Memorandum

From: Milton Leitenberg
Date: May 12, 2019
Re: Putin and the Undoing of the INF Treaty

Over the years, we have learned something about the process of major weapons acquisition. Well over a dozen books were published about the development histories of individual U.S. ballistic missiles, long-range bombers, and SLBM systems. There were the excellent RAND studies by Robert Perry, and others by Art Alexander that concerned major Soviet weapon platforms. Franklin Spinney at DOD also put together a series of famous studies, although his work concerned aircraft only, and not long-range missiles.

When one sees the Russian Iskander missile and the SSC-8 being tested and deployed one understands that they were not made the day before, and it tells you several things directly:

- counting backwards from the date on which one sees the first outdoor test in 2013—the T & E of R, D, T & E—production of the first test models require about 5-6 years plus of in-house testing of system components; and

- before that, another 5-6 years are required for the design and development, the R & D phase.

Together, this equals about 10-12 years, but it also tells you that the decision to initiate the entire process of making the missiles took place about a year earlier still. You are therefore back to about 1999.

Very interestingly, we know that Yeltsin appointed Vladimir Putin as head of the Russian National Security Council in March 1999, and that Putin chaired his first meeting of the Russian NSC in April 1999. We also know that the meeting made at least four major decisions, at least one or more of which were secret. These were probably Putin's very first significant acts, even before he became Premier and then President. But they did not become evident for another 13-14 years. By 2003-2004, however, the double-digit increases in Russian military expenditure began.

We also know that the Russian military leadership in 1987 fiercely and unanimously opposed the INF treaty, which forced them to lose the SS-20 and SS-23 missiles targeted on Europe. They felt that the treat had been unjustly "forced down their throats" by Gorbachev and Shevardnadze, and they always wished to see it overturned. Although Marshal Akhromeyev did help Gorbachev overcome the opposition of all his military colleagues, and he was instrumental in doing that, he did not disagree with their position about the SS-20 missiles, even if the U.S. Pershings and GLCMs went away also.

But Putin reversed what Gorbachev had achieved. And when the Obama administration began asking the Russian government in 2013 about the SSC-8, the Russians played the Krasnoyarsk ABM radar denial and deception game again: "We have no idea what you are talking about,

show us your evidence." That went on for about three years before the U.S. government went public about the Russian INF treaty violation, at which point, the Russian line changed to: "The U.S. is violating the INF Treaty also: An American air defense launcher could in theory also launch a missile for ground attack." This story doesn't hold water. Meanwhile, the Russian Iskanders have already been deployed for two years, and in 2018, they were moved into forward locations both in Kaliningrad and Crimea.

In January 2019, there was a report [https://www.janes.com/article/85491/upgraded-backfire-c-long-range-bomber-makes-maiden-flight] that Russia will be deploying an upgraded Backfire C bomber, which is to carry four Kinzhal missiles—for all practical purposes, air-launched ballistic Iskander-Ms—giving them the same reach as the cruise missiles of the Iskander brigades, i.e. at least 1,500 kilometers. And there is yet a third Russian missile system that violates the INF Treaty, the Kalibr and Kalibr-M, as you will see below.

The Russian government decision, which presumably was made in 1999, to acquire all of these missile systems that violate the INF Treaty was made after the first NATO expansion. But those former East European countries, most of which had been under Soviet military occupation between 1945 to 1990, 45 years, wanted to make sure they didn't undergo that experience again. They were no threat to Russia and neither was NATO after 1945.

In the past decade, Putin and his most senior generals have tossed nuclear threats around like candy. And not just verbal threats, but simulated nuclear strikes that were obvious to the targeted observer nation:

- Warsaw was targeted in Russia's Zapad 2009 exercise;
- and in 2013, two Russian Backfire bombers carried out a simulated nuclear attack on Sweden on Good Friday;
- I believe there was another simulated Russian bomber attack a year or two ago on Stockholm.

The rest of this memorandum consists of help that I solicited from a Nordic colleague who knows much more about the Russian missiles than I do:

> The question about the Russian missiles in violation of the INF Treaty has dealt with primarily the SSC-8 land-attack cruise missile, which is indeed a Kalibr-NK, with a nominal range of about 2,500 kilometers. To understand what that means, think of an airliner which flies a direct course on optimal altitude for optimized fuel consumption. Operational ranges for these missile systems are about two thirds of the nominal range according to a rule of thumb that FOI uses. This means the operational range of SSC-8 is perhaps 1,800 kilometers. i.e. at least three times as much as INF allows.
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> When the U.S. raised the question of INF breach 6-7 years ago, most of us were convinced that the missile system in question was Iskander. Rose Gottemoeller denied that, presumably for the simple reason that the U.S. didn't have clear proof of a violation with Iskanders involved. The proof, in INF legal terms implies tests being detected or

announced to ranges beyond the allowed 500 kilometers. This, however, has nothing to do with the real performance of the missile.

Given that the Iskander-K has the same cigar shape—it can be launched from a standard 53 cm torpedo tube or vertical launch tube—and uses the same turbofan engine as the Kalibr-NK, the only relevant difference between Iskander and SSC-8 cruise missiles is the respective lengths. The SSC-8/Kalibr-NK is 8 meters long, which means that Iskander-K is a little more than a meter shorter. One serious source says the difference is 1.3 meters.

A very conservative estimate is that the fuel tank of SSC-8 occupies half of the total length, i.e. approximately four meters. The range of Iskander-K decreases accordingly and is two thirds of the range of SSC-8. This means an operational range of about 1,200 kilometers, and a nominal range of 1,800 kilometers, several times as much as is allowed.

It is high time that we start talking about Iskander and not brush it under the carpet. SSC-8 is formally the valid point of INF breach to address, but Iskander is a far more important issue from a practical standpoint.

Just a few days ago I noticed a new article about the development of an even longer-range Kalibr cruise missile, called Kalibr-M [https://nordic.businessinsider.com/russias-developing-a-new-long-range-nuclear-cruise-missile-report-2019-1?r=US&IR=T] [See also https://regnum.ru/news/2548927.html].

If the INF and START treaty regimes evaporate, we surely may look forward to a ground-based version as well, which Regnum too predicts.