significant volume of suppliers' credits. In any event, the interest charges on the operation are paid to financial institutions by two or three of the parties simultaneously.

A subsidiary cost problem was the rush into offshore drilling area leases; in 1974, the turning point, the Federal government sold $5.1 billion in offshore leases at auction. This sum represented the equivalent of 20 per cent of all capital outlays that year by the Chase Manhattan group of petroleum companies. However, after passage of the National Environmental Protection Act and its application to offshore drilling, government lease sales dropped to $1.2 billion during 1975. But the choke-point for offshore exploration — the principal area in which substantial new oil and gas reserves are available — was debt. The International Association of Drilling Contractors estimates that a collapse of orders occurred during 1975 because contractors had borrowed themselves into a corner. Drillers are attempting to make ends meet by amortizing their existing equipment, the Association says. Few are actually in default — in which case the Federal Maritime Administration would make good some of their loans — but their capacity for further expansion is almost nil. Even where drilling contractors have obtained direct balance-sheet financing, rather than leasing equipment, they are compelled to pass along depreciation costs on equipment in their charges to the independent petroleum companies which employ them.

Under the burden of debt, the International Association of Drilling Contractors estimates, 1976 orders were at the lowest point since the Association's series begins — this despite the recent quadrupling of oil prices! Since the lead time on rigs ordered is roughly two years, the flow of deliveries peaked in 1976, while orders collapsed. 1977 is expected to be a disaster year for the rig-building industry, despite the energy shortage. Towards the end of 1976, the cost of rig and related equipment utilization dropped for the first time since the 1974 boom. In the largest area of offshore development, the North Sea, the daily rental cost of a supply ship, for example, fell from $2,300 during the first quarter of 1976 to $1,800 during the fourth quarter, by an independent consultant's estimate. Recent reports show a pickup in utilization rates in the North Sea, due to the British government's strong support for the only real success story in offshore development. Industry sources say that drilling contractors are still operating at sharp discounts in the United States sector, and barely keeping their heads above water.

The conclusion is that the speculative and debt-service costs attached to the petroleum industry destroyed the industry's capacity to open up new sources within two years of the quadrupling of oil prices. An increase in prices might, at best, achieve a temporary re-ignition of the speculative cycle, with little benefit in terms of new sources. Nothing outside the availability of long-term, low-interest development loans will make a significant difference to energy supplies.

Who Pays The Price Of Energy Development?

The astronomical costs of exploration and development have fallen most heavily on the three "little sisters" and a group of independent companies which have aggressively developed new sources of crude oil and natural gas in the North Sea and Alaska for their refining and marketing operations. By contrast, the Aramco companies — Exxon, Texaco, Mobil, and Socal — with their toehold in the Middle East, in particular Saudi Arabia, have spent relatively little on exploration and development in the last several years. This is consistent with the Rockefeller policy of limiting production, maintaining high energy prices, and forcing energy cutbacks on the world.

The Aramco Triumvirate

Aramco's domination of the world oil-market — and of world energy policy — rests solidly on its monopoly of Saudi crude oil. Before the nationalization process began in 1972, the ownership of Aramco was: Exxon 30 per cent, Texaco 30 per cent, Socal 30 per cent, and Mobil 10 per cent. Discussions of full nationalization of Aramco by the Saudi government are still in process; however, nationalization has not disturbed the four U.S. multinationals' preferential access to Saudi production in the same proportionalities as before 1972.

Exxon's annual report carefully obscures the exact amount of crude oil and natural gas liquids (NGL) production in Saudi Arabia (here and throughout "production" includes oil acquired under long-term purchase agreement); however, in 1975 the amount was roughly 30 per cent of Exxon's total worldwide production of $5,411 million b.d. Exxon's total U.S. production was 970,000 b.d. or 18 per cent of its total worldwide production. The rest of Exxon's crude oil production was accounted for largely by its production in Venezuela (20.5 per cent), Africa, and the Middle East apart from Saudi Arabia.

Roughly the same story holds for the other Aramco companies with gross operating revenue of $24.5 billion in 1975, little more than half of Exxon's $47.8 billion, produced 1,886,000 b.d. in Saudi Arabia alone, 50 per cent of its 3,770 million b.d. worldwide production. Production in the U.S. (749,000 b.d.), Indonesia (384,000 b.d.), and Canada (139,000 b.d.) were the other main sources of Texaco's crude.

Mobil, with gross operating revenue of $20.6 billion in 1975, produced 1,408 million b.d. in the Middle East, 63 per cent of its 2,240 million b.d. total worldwide production. 995,000 b.d. or 44 per cent of the total was produced in Saudi Arabia alone. Mobil's U.S. production accounted for only 17.7 per cent of total production.

Socal's immediate financial base is somewhat distinct from the other three companies; however, the West Coast Hoover Institute-Bechtel interest group that Socal is a part of has historically kept step with Rockefeller-initiated policies. Socal, like Exxon, Texaco, and Mobil, depends overwhelmingly on its preferential access to Middle East crude for its world market position. In 1975 approximately 2 million b.d. or 66 per cent of Socal's crude was produced in the Middle East, 437,100 b.d. or 14.4 per cent was produced in the U.S., and 415,500 b.d. or 13.7 per cent was produced in Indonesia. Socal's gross operating revenue in 1975 was $17.5 billion.

The four companies' extensive worldwide transportation, refining, and marketing facilities complete the picture of their dominance of the world oil market.

In essence, the policy of the four Aramco companies has been to sit tight on their Saudi crude oil and keep everyone else away from it. Saudi Arabia's developing closer relations with the European nations are no doubt causing ripples in Aramco circles. Particularly worrisome to the Rockefeller and allied financial interests is the Saudi government's decision to monitor the price of the additional Saudi production earmarked for oil companies. The sales are being made through Aramco companies, but Oil Minister Yamani has said the Saudi government would prevent the Aramco companies from "profiteering" off those sales.

Despite all the rhetoric about achieving energy independence from OPEC, the Rockefeller-dominated group of companies have, relative to their size, made no substantial investments in developing new sources of crude oil. For example, compared with the European companies such as British Petroleum and Royal Dutch Shell and U.S. independents such as Phillips and Getty, Exxon's North Sea interests are a mere side operation. Oil analysts expect the company to gain only marginal earnings from the North Sea by 1980. Exxon holds a 20 per cent interest in the Trans-Alaska pipeline; but has played a back seat role compared with ARCO and British Petroleum-Sohio.

There are clear instances of Rockefeller-controlled companies actually limiting production by various means. For example, Federal Power Commission officials allege that Mobil holds leases in the Gulf of Mexico which have fertile deposits of natural gas which the company is deliberately not developing. Mobil, in fact, distinguished itself from the rest of the oil industry, which has maintained that full decontrol of domestic oil prices was necessary to stimulate domestic exploration and production, by coming out for *gradual* decontrol in the midst of the debate over decontrol in 1975.

According to industry sources, Mobil knew that the proposal for gradual decontrol of domestic crude prices and maintenance of the "entitlements" system, which was designed to equalize the costs of price-controlled domestic crude and $12 per barrel imported crude among refiners, was really to Mobil's benefit. Under the entitlements system, large domestic producers such as Gulf and Shell have effectively been forced to subsidize Mobil's imports of OPEC oil.

The Little Sisters And The Independents

The term "independent" is used here more broadly than is usual to include large integrated companies, but ones that are not solidly in the Rockefeller camp. These companies, and British Petroleum, Shell, and Gulf — the "little sisters" — have been motivated by the Rockefeller companies' virtual monopoly of Middle Eastern crude and policy of limiting production, enforcing conservation, etc. to develop new sources of crude. Given the extreme financial costs built into exploration and development costs, these companies have been forced to bear enormous costs to develop uncontrolled sources of crude oil. Thus, the Rockefeller group has boxed them into support of high energy prices.

Highlighting the policy difference between the Rockefeller and the non-Rockefeller companies was the commitment of Gulf and Royal Dutch Shell to develop nuclear energy through their partnership in General Atomic; by contrast, the Rockefeller companies live in a Malthusian universe where the determining feature is the depletion of existing fossil fuel resources at an exponentially increasing cost to the world economy.

Atlantic Richfield: ARCO is one of the few large domestic oil companies now in a position to realize substantial production in the next few years on the basis of the projected start up of North Slope Alaskan production later this year. ARCO and Humble Oil (which later became Exxon) made the first discovery of Alaskan oil in 1968, and since then ARCO has been one of the most agressive companies operating in the region. ARCO, with gross operating revenue of $7.7 billion in 1975, holds a 21 per cent interest in the Trans-Alaskan Pipeline System (TAPS). TAPS is scheduled to start transporting 600,000 b.d. by mid-1977 and 1.2 million b.d. by the end of the year. ARCO's expenditures for development and production in the main Prudhoe Bay field is estimated to be $1 billion or more between 1975 and 1978. Reflecting the accelerating costs involved in development and production, the value of ARCO's materials and supplies was accounted at $147, 244 million in 1975, 40 per cent above 1974 and 235 per cent above 1973.

Naderite and other regulations have kept ARCO moving ahead according to plan. The company owns coal rights under 218,000 acres, but development has been held up by a Sierra Club action. In 1975 ARCO's agreement with Pacific Lighting Gas to supply the utility with North Slope natural gas production in return for an advance that would be used to develop the deposits was jettisoned when the Federal Power Commission ruled against pipelines including Alaskan advance payments in their rate base.

ARCO's moves have been undertaken to reverse its historical predicament of being dependent on other U.S. producers for crude oil to meet all of its refinery requirements. In 1975 ARCO produced 370,271 b.d. in the U.S. and 223,466 b.d. in foreign countries, and had to purchase 11,800 b.d. from other U.S. producers

British Petroleum-Sohio: Under a 1970 agreement British Petroleum's U.S. operations were merged into Sohio in return for a 25 per cent common stock interest in the U.S. company. The stock interest, now 50 per cent, is to escalate to 54 per cent, if net production from Sohio's Prudhoe Bay fields reaches 600,000 b.d. by Jan. 1, 1978. For BP the merger was in part a means of gaining access to Alaskan oil.

Sohio is entitled to all oil production from its leases in the eastern portion of Prudhoe Bay up to 600,000 b.d., which will turn around Sohio's position as a crude oil-poor company. In 1975 Sohio produced 49,601 b.d., compared with its refinery needs of 364,436 b.d.

In 1976 Sohio estimated that its share of the total costs of developing the Prudhoe Bay field, building the TAP (of which it owns 33.34 per cent), providing tankers to carry Alaskan oil to U.S. ports, and constructing a pipeline to bring Alaskan oil to the Mideast will be approximately $5.5 billion. Various aspects of this ambitious plan are now threatened by Naderite legislation and other obstacles. A substantial part of the enormous investment is expected to come from external sources. Sohio's gross operating revenue in 1975 was $2.5 billion.

British Petroleum has undertaken a similarly ambitious program of developing new sources of crude in the North Sea. BP discovered the first commercial gas field and oil field under the North Sea in 1965 and 1970 respectively. BP has a 97 per cent interest in the Forties oil field, 110 miles off the coast of Scotland, which is being developed to produce 400,000 b.d. by mid-1977.

In 1975 the main source of BP's total 3,440 million b.d. production — down 1 million b.d. from 1974 — was Iran (1,700 million b.d.). Its shart of Kuwaiti production at 560, 000 was half of what it was in 1974. The sharp decline in Kuwaiti production was ordered by pro-U.S. "conservationists" in the Kuwaiti Parliament. Also hurting BP was the 1975 decision by the Kuwaiti government took over third party sales — production not used by BP and Gulf. Previously BP and Gulf had shared all Kuwaiti production.

Gulf: For Gulf the nationalization of its concessions in Kuwait and Venezuela have resulted in a redeployment of its capital and exploration efforts to the U.S. As a result of enormous investment in old wells (secondary and tertiary recovery methods) and acquisition of new oil and gas acreage on and offshore, Gulf had arrested the decline of its domestic production by late 1976 — while overall domestic production continued to decline.

Presently Gulf is the fifth largest domestic producer of crude oil and natural gas, with some 68 per cent of its income generated from domestic activities in 1975. Hence, Gulf's fierce opposition to the entitlements system, under which Gulf, with substantial access to price controlled domestic crude oil, has to subsidize Exxon, Texaco, and Mobil's imports of OPEC crude.

Gulf is presently operating in Angola again, under the same terms as when it suspended its operations during the civil war in December 1975. Gulf had wanted to stay in Angola during the civil war and go on paying royalties to the official government — the pro-Soviet MPLA, but was temporarily pressured into leaving by the U.S. State Department.

Gulf, in partnership with Royal Dutch Shell, has actively pursued development of nuclear power. Gulf's 100 million pound Mt. Taylor uranium deposit is presently being developed into the largest and deepest uranium mine in the U.S.

Other Companies in brief: Phillips Petroleum, one of first successful North Sea pioneers, now all but dominates the Norwegian North Sea. Wood, MacKensie, the Edinburg oil consultant, estimates that in 1977 Phillips' North Sea operations will bring the company $2.20 a share of 33 per cent of total earnings...

Also active in the North Sea are Getty-Skelly, Amerada Hess, and Occidental. According to Wood, MacKensie, Amerada Hess and Occidental will derive 20 per cent and more than 50 per cent respectively of their earnings from the North Sea in 1977.

Who Runs The 'Big Sisters'?

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