million barrels per day.

Airplanes, ships, and tanks, which comprise a modern nation's fighting force, make conventional military operations an oil-intensive activity. These mobile forces can account for 90 percent of a nation's military oil consumption. For these air and ground uses, there is no feasible energy substitute for petroleum. Even the introduction of nuclear power at sea has not relieved navies from their reliance on oil.

Cutler points out that there are two categories of military oil stocks, both held as refined products. Peacetime operating stocks support current consumption. War reserves are stored to satisfy wartime surge requirements. These stocks are ideally held in hardened underground facilities protected from enemy attack and pre-positioned at strategic locations. The U.S. military, for example, holds in excess of 30 million barrels of peacetime operating stocks and about 60 million barrels as wartime reserves. The largest U.S. wartime stocks are located in Europe and in the Pacific Ocean. In addition, more than 450 million barrels of crude oil have been stored in the National Strategic Petroleum Reserve through fiscal 1984. This oil has cost the taxpayers \$14.5 billion. The goal for the strategic reserve is 750 million barrels, to be reached by 1990.

Other major oil users, especially West Germany and Japan, also hold sizeable strategic stocks. IEA governments other than the United States now control more than 300 million barrels of oil stocks. Were a crisis to occur today, IEA governments could supply from stocks they now control, as much as 3.7 million barrels per day for the first two months, declining to 3 million barrels per day for the next six months. While not enough for every conceivable emergency, this draw-down of strategic stocks could cushion the economic impact of a major crisis and provide time for necessary adjustments.

However, this oil would have to be refined before it would be useful to the military, which brings up one additional area of concern—the exportation of the United States' refining capacity to producing countries. United States refining capacity in 1985 is estimated to be 15.4 million barrels per day, a 17 percent decline from the 1981 peak capacity of 18.6 million barrels per day. Conversely, imports of refined petroleum products rose from 1.6 million barrels per day in 1981 to nearly 2 million barrels per day in 1984. Domestic refinery runs in 1985 are projected to be 12.2 million barrels per day, or 79 percent of capacity. Thus, while refining capacity is currently adequate, the declining trend in capacity and the increasing trend in product imports since 1981 is cause for concern from a national security standpoint.

In conclusion, one way to judge the strategic importance of the world petroleum trade is to measure the commitment that potential adversaries of the United States have made to weapons systems designed to interrupt oil shipment in the event of war. The Soviet navy, for example, now has 360 submarines, compared to 138 for the United States. A primary mission of

the Soviet submarine fleet in wartime would be to halt the shipment of oil and other strategic minerals to the United States and Europe. With this imbalance in submarine forces, it is doubtful that the U.S. Navy would be able to protect oil tankers attempting to bring oil from Africa and the Middle East to the United States and Europe. Therefore, energy policies of the United States and Europe should seek to accelerate the movement away from dependence on foreign oil, rather than being lulled into a false sense of security by the current worldwide oil surplus.