



I NDONESIAN OIL AND RUSSIAN TECHNOLOGIES



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My first encounter with Indonesia occurred in the Balkans. On November 15, 1995 French General Janvier, commander of UNPROFOR*, introduced the new head of the Mission of Observers to the staff of the UN Military Observers HQ in former Yugoslavia. He was an Indonesian with the rank of Brigadier General, name of Susilo Bambang Yudhoyono (SBY).

By then I, a Russian lieutenant colonel who had been in Bihac, Bosnia, and Prevlaka, Croatia, was head of the Mission intelligence. My daily contact with SBY over the next five months inspired me with the deepest respect for the man. Later I also met him occasionally. As for Indonesia, it acquired an increasingly prominent place in my life.

Being an oilman by my second profession, I knew only too well how important the oil and gas industry was in that country's economy, so I tried to understand why Russian oil companies largely ignored it and would not work there. The most obvious explanation was the huge distance between us. On average a flight from Moscow to Jakarta will take from 15 to 20 hours. But then major Western oil and gas companies, such

* United Nations Protection Force in charge of the peacekeeping operation in former Yugoslavia in the 1990s.



as Exxon Mobil, Chevron, Shell, Total, and others do work in Indonesia. Practically 70 percent of Indonesia's oil and gas is produced by foreigners. The mechanism of distributing licensed plots (blocks) is quite transparent and systematized to the point of automatism. Two rounds of tenders a year with maximum access to geological information give a potential resource user most comfortable terms for taking a foothold in the country.

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Operations by foreign oil and gas companies are regulated by production sharing contracts (PSC) with the Indonesian state. Devised some fifty years ago and finely honed in dozens of specific projects, the scheme

was dubbed the Indonesian PSC model. Its chief distinction is a moderate subscription bonus of \$1.5 to \$5 million (against the \$10 to \$20 million in Libya and up to \$50 million in Iraq). The production sharing formula is this: 65% to 35% for gas and 75% to 25% for oil, where the first figure is the share of the state and the second, of the PSC operator, which also appears fair enough. Compare this with Libya where the state sometimes claims all of 90 percent. Russia goes to the opposite extreme; under a PSC specifying the terms of exploiting the Kharyaga oilfield in the Nenets Autonomous Area, the state is entitled to a measly 53 percent of the output. Another thing about the Indonesian PSC model is provision for a full offset of the operator's expenses (which, of course, frequently results in disputes between the latter and the state).

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I tested through practical experience how exactly the tender and PSC mechanisms work when I was an independent consultant with the Russian Sintez Group. On November 14, 2008 one of its enterprises, Sintezmorneftegaz Close Joint-Stock Company, signed a production sharing contract with BP Migas, an Indonesian state agency for regulating oil and gas extraction. The subject of the contract based on the results of the relevant bid was the output from the oilfield on the sea shelf north of the city of Surabaya, East Java Province. This is the first ever contract for Indonesian oil



extraction by a Russian company. Currently the Sintez Group is preparing to conduct seismic prospecting at its license block of East Bawean I.

Indonesia's oil and gas industry is beset by numerous unsolved problems. Among them are output decline, lack of processing facilities, no infrastructure for transporting and distributing gas inside the country, the need to do away with lakes of sludge (i.e. residue of carbohydrates processing) and to utilize the sludge.

Declining oil extraction is clearly problem number one. For a long time Indonesia was the only OPEC member in Southeast Asia. In September 2008 its membership was suspended because within the previous three or four years Indonesia had turned into a net oil importer instead of exporter. Given the OPEC daily quota of 1.35 million barrels, Indonesia has been producing just over 950,000 barrels during the last three to four years. The reason is aging oilfields while technologies for secondary and tertiary oil production are conspicuously absent.

In Soviet times these technologies were fairly well developed in our country. The legacy of those years, largely theoretical, has been preserved in several oil research centers, such as the Academician Krylov VNIIneft company, OJSC. At present the days of easy oil extraction are largely over. Oilmen increasingly have to deal with deposits that are hard to work, and higher recovery technologies are again in demand.

Petros Company promotes this type of made-in-Russia technologies in Indonesia. Set up by Felix Zanichkovsky, Ph.D. (Eng.), way back in 1991 and still headed by him, the company can offer over 20 technologies of increasing oil recovery. It also possesses its own software, Petra, that can help locate residual deposits in old fields without building costly hydrodynamic models. In less than 20 years Petros has completed 80-plus oil recovery increase projects, and has achieved positive results in every single one.

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Although secondary and tertiary extraction methods are clearly an absolute must for Indonesia, introduction of Russian technologies is fraught with considerable difficulties. The first snag is certification. All equipment and technologies have to be certified in accordance with the demands of the American Petroleum Institute (API). Not only is this a complex and



expensive procedure, but it is in fact a prohibitory barrier that blocks the way to this market for “outsiders.”

The next hurdle is an extension of the first one. With U.S. companies predominating among PSC operators, American technologies hold sway, and that includes methods of increasing oil recovery. The method widest spread in Indonesia is chemical attack on the oil pool with surfactant-type polymers, which is extremely costly and not always justified. Then why is it so popular? The answer is simple: money is no object to operators, for under the PSC terms their expenses are reimbursed from Indonesia’s public purse anyway. So some U.S. companies produce surfactant, others buy the stuff at market prices and pump it into the entrails of the earth, while the state that has entered into an agreement with them pays up.

Another no less expensive, albeit more environmentally friendly, method of raising oil recovery is that of steam attack on the oil pool. It is currently used by the U.S. Chevron company in Sumatra. To keep the technology working Chevron purchases from another U.S. company, ConocoPhillips, that is handling a neighboring block, large amounts of natural gas which it then burns up to obtain steam to be pumped into the pool. Thus what we have here is extraction for extraction’s sake. One U.S. company produces gas and sells it to another U.S. company so that the latter might produce more oil. The more money is spent on the process of extraction, the higher the profit made by the operators, while Indonesia’s budget revenues get lower. Changing these schemes is no simple matter.

In the last three years Petros experts have taken part in countless conferences, exhibits and presentations for the Pertamina state-owned company and private oil companies. On its own initiative and at its own expense it has developed a program to increase oil recovery in a field on Sumatra. It is expected to raise the oil extraction coefficient substantially and extend the field’s useful life. Notably, Petros is offering environmentally friendly and economically efficient technologies. These are primarily integrated technologies (with cyclic water flooding) and thermal gas methods with the pool attacked by atmospheric air.

All sorts of difficulties notwithstanding, our work in Indonesia is entering a practical phase. Petros started up in Jakarta as a foreign company representative, but in April this year we registered PT Petros Technologies Indonesia, a local company entitled to full-fledged commercial activity. In October 2009 we held the first annual workshop in Jakarta on Russian oil-and-gas technologies. Apart from Petros, the Russian side was represented by such companies as Geotek Holding and Chisty Mir [Clean World]



Innovation Consortium. Another similar undertaking is scheduled for the end of October 2010. I would like to give my special thanks to the diplomatic missions of both countries for their support, and also to their heads, RF Ambassador to Indonesia Alexander A. Ivanov and Ambassador of Indonesia to the Russian Federation Hamid Awaluddin.

Another momentous event for our company was participation in Infrastructure Asia 2010, a conference and exhibition held in Jakarta on April 15-17 this year. Petros did its best to enable visitors to access information and exhibits of practical interest. On April 16 Indonesian President Susilo Bambang Yudhoyono visited the RF pavilion. He was shown the entire range of technologies and projects Russians are handling in his country. Having inspected the display, the head of state pronounced himself firmly in favor of livelier business cooperation between Russia and Indonesia. He also expressed intention to visit Russia again to hold talks with “my friend President Dmitry Medvedev.”

Regrettably, Russian business does not make full use of the opportunities afforded by the Indonesian market. And that is a market in a country with a population of 240 million, a market that is growing despite the global crisis, and we are still welcome there. But the welcome should not be taken for granted: the relatively vacant niches are increasingly occupied by players from China and the U.S., not to mention other foreign companies.

Be that as it may, we have made our choice: Petros shall continue the good work of promoting Russian technologies in Indonesia. ■