

## Russia and Kazakhstan to Begin Phasing Out Proton Rocket Launches

By Matthew Bodner

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Russia and Kazakhstan have agreed to begin phasing out the Proton rocket's use.

On the eve of the 400th flight of Russia's venerable Proton-M space rocket on Friday, Russia and Kazakhstan have agreed to begin reducing the frequency of Proton launches from the Baikonur Cosmodrome.

"The question has been absolutely agreed upon and laid out in a protocol," Oleg Ostpenko, the head of Russia's federal space agency Roscosmos, was quoted by the Interfax news agency as saying on Monday.

Proton has been Russia's workhorse for 40 years and today is the dominant force on the global commercial satellite launch market. Over the past decade it has been used in 30 percent of all commercial flights.

But now, Russia and Kazakhstan — responding to both environmental concerns and the

development of Russia's next-generation Angara rocket family — have agreed to begin phasing out the rocket's use.

Proton rockets are powered by an extremely toxic combination of heptyl, amyl and kerosene.

The fuel has threatened the environmental health of the Kazakh countryside, where the Baikonur center is located, amid a string of embarrassing Proton launch failures. A dedicated political movement in Astana, known as the anti-heptyl movement, was formed last year to lobby for an immediate end to Proton launches.

"It is a sensitive question for society," Kazakh Deputy Prime Minister Bakytzhan Sagintayev said Monday, Interfax reported.

"It is clear that [ending Proton launches] can't be done instantaneously, but steps are being taken," Sagintayev said, adding that a timetable has been established for the gradual annual reduction of flights from Baikonur.

One of the most prominently advertised features of the new Angara rockets is their use of liquid oxygen and kerosene fuel that is more environmentally friendly. Such rockets will be flown from the new Vostochny Cosmodrome in Russia's Far East.

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