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SOVIET NUCLEAR EXPLOSIONS FOR PEACEFUL PURPOSES

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The following is a recent Radio Liberty script.

India's explosion of a nuclear device in the Rajasthan desert on May 18 and the Nixon-Brezhnev agreement limiting underground nuclear tests have attracted considerable attention throughout the world. But just what nuclear explosions does the Soviet Union conduct? Who carries them out, and to what end?

Last year there were no less than twelve nuclear and thermonuclear explosions in the Soviet Union. Three thermonuclear blasts in the several-megaton range were carried out last fall at the two proving grounds on the Arctic island of Novaya Zemlya. No less than five nuclear blasts, also of considerable force, were staged at the oldest proving ground in the northeastern corner of Kazakhstan near Semipalatinsk. Five other underground nuclear explosions occurred in the country's industrial areas: the Syr-Darya Desert, Tselinograd and Chimkent Oblasts and the Orenburg and Sterlitamak areas. In 1972 there were eight nuclear explosions outside the military proving grounds: from Khibiny in the Kola Peninsula to Khar'kov, Kuibyshev and Orenburg.

Despite the Soviet press's usual silence, it is safe to say that nuclear explosions have become part of industrial practice in the Soviet Union. Nonetheless, miracles do happen, even in the Soviet press. In September 1966 a special correspondent of Komsomol'skaya pravda, Gubarëv, received a sudden assignment to Bukhara. From Bukhara he was rushed to an oilfield near the desert settlement of Urtabulak, where a huge gusher of underground gas was burning for the third year running. The Ministry of Medium (read Atomic) Machine-Building decided to tame the Urtabulak gas fire by exploding a powerful nuclear device. On the morning of September 30, 1966, the device was exploded at a depth of one kilometer, sealing off the strata and extinguishing the huge flame. That same year a fire of the same magnitude again broke out near Bukhara, and two years later, in 1968, Gubarëv was again sent to cover the explosion of a large nuclear device. However, it was not until September 24, 1970, that the Ministry of Medium Machine-Building released the story for publication.

Twenty-seven nuclear explosions for industrial purposes have been carried out in the Soviet Union since the Bukhara fire

was extinguished in 1968, but none of them has reached the Soviet press. Why does the Ministry of Medium Machine-Building carry out all these nuclear tests in the European USSR - from Khibiny to the Black Sea, from Khar'kov to the Eastern Urals and Kazakhstan? The two explosions described with a four- and two-year delay in Komsomol'skaya pravda were powerful blasts equal to two of the atom bombs dropped on Nagasaki - that is, the equivalent of 40,000 tons of TNT. Such explosions for extinguishing gas fires are, however, not a frequent part of the Ministry of Medium Machine-Building's program of nuclear explosions. If one compiles a map of the nuclear explosions in the Soviet Union one is struck by the fact that the bulk of them relate to the eastern oil areas of the European USSR. In December 1969 there were three nuclear explosions of fifty kilotons on the Mangyshlak Plateau East of the Caspian town of Shevchenko. Each year there are relatively powerful nuclear explosions in the Southern Urals in the Orenburg area; last year and the year before that there were at least two such explosions. One nuclear device was exploded north of Stavropol' and three immediately to the north of the Caspian. In short, the Ministry of Medium Machine-Building is using powerful nuclear explosions in an effort to boost the productivity of the waning oil wells in the areas of the Caspian, Stavropol' and the Southern Urals.

Early last year Dutch physicists at the Amsterdam Nuclear Institute discovered appreciable radioactivity in silver bars sold by the Soviet Union on the international market. The radiation was of the type produced in abundance by a nuclear explosion. Hence, part of the Soviet silver must be extracted from polymetallic ores mined with the help of underground nuclear explosions. This also may have been the purpose of the nuclear explosion of about thirty kilotons in the Khibiny Mountains on the Kola Peninsula on September 4, 1972, and of nuclear explosions in the Urals last year and the year before. But this is not all: in January 1965 a nuclear device of about 120 kilotons was detonated to the south of Semipalatinsk proving ground, forming a 200-meter water reservoir which fed the dwindling desert river Shagan. Probably this was also the reason for the hundred-kiloton underground nuclear bomb explosion on the Turgai Plateau in November 1972. More curious still was the explosion of a fifty-kiloton nuclear bomb on the River Visherka, a tributary of the Kama in the Komi ASSR. The explosion was carried out on March 23, 1971, at the very spot where the Pechora-Kolva Canal is to be built to rechannel water from the Pechora to the Kama and thence via the Volga to the Caspian. The Ministry of Medium Machine-Building has been using the explosions at Semipalatinsk, Turgai and in the Komi ASSR to assist in the construction of dams and reservoirs. Efim Slavsky's Atomic Ministry is now considering a project for about two hundred powerful nuclear explosions on a line from the Pechora town of Yashva to Berezovka. These sixty kilometers of the canal's course serve as the watershed between rivers flowing to the north and south. The project for rechanneling the northern rivers to the Caspian is evidently viewed with more favor than the one for tapping water from the Irtysh, which was at one time bruited by the Soviet papers.

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The explosions on the Volga are rather curious. In September 1971 a powerful nuclear device was exploded in the area of Kostroma, and in July 1972 in the Middle Volga area between Cheboksary and Kazan'. But why? There are no particular mineral deposits there, and no plans to build canals. The 1971 and 1972 nuclear explosions on the Volga were evidently carried out to create large underground reservoirs for storing oil or gas.

As we have seen, the Soviet Union explodes underground nuclear devices not only at its customary proving grounds in Novaya Zemlya and near Semipalatinsk. From 1970 to 1973 at least twenty-two powerful nuclear explosions have been carried out at various points in the western USSR. The Ministry of Medium (Atomic) Machine-Building has been given the go-ahead for numerous nuclear explosions for industrial purposes. The number of such explosions in the Soviet Union can be expected to rise sharply in the next few years with the start of the construction of the Pechora Canal and the continuing depletion of the oil and ore areas in European parts of the USSR.

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