Russia boosts India's nuclear power program

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Under pressure from the U.S. ban on technology transfer following the recent testing of nuclear devices, India got some relief when, on June 23, visiting Russian Energy Minister Yevgeny Adamov signed a $2.5 billion deal to set up two 1,000 megawatt light water nuclear reactors in Koodankulam, in the state of Tamil Nadu.

The deal, which was finally clinched after a deacde of protracted negotiations, not only points to the existence of special ties between India and Russia, but it stands out as the first nuclear deal between India and any foreign supplier in nearly three decades. In essence, Russia has broken the Western blockade on nuclear technology for peaceful purposes imposed against India when the country first tested its nuclear weapons devices in 1974.

That political significance of the Indo-Russian agreement became evident when U.S. State Department spokesman James Rubin, referring to the deal on June 22, said that Moscow had sent the "wrong signal at the wrong time." Rubin scolded Moscow for undercutting "the good work we have done together in the Permanent Five [permanent members of the UN Security Council] and the G-8 to get India to understand that nuclear testing does not bring rewards." Interestingly, London chose the identical words to denounce the deal on June 25, adding that Britain would urge Moscow to reconsider the decision.

Boost to India's nuclear power sector

Responding to Washington's and London's protestations, Russia's First Deputy Atomic Energy Minister Viktor Mikhailov said: "By constructing the atomic power station in India, Russia is not violating any of its international obligations, since this was purely a case of cooperation in the field of peaceful atomic energy." In an obvious reference to the voices of displeasure in the West over the deal, Mikhailov pointed out: "Russia does not like to lose a good market which would not only bring it money, but also provide jobs for its highly trained specialists."

The Koodankulam nuclear project is also expected to provide a boost to India's nuclear power program, which, over the past 15 years, has slowed to a crawl. India indigenously produces 235-megawatt CANDU-type heavy water reactors, and is now in the process of developing a 500 MW version of the same, and also a prototype of the French-type sodium-cooled fast breeder reactor. The last time India imported reactors was in 1969, when the U.S. firm General Electric supplied two 160 MW boiling water reactors, located in Trombay in the state of Maharashtra.

The Koodankulam project, expected to be completed in six and a half years in the power-short southern Indian state of Tamil Nadu, will be placed under International Atomic Energy Agency safeguards. The $2.6 billion cost of the project will be paid to Russia in hard currency.

On fusion research

Equally significant is the fact that during his recent visit, Energy Minister Adamov visited the Bhabha Atomic Research Center (BARC), India's prime atomic research center. There, Adamov discussed with India's Atomic Energy Commission chief, R. Chidambaram, the prospect of setting up an Asian Thermonuclear Research Fund (ATRF). The Indian Department of Atomic Energy has reportedly shown considerable interest in the venture.

The aim of setting up the fund, as reported, is to bring together the intellectual and industrial resources of the Asian countries for research in the field of thermonuclear fusion and plasma physics. It has been pointed out that although a number of Asian countries have pooled their resources to conduct nuclear fission research, Asia—unlike Europe, where the various countries fund the Joint European Torus fusion research program—has no joint program in this area.

The ATRF project has been percolating for some time. In February 1996, Moscow hosted the first international meeting of representatives of nuclear research institutes and industrial corporations from India, China, and Iran to establish an ATRF. Among other nations attending the conference were Pakistan, South Korea, Kazakstan, and Uzbekistan.

At BARC, Adamov and Chidambaram also discussed the establishment of a modern technological and industrial base for thermonuclear power engineering, essential for providing materials that can contain the very-high-energy plasma. According to available reports, both officials called for establishing an International Thermonuclear Research Center, where a Joint Asian Thermonuclear Experiment unit could be installed.

Although India has a modest research program at the Physical Research Laboratory in Ahmedabad, where high-energy-plasma experiments are carried out in a small tokamak, and a rather developed laser capability at the Center for Advanced Technology in Indore, the joint Asian effort for thermonuclear research will require a large number of scientists and engineers trained in multiple scientific disciplines. The goal of the ATRF will include promotion of national research programs and international certification, provision of assistance in training qualified engineering and research

personnel, and organization of international conferences and seminars on plasma physics and controlled thermonuclear fusion.

A fresh beginning

From the standpoint of Indo-Russian bilateral relations, the primary significance of the nuclear power plant agreement, however, lies in the fact that the deal itself may become the harbinger of wider cooperation between India and Russia in the coming decade. In the early days following the collapse of the Soviet Union, with which India had had a strong military and a substantial scientific relationship, confusing signals emanated from Moscow. There were several explanations making the rounds. Among them, changes in the territory of the erstwhile Soviet Union, Russia's improved relations with the United States and China, and India's waning interest in Moscow as a strategic ally were often cited. Moreover, Russia's foreign policy under Foreign Minister Andrei Kozyrev was arguably re-oriented to satisfy the interests of the United States and western Europe.

Confusion was heightened dramatically in July 1993, when Moscow, under pressure from Washington, froze a 3.05 billion rupee deal between the Russian space agency Glavkosmos and the Indian Space Research Organization (ISRO) for sale of cryogenic rocket engines and transfer of associated technology to India. Washington claimed that the deal, signed in January 1991, violated the Missile Technology Control Regime, which had been designed to restrict transfer of technologies that could help develop missiles which can carry warheads heavier than 500 kilograms over a 300 kilometer range. According to ISRO's plans, cryogenic engines were to replace the top two stages of the Polar Satellite Launch Vehicle, and the payload could be increased to launch multi-purpose satellites into geostationary orbit, approximately 36,000 kilometers above the earth.

Indo-Russian bilateral relations began to find their old track once again following the 1996 visit to India by Foreign Minister Yevgeny Primakov. New Delhi's persistence over the years, even when Moscow was only looking westward, bore fruit in 1997, when Russia and India brought the Koodankulam nuclear reactor deal back to the forefront, along with a host of other economic agreements, including a plan to forge a free trade or preferential trading area, with participation of other Commonwealth of Independent States members.

Military-industrial ties

Subsequently, Indo-Russian defense ties have been strengthened considerably. India has already received eight Su-30 jets, and Moscow has agreed to provide New Delhi with the second batch of 10 SU-30s, with Western avionics. India received the ninth Kilo-class submarine from Russia last year, and yet another is expected to be delivered this year. Reportedly, the Russians are collaborating with the Defense Research and Development Organization in the development of the Advanced Technology Vehicle, a nuclear-powered submarine which will also serve as the launch platform for Sagarika cruise missiles.

Both Indian and Russian defense scientists are also involved in developing an advanced antiballistic-missile air defense system. Russian expertise in this area is important for India, since Moscow has developed the S-300-PMU-1 anti-tactical ballistic missile system, believed to have a clear edge over the Patriot anti-missile system developed by the United States. The Indo-Russian military-technical program, started in 1994, will continue to 2010, and the cooperation is likely to exceed $16 billion.

Following the imposition of the ban on technology transfer, there were reports of the cancellation of an agreement between the U.S. firm Lockheed Martin and India's Aeronautical Development Agency for the development of the light control systems for India's Light Combat Aircraft (LCA), and rumors have it that the ban may also lead to cancellation of the next batch of GE 404 engines. Indian Defense Minister George Fernandes told the Indian Parliament recently that India's Gas Turbine Research Establishment of Bangalore has indigenously developed Kaveri engines, and these engines will be taken to Moscow for testing soon. The first set of LCAs, however, will be powered by the proven GE 404 engines.

There is every indication at this point that Indo-Russian cooperation will grow significantly in the coming days. Indian Defense Secretary Ajit Kumar has just concluded a "highly successful" trip to Russia, during which he was received in Moscow by Defense Minister Marshal Igor Sergeyev. The trip also ensured a 10-year defense cooperation program between India and Russia, which was consolidated at a regular meeting of the joint working group on military-technical cooperation. The agreement will be signed by President Boris Yeltsin when he visits India in December.

The highlight of the new program will be the development of the antiballistic-missile system, as well as India's indigenous systems and the earlier-supplied Russian air defense complexes such as Osa, Strela-10, and Shika. Senior Russian officials, who had discussions with the Indian delegation, emphasized that "defense cooperation will not only continue, but there would be greater depth and it would cover a wider field," a news daily reported.

The visit of the Indian Defense Secretary was given little publicity, and it became evident that both sides want to keep the details of the agreement secret. The joint press conference by the co-chairmen of the working group, Indian Defense Secretary Kumar and Russia's First Deputy Defense Minister Nikolai Mikhailkov, was cancelled at the last minute. The Russian Defense Ministry said the press conference was called off at the request of the Indian side.