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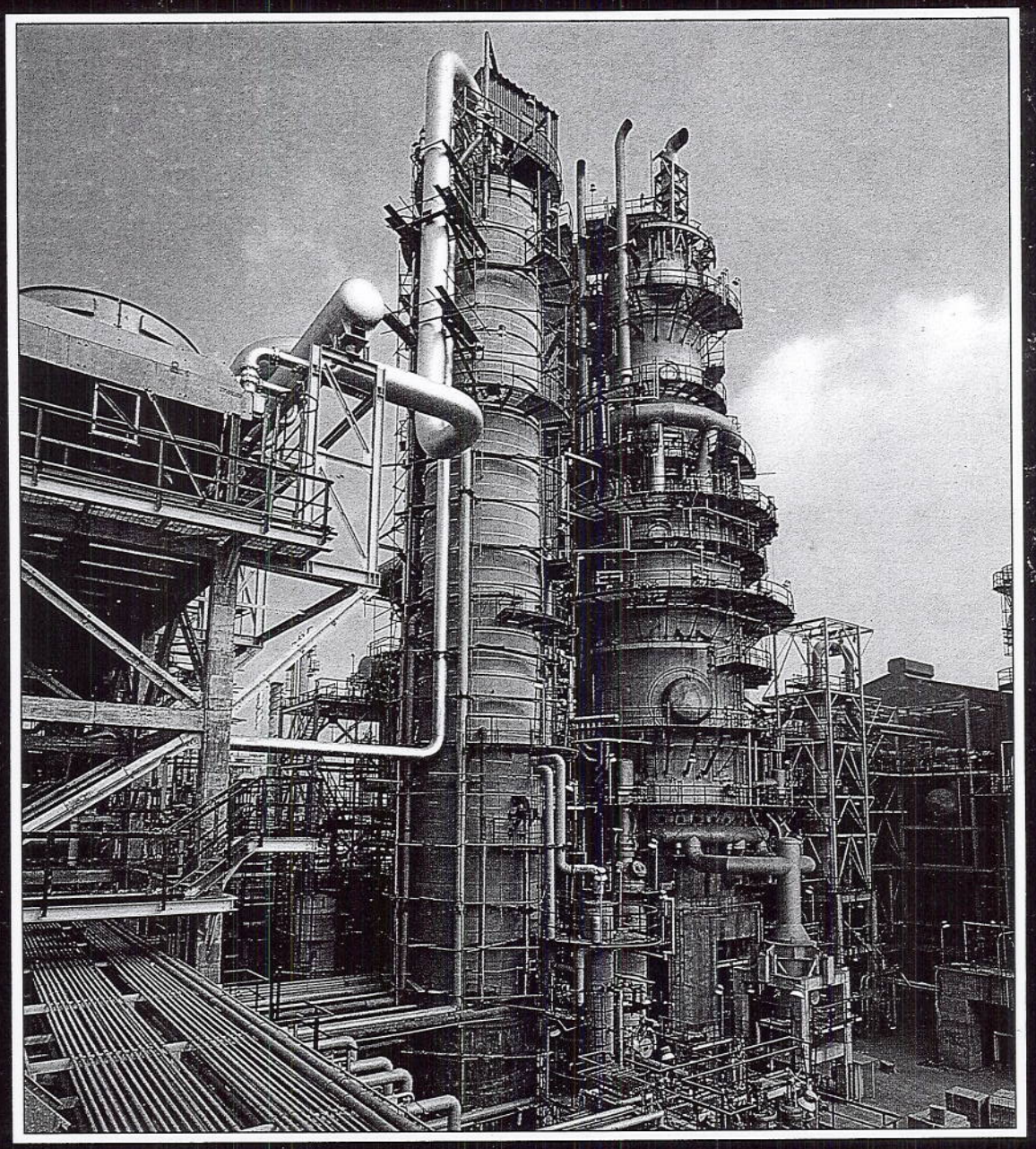

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Sakhalin tender background detailed

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On Jan. 27, 1992, the committee constituted by order of the Russian government of Dec. 23, 1991, and headed by V.I.Danilov-Danilyan, the Russian Federation's Minister for Ecology and Natural Resources, assessed the results of a tender announced in May 1991.

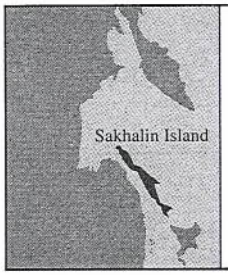
The tender was for foreign companies to submit feasibility studies for exploration and development of oil and gas on the continental shelf off Sakhalin Island.

The announced winner was the MMM group consisting of McDermott International Inc., Marathon Oil Co., and Mitsui & Co. Ltd.

In its decision the governmental tender committee (GTC) "begged to differ" from V. Fedorov, governor of the Territory of Sakhalin, in whose opinion the U.S.-Japanese combine of Exxon Corp.-Sakhalin Oil Development Co. (Sodeco) should have been pronounced winner at the bidding's end. GTC's decision also ran counter to the verdict by a panel of experts constituted by decision of the Examining Council under the Chairman of the Russian Government on Dec. 3, 1991, and headed by F. Salmanov, first deputy Minister of Geology of the U.S.S.R.

Rather than announce the winner, GTC put forward its own solution—in contravention of the terms of the bid—to divide the zone of the tender into three blocks and extend development privileges to randomly formed groups of foreign companies.

Subsequently, the press carried articles interpreting the Sakhalin bid as yet another clash between federal and local authorities over development of the Sakhalin shelf. Moreover, the articles began flashing around the word "scandal," thus recreating the Tenghizchevroil Joint Venture incident (OGJ, Aug. 5, 1991, p. 14) and attaching a scandalous overtone to a difference of opinion among the parties concerned, so natural in a process of decisionmaking involving a controversial area of considerable complexity. As a result, the discussion that had unfolded around the issue was gently steered away from the hard facts.



THE SAKHALIN TENDER

The authors of this series of articles, therefore, see their only challenge in presenting their views on exploration and development of oil and gas on the Sakhalin shelf as demonstrating the evolution of the various approaches to such exploration and development and in shedding some light on the bidding process, without getting mired in the discussion carried by various publications that cater to the general readership rather than to oil and gas people.

In our capacity as tender organizers and members of the GTC, the authors will undertake to explain the committee's decision.

Energy in Russia's Far East

Fuel, electricity, and thermal energy are becoming increasingly scarce in Russia's Far Eastern economic region.

The situation is particularly grave in the Khabarovsk and Maritime Territories and the Sakhalin region. The escalating shortage of fuel and energy carriers has revived the need, after a brief respite, for electricity rationing. In November-December 1991 as much as 10% of all apartment buildings in Khabarovsk did not receive any heating at all.

Because most of the onshore fields in Sakhalin are almost depleted, the island's oil and gas production is steadily declining. In 1991 only 1.8 million metric tons (36,000 b/d) of crude oil and condensate and 1.86 billion cu m (180 MMcfd) of gas was produced. Gas is transported from Sakhalin Island via the pipeline from Okha to Komsomolsk-on-the-Amur, which is 578 km long, has a diameter of 720 mm, and throughput capacity of 4.5 billion cu m/year.

To meet its needs, the Russian Far East imports about 7 million tons/year of crude oil and more than 11 million tons/year of refined products, including 3 million tons/year of fuel oil.

The region's energy situation is further aggravated by a decline in coal mining. In 1991, 45.1 million tons were mined, down 4.7 million tons from the 1990 level and the lowest since 1983.

Import of combustible coal into the Russian Far East from Siberia, the Urals, and Mongolia climbed from 7.7 million tons in 1990 to 8.5 million tons in 1991. It is anticipated that in 1992 the region's coal production will fall another 2 million tons from the 1991 level.

Regional outlook to 2005

The region's energy supply/demand outlook to 2005 developed by the National Institute for Integrated Research into Fuel and Energy (Vniiktep) in 1990 pointed to the need for urgent measures to expedite development of the oil and gas fields of the Sakhalin shelf to enable the Sakhalin region, Khabarovsk, and Maritime Territories to receive enough natural gas to meet their needs.

Natural gas was emphasized as a priority fuel as a result of comparative analysis of the economic efficiency of cost per unit invested in production, transportation, and combustion of different fuels as well as environmental protection programs.

The energy balance suggested that gas requirements in the Russian Far East would increase by a factor of 4.8 by 2005 from the 1990 level.

Gas-burning power plants will account for most of that future demand at a 43% market share, increasing by a factor of 5.7. Industrial gas demand is expected to rise to 3.7 million tut, or by a factor of 5.3. (Tut is the Russian abbreviation for ton of standard fuel equivalent. One tut equals about 7,000 kcal.) It was believed gas would account for 39% of all fuel burned in boilers and furnaces.

Because of the expected massive deliveries of gas to the region, it was expected that coal consumption would rise by only 13% by 2005 and fuel oil consumption would shrink from 7.6 million tut in 1990 to 3.5 million tut in 2005. To make these predictions a reality, offshore gas production must commence soon enough to produce at least 10 billion cu m by 2000 and 14 billion cu m by 2005.

Pre-tender background

The Sakhalin shelf, with its total area of about 170,000 sq km, is a part of the Far East offshore most extensively explored and most prospective for oil and gas.

Hydrocarbon resources of the Sakhalin shelf are estimated at 700 million tons of crude oil and condensate and more than 1 trillion cu m of

natural gas.

The region's hydrometeorological conditions include an ice crust more than 2 m thick during October-June, 8-10 m thick ice hummocks, frequent storms, mighty meandering currents, and low ambient temperatures. That will require construction of high technology, costly ice resistant stationary platforms to drill and operate the wells, as well as protecting submerged facilities against ice hummocks.

Exploration on the Sakhalin shelf began in 1976 in cooperation with the Japanese group Sodeco, pursuant to the general agreement between the U.S.S.R. and Japan covering cooperation in oil and gas exploration, construction of surface facilities, and oil and gas production and delivery to Japan. Exploration of the northeastern Sakhalin shelf in 1976-82 resulted in discovery of two oil/gas/condensate fields, Chaivo and Odoptu, with total reserves of about 67 million tons of oil and condensate and 172 billion cu m of gas.

Under the general agreement 50% of the hydrocarbons was slated for export to Japan. Geological/geophysical surveys and exploratory drilling were financed through a Japanese risk venture credit of $181.5 million at a 6%/year interest rate. As of Jan. 1, 1987, the U.S.S.R.'s outstanding debt on that credit amounted to $276.6 million. It should be noted, however, that under the general agreement, payback of the amount spent on surveys and exploratory drilling would begin only if economically viable fields were discovered. And it was to be the Soviet party that would determine economic viability.

Sodeco deal stalls

Because of falling prices for oil and gas, the Japanese party's refusal to guarantee purchases of liquefied natural gas and its withdrawal from extending a low interest dedicated credit line for construction of surface facilities led the Soviet party in June 1987, following feasibility studies, to conclude it was economically unsound for the U.S.S.R. to develop Chaivo field.

The Japanese party had to accept that under the new circumstances, the project was difficult to implement.

As a result, at the request of the Japanese party, the Soviet party decided against officially branding the project as economically unsound. As a reciprocity, an addendum to the general agreement was executed whereby effective from Jan. 1, 1987, no interest was to be levied against the Soviet party on the Sodeco-1 credit pending an official pronouncement by the Soviet party regarding the economics of developing Chaivo field.

This is the first of three articles outlining the Sakhalin Island tender history. Next: how the tender process evolved.

The parties further agreed to continue looking for technological solutions and financial possibilities to make the Sakhalin project economically viable.

To achieve rapprochement of the two parties and minimize differences in deciding on economic viability of the project, several working meetings were arranged in 1988-91 with Sodeco.

Preliminary economic calculations submitted to Sodeco in January 1991 suggest that Chaivo field can be developed profitably only if the Japanese party extended credits for construction of surface facilities on preferential terms, more specifically, at a prime interest rate of 7.5%/year on the Japanese credits and on condition that 100% of the oil and condensate were exported. Available technology and engineering and the going prices for hydrocarbons make development of Odoptu field economically unsound. Negotiations with Sodeco are under way at the level of joint working groups. With that history in mind and aware of the urgent need to make fuel and energy available to the region, the Russian party began considering the possibility of and a realistic timeframe for developing such fields as were discovered outside the general agreement with Japan.

Piltun-Astokhskoye, Lunskoye

Recent years have seen discovery by local nationals of a number of oil/gas/condensate fields, including Piltun-Astokhskoye, Lunskoye, Arkutunskoye, Izylmetyevskoye, and Veninskoye. Confirmed by the U.S.S.R. State Commission for Mineral Reserves, reserves of gas and condensate in Lunskoye field total 298 billion cu m and 24.5 million tons in Category C_1 (proved + probable) and 93 billion cu m and 7.5 million tons in Category C_2 (possible), respectively.

Estimates of reserves in Piltun-Astokhskoye field are 62 million tons of oil, 52 billion cu m of gas, and 4.3 million tons of condensate in Category C_1, which are expected to be confirmed by Russia's Committee for Mineral Reserves in early 1992.

In February 1988, the U.S.S.R. government passed a resolution that outlined a program to commercially operate Piltun-Astokhskoye and Lunskoye offshore fields and build production of oil and condensate to 2.2 million tons/year and gas to 3-4 billion cu m/year.

It also was understood that the two fields would be developed and operated by the U.S.S.R. Ministry of Oil and Gas Industry, with participation by other ministries and agencies.

However, considerable capital outlays—some in foreign exchange—required to create the necessary production conditions and infrastructure, lack of expertise in conducting operations in adverse hydrometeorological conditions, and lack of domestic technologies that would ensure environmental safety at all stages of operations rule out the possibility of relying on domestic capabilities alone in trying to develop offshore Sakhalin shelf deposits soon.

Joint venture proposed

In view of these considerations, in 1989-90 the former U.S.S.R. Ministry of Oil and Gas Industry in conjunction with McDermott jointly drafted preliminary feasibility considerations and in June 1990 proposed setting up a joint venture to develop Piltun-Astokhskoye and Lunskoye fields.

In November 1990 the preliminary feasibility considerations were examined by the Examining Board under the Russian Federation's State Economic Committee.

The Examining Board issued recommendations to draft an all embracing feasibility study prior to setting up a joint venture in order to look more closely into technological and economic aspects of alternative approaches to developing Offshore Sakhalin oil and gas and to formulate environmental protection programs to the satisfaction of Russian and local authorities.

In late 1990, a proposal arrived from Palmco Co., a joint venture of Ralph M. Parsons and South Koreans, to develop Lunskoye field on a compensation deal basis with commitments to transport gas to the Sakhalin area and export a portion of that gas.

Some other foreign companies pronounced themselves interested in becoming party to developing fields on the Sakhalin shelf.

Aware of the interest on the part of foreign companies in participating in developing the Sakhalin shelf, on Jan. 20, 1991, the third session of the Sakhalin District Council of People's Deputies decided that the interested foreign companies must complete their respective feasibility studies by Nov. 1, 1991. However, no guidelines or requirements were stipulated for the forthcoming feasibility studies. ▪