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of the INF Treaty**

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## **Confirmation of Russian Violation and Circumvention of the INF Treaty**

The former Soviet Union, and its main successor state the Russian Federation, have had a very bad record of compliance with arms control agreements. In a December 1985 unclassified report, President Ronald Reagan summed up the existing compliance situation: "...the Soviet Union has violated its legal commitments to the Strategic Arms Limitation Treaty-1 Anti-Ballistic Missile (SALT I ABM) Treaty, and Interim Agreement, the SALT II Agreement, the Limited Test Ban Treaty of 1963, the Biological and Toxin Weapons Convention, the Geneva Protocol on Chemical Weapons, and the Helsinki Final Act. In addition, the U.S.S.R. has likely violated provisions of the Threshold Test Ban Treaty."<sup>1</sup> Subsequent State Department reports record Russian violations of the INF Treaty and the START Treaty.<sup>2</sup>

Soviet and later Russian violations of arms control commitments have been numerous and consistent throughout the last forty years. It does not matter whether the commitments are politically or legally binding. Indeed, the Soviets and Russians have repeatedly demonstrated disregard for commitments that prevent them from achieving their objectives with regard to their nuclear capability.<sup>3</sup> Under Vladimir Putin, the Russian compliance record appears to have gotten considerably worse. This is largely being ignored by the Obama administration, despite pressure from Congress to do something about it.

The 1987 INF Treaty completely eliminated the entire class of ground-launched ballistic and cruise missiles with a range between 500 and 5,500-km. All existing missiles in this range class were eliminated by 1991 and the Treaty provided that the parties shall "not have such systems thereafter."<sup>4</sup> Specifically, the parties may not "produce or flight-test any intermediate-range missiles or produce any stages of such missiles or any launchers of such missiles."<sup>5</sup>

There were early minor violations of the INF Treaty by the Soviet Union. Subsequently, there was a much more serious violation of the INF Treaty verification regime by the Russian Federation. The Clinton administration's 1995 arms control compliance report stated, "On December 25, 1993, Russia exited what it declared to be a training model of the RS-12M Variant 2 ICBM for silo launcher (U.S. designation—SS-X-27 ICBM) from the Votkinsk Machine Building Plant, but refused to allow U.S. inspectors to use the full-range of existing INF inspection procedures for the missile."<sup>6</sup> Another State Department report stated, "The United States concluded that these exits failed to comply with several provisions of the INF Treaty."<sup>7</sup>

Until this issue was resolved, missiles exiting Votkinsk were subject to a “policy arrangement” which did not entail full implementation of U.S. Treaty rights.<sup>8</sup> The ultimate resolution involved changing the Treaty right to “image the content of the canister” to “selective imaging.”<sup>9</sup> This was a *de facto* Treaty amendment without the advice and consent of the Senate.

More recent and much more serious issues related to Russian compliance with the INF Treaty were outlined in a 2012 letter from Congressman Michael Turner (R-OH) to then-Secretary of State of Hillary Clinton, then-Secretary of Defense Leon Panetta and General (ret.) James R. Clapper, Director of National Intelligence. Congressman Turner received a response from Under Secretary of Defense James R. Miller which mainly did not deal with the issues he had raised.<sup>10</sup> Secretary Miller promised additional information in the next State Department compliance report. That did not happen. The next unclassified Obama administration’s August 2012 report on *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments* said nothing about the issues raised by Congressman Turner.

On January 29, 2014, the *New York Times* reported, “The United States informed its NATO allies this month that Russia had tested a new ground-launched cruise missile, raising concerns about Moscow’s compliance with a landmark arms control accord.”<sup>11</sup> The article goes on to say that beginning in May of 2013 the Obama administration raised this matter with senior Russian officials to no avail.<sup>12</sup> *The New York Times* also indicated that unnamed administration officials said “there was no question the missile tests ran counter to the treaty.”<sup>13</sup> On January 30th, the State Department press spokesman confirmed the story stating: “we have raised this issue with the Russians. That is true. I can certainly confirm that...I don’t have anything to...refute the facts in the report.”<sup>14</sup>

On January 30, 2014 Congressman and Subcommittee Chairman on the House Armed Services Committee Michael Turner characterized the Russian actions as a “material breach” of the INF Treaty.<sup>15</sup> On February 6, 2014, House Armed Services Committee Chairman Howard P. “Buck” McKeon (R-CA), Chairman of the House Foreign Relations Committee Ed Royce (R-CA), and Chairman of the House Select Committee on Intelligence Mike Rogers (R-MI) sent a letter to the President asking him to take action against Russia’s “material breach” of the INF Treaty, stating that there was “compelling evidence pointing to Russia’s material breach and

circumvention of the Intermediate-Range Nuclear Forces (INF) Treaty.”<sup>16</sup> The House Armed Services Committee also confirmed that earlier Congressional letters on Russian violation and circumvention of arms control treaties related to the INF compliance issue.<sup>17</sup>

There are actually five issues involving Russian violation or circumvention of the INF Treaty. (A violation is an action that is specifically prohibited by some provision of the INF Treaty. The term “circumvention” is used here to mean that Russia has tested or deployed a ground-launched ballistic or cruise missile designed to achieve capability prohibited by the INF Treaty by exploiting loopholes in the INF and New START Treaties.) These issues include: 1) the cruise missile that had recently been given much well deserved press attention; 2) the range of the Iskander M ballistic missile; 3) the covert retention of the Skorost IRBM; 4) the RS-26/Rubezh ballistic missile that appears to be a replacement for the Soviet SS-20 IRBM that was eliminated by the INF Treaty; and 5) the reported nuclear surface attack capability of Russian ABM interceptor missiles and surface-to-air missiles (SAMs).

Russia has repeatedly threatened to withdraw from the INF Treaty. This issue was first raised in 2007 by then-Defense Minister Sergei Ivanov (now Kremlin Chief of Staff) who called the Treaty a “mistake” and a “Cold War relic.”<sup>18</sup> Then-Chief of the General Staff General Yuriy Baluyevskiy threatened to pull out of the treaty unless Washington decreased its missile defense plans. He said, “It is possible for a party to abandon the treaty [unilaterally] if it provides convincing evidence that it is necessary to do so,” and added that, “We have such evidence at present.”<sup>19</sup> President Putin has also threatened to withdraw from the INF Treaty.<sup>20</sup>

In February 2007, then-Commander of the Strategic Missile Forces, Colonel General Nikolai Solovtsov said, “If the political decision is made to withdraw from this treaty (the Russian-American Intermediate Range Nuclear Forces Treaty, or INF) the Russian Strategic Missile Forces will be ready to fulfill this task.”<sup>21</sup> That same year, Russian Major General Midykhat Vildanov, a professor at the Academy of Military Sciences, called for “pragmatic approaches” to the observance of the INF Treaty in support of Russia’s national security.<sup>22</sup> Major General Vladimir Vasilenko, head of the 4<sup>th</sup> Central Research and Development Institute of the Russian Defense Ministry stated: “Deploying ground-based medium-range missiles may be one of the options for insuring national security.”<sup>23</sup> In June 2013, Kremlin Chief of Staff Sergei Ivanov stated that Russian observance of the INF Treaty “can’t last endlessly.”<sup>24</sup>

Instead of withdrawing from the INF Treaty, which would have exposed Russia to significant international criticism and open the door to U.S. development and deployment of INF-range missiles, Russia appears to be creating the same type of capability that existed before the INF Treaty by a combination of circumventions and Treaty violation where this is necessary.

### **The Cruise Missile Issue**

There is considerable unclassified information to support *The New York Times* story and the assessment of the Congressional leaders that Russia is in violation of the INF Treaty. The cruise missile in question is almost certainly the R-500.<sup>25</sup> The evidence includes numerous Russian press reports concerning the range of the R-500, photographs of the R-500 launcher and its launch canister, and photographs of the first R-500 launch which were released by the Russian Defense Ministry.<sup>26</sup> These appear to show a missile that is too large to be a short-range cruise missile. Moreover, what is the purpose of a subsonic cruise missile on a system that already has a high speed ballistic (or probably, more accurately, semi-ballistic) missile? The only significant advantage, consistent with the INF Treaty, would be more missiles on the launcher. However, the Iskander-M semi-ballistic missile would clearly have a much shorter time to target and much better defense penetration capability. The Iskander has been described as having a peak velocity that is hypersonic and impacting at supersonic speeds.<sup>27</sup> According to a report in *Vozdushno-Kosmicheskaya Oborona Online*, “Missile speed after the boost phase is 2,100 m/sec” and, “The missile maneuvers intensively with g-forces on the order of 20-30 in the boost and terminal phases of flight.”<sup>28</sup> The Russians have said the speed for the R-500 is about 250m/second.<sup>29</sup> The biggest potential advantage, inconsistent with the INF Treaty, of adding a subsonic cruise missile like the R-500 to the Iskander system is potentially a far longer range than is possible for the Iskander M.

The first test of the R-500 in 2007 was announced by then-First Deputy Prime Minister Colonel General Sergei Ivanov.<sup>30</sup> Mr. Ivanov said, “It can be used at long range with surgical precision, as doctors say.”<sup>31</sup> (Emphasis added). This is a very odd thing to say about a missile that is supposed to be short-range, but it matches the higher range numbers for the missile that have been reported in the Russian press. Many Russian press reports say that the missile has a

range of two to six times the 500-km range that is allowed under the INF Treaty for short-range missiles.

After Mr. Ivanov's announcement, Russian officials generally went silent about the new missile, which is unusual. Indeed, while President Putin gave the developers of the R-500 missile the Russia State Award, their names were not mentioned "because their identity is a state secret."<sup>32</sup> Again, this is very unusual. It seems clear that the Russian Government does not want the press talking to the missile's designers. This is what one would expect if there is an issue of compliance with the INF Treaty. After the first flight test, specific R-500 flight tests were not announced. By Russian standards, there was very little bragging about the R-500, which again is unusual.

The Russian press soon began to report that the R-500 was a violation of the INF Treaty or published range numbers for the missile that would violate the Treaty. To violate the INF Treaty a ground-launched cruise missile (and there is no dispute that the R-500 is a ground-launched cruise missile) does not even have to fly beyond 500-km (the INF Treaty prohibition is on ground-launched cruise and ballistic missiles with a range between 500-5,500 kilometers), but merely have the range potential to do so. (Actual testing provides conclusive evidence of its potential range and *The New York Times* account suggests that it has been tested to prohibited range since 2008.) Under the INF Treaty, cruise missile range is the "maximum distance which can be covered by the missile in its standard design mode flying until fuel exhaustion, determined by projecting its flight path onto the earth's sphere from the point of launch to the point of impact."<sup>33</sup> This is a deliberately restrictive definition. Since cruise missiles do not normally fly to fuel exhaustion, this effectively limits the maximum operational range of a ground-launched cruise missile, if the Treaty is complied with, to under 500-km.

In November 2007, *Ria Novosti*, an official Russian Government news agency, reported: "The flight range of a new cruise missile adapted for Iskander and successfully tested in May 2007 could exceed 500 km (310 miles)."<sup>34</sup> In November 2008, it revealed that the potential range of the R-500 "can exceed 2,000 kilometers..."<sup>35</sup> Russian arms control expert Viktor Myasnikov wrote that the R-500 exceeded the 500-km limit of the INF Treaty on its first test and its range could be expanded to 1,000 kilometers.<sup>36</sup> Russian journalist Oleg Vladykin stated the "R-500 cruise missile...range will presumably increase to 1000 km or more."<sup>37</sup> *Kommersant*, a

major Russian publication, maintains that the range of the R-500 “can amount to 1,000 kilometers.”<sup>38</sup> Sergi Balmasov, writing in *Pravda.ru*, indicated the R-500 has a range of 2,000-km.<sup>39</sup> Russian journalists Ivan Konovalov and Vladislav Litovchenko, writing in *Kommersant*, said the Iskander system can be armed with a cruise missile with “even greater” range than 500-km.<sup>40</sup> Yury Fedorov, Associate Fellow, Russia and Eurasia Programme, Chatham House, noted “there are reports that it could have a range of up to 2000km, as it is an upgrade of the Soviet land based cruise missile RK-55, also known as CSS-X-4 Slingshot...destroyed in accordance with the INF treaty.”<sup>41</sup> (The RK-55 was reported to have had a 200-kt nuclear warhead.)<sup>42</sup> Mikhail Barabanov, chief editor of the *Moscow Defense Brief*, wrote that the R-500 range could be more than 1,000-km.<sup>43</sup> Writing in *Ria Novosti* and for the *UPI*, Ilya Kramnik said that the range of the R-500, and possibly a second missile, could be between 1,200 and 3,000-km.<sup>44</sup> Kramnik concluded the R-500 was a violation of the INF Treaty.<sup>45</sup> In January 2009, he stated that “Iskander can be equipped with cruise missiles with a range of up to 2,000 km (1,243 miles), and even 3,000 km (1,865 miles) that will allow it to destroy targets anywhere in Western Europe.”<sup>46</sup> In December 2013, *Interfax*, the main private Russian news agency, noted, “The R-500 missile now is being developed for it [the Iskander K], and according to unconfirmed information [it] has a flight range exceeding 2,000 km.”<sup>47</sup>

In 2009, the U.K. House of Commons Defense Committee noted reports that the R-500 has a 2,000-km range.<sup>48</sup> *Pravda.ru* has said that NATO experts were concerned that the Iskander K had a range of 2,000-km.<sup>49</sup> *STRATFOR*, a private commercial intelligence service, obtained information from Russians to the effect that:

The R-500 is a more conventional version of the old Soviet 3M10 long-range cruise missile with a range of 2,600 km, which was deployed on Russian nuclear attack submarines. These older missiles were eliminated also under INF [-for now]. Testing of the R-500 will be completed by the end of 2009; it has been successful thus far. After that it would be a political decision whether to put it into service. Six missiles with the R-500s are already ready to be deployed.<sup>50</sup>

In June 2007, then-First Deputy Prime Minister Sergei Ivanov predicted that the new cruise missile would be in production in 2009.<sup>51</sup> In November 2007, Colonel General Vladimir Zaritsky, then-commander of the Russian Missile and Artillery Forces, indicated testing was going on and the missile was going to be operational in 2009.<sup>52</sup> He said, “Cruise missiles are being tested, I am satisfied with the progress and I am certain that the task of providing enough

launchers armed with cruise missiles will be coped with on time....The military-industrial commission under the Russian government has set 2009 as the deadline.”<sup>53</sup> In November 2009, Russian Rocket Forces and Artillery Commander Lt. General Sergei Bogatinov said that development of an advanced cruise missile for the Iskander system was continuing.<sup>54</sup> In August 2012, *Interfax-AVN*, reported, “Cruise missiles are being serially produced for Iskander tactical missile systems.”<sup>55</sup> Production of ground-launched cruise missiles of INF range is also a violation of the INF Treaty. A recent Russian press report suggests it has been deployed or very close to it. *ARMS-TASS* quotes the General Director of the MITT design bureau as saying that the “complex ‘Iskander-M’ is transmitted to the troops complete with cruise missiles and aeroballistic [missiles].”<sup>56</sup>

With regard to the possible second prohibited cruise missile reported by *Ria Novosti’s* military correspondent Ilya Kramnik, there is much less press coverage. A Finnish study of the Iskander system suggests that Russian Club supersonic cruise missiles are also connected with it.<sup>57</sup> The Russians press reports that one version of the Club missile family, the Kalibr, is nuclear capable and has a 2,500-2,600-km range.<sup>58</sup>

### **Range of the Iskander M**

The Iskander M (SS-26) is the poster-child of the Russian tactical nuclear modernization program. Russian leaders never stop talking about it. Indeed, in 2006, President Vladimir Putin awarded Russia’s State Prize to the developers of the Iskander-M tactical missile system.<sup>59</sup>

The Iskander-M missile is nuclear capable and it was launched in Russia’s 2013 large nuclear exercise.<sup>60</sup> According to the Russian Defense Ministry, “Combat units of rocket troops and ordnance of the Central and Southern Military Districts fired four Iskander and Tochka-U [SS-21] tactical missiles at training targets at Kapustin Yar firing range in Astrakhan region on October 30, 2013 in the framework of a surprise check and exercise of nuclear deterrence forces...”<sup>61</sup> Nuclear-armed Iskander and SS-21 missiles would violate Russian commitments under the 1991-1992 Presidential Nuclear Initiatives.<sup>62</sup>

Russia has announced that it plans to deploy up to 120 Iskander M launchers each carrying two missiles.<sup>63</sup> It has threatened the forward deployment of this missile to Kaliningrad in response to U.S. missile defense deployment.<sup>64</sup> In December 2013, the German newspaper



*Bild* reported that Russia had deployed the Iskander-M to Kaliningrad.<sup>65</sup> The newspaper claimed it obtained “secret satellite” images showing 10 missiles. The Russians first confirmed the story and then Putin denied it.<sup>66</sup>

Russia is now deploying the Iskander M, which reportedly has a range potential of more than the 500-km allowed by the INF Treaty. Russian military journalist Alexander Golts has pointed out that from time to time, Russian leaders and military officials hint that the Iskander missile can fly further than 500-km.<sup>67</sup> *Izvestiya* reported that the Iskander range is 500-600-km.<sup>68</sup> A Finnish study concluded the range was 700-km.<sup>69</sup> According to Viktor Myasnikov, “Experts believe that the range of the Iskander guided missile can be increased to 1,000 kilometers without changing the launch system.”<sup>70</sup> Colonel General Zaritskiy also talked about increasing the range of the Iskander.<sup>71</sup>

Myasnikov has said the missile has flown to 500-km.<sup>72</sup> This is technically a violation of the INF Treaty, but he probably did not intend to say this. The INF Treaty ballistic missile range definition is demonstrated range, different from the potential range definition which applies to cruise missiles. If the Iskander M has not flown to 500-km or above, it would be still be a circumvention of the Treaty because of its range potential. Even without testing over 500-km it could be possible to hit targets beyond the 500-km range. Loopholes in the New START Treaty open the possibility of legally testing Iskander missiles to prove it has a prohibited range. The New START Treaty does not ban air- or surface ship-launched ballistic missiles with a range of over 600-km as the START Treaty did.<sup>73</sup>

Valeriy Kashin, head of the MIRT missile design bureau which makes the Iskander-M, has revealed that there are “two new missiles for the Iskander-M operational tactical missile system.”<sup>74</sup> He did not provide any information about these missiles. He also said that Iskander missiles “were not delivered assembled...”<sup>75</sup> It is unclear how it is possible to deliver a single stage missile unassembled. Could this mean that there is an undisclosed two stage version of this system?

Stefan Forss, a former missile specialist with the government of Finland’s Foreign Ministry and currently an adjunct professor at Finland’s National Defense University, says Russia appears to be breaking the INF Treaty, stating, “If there are no further tests [of the RS-26] to intercontinental ranges—we should, however, prepare for some *maskirovka* [deception] tests

in this regard—the matter is settled....Yars M [RS-26/Rubezh] will take care of the upper end of the INF range spectrum and Iskander-M of the lower end.”<sup>76</sup>

### **Retention of the Skorost IRBM**

Writing in September 2011, Vladimir Kudelev noted that Russia’s Federal Space Agency published a request for proposals for “the elimination of the solid-propellant rocket engines and warheads of intercontinental ballistic missiles (ICBMs) of the Kuryer, Skorost, and Topol-M missile complexes and the Bark submarine-launched ballistic missiles (SLBMs).”<sup>77</sup> The problem, as Kudelev noted, was that the Skorost was “erroneously described as an ICBM” because it “had a maximum range of 4,000 km.” Since the missile had been flight tested in the 1980s, it should have been declared and eliminated under the INF Treaty.<sup>78</sup> Their failure to declare and eliminate Skorost missiles violated the INF Treaty. The Russian Federation did nothing to correct the Soviet violation. The issue with regard to the RS-26 Rubezh is whether or not the Russians have done exactly the same thing.

### **RS-26 Rubezh “ICBM/IRBM” Issue**

The evidence we now have suggests that the RS-26/Rubezh (“Frontier” in Russian) is either a circumvention of the INF Treaty, a violation of the INF Treaty or a violation of the New START Treaty. (A New START violation may seem strange, but the RS-26 is almost certainly a derivative of an ICBM or SLBM which potentially brings New START into the picture.) The only thing the Obama administration has said about the missile is, “The recent test of a new type of Russian ICBM, as announced in the Russian press, was notified and conducted consistent with the requirements of the New START Treaty; it was not subject to any provisions or restrictions under the INF Treaty.”<sup>79</sup> However, the Obama administration did not explain the basis of this conclusion.

Former Undersecretary of State John Bolton and former Assistant Secretary of State Paula DeSutter have characterized the missile that the Russians now call the RS-26/Rubezh as an “apparent violation” of the INF Treaty, saying that all three of the successful launches went to INF range.<sup>80</sup> If the first test of the RS-26/Rubezh did not go to ICBM range as the Russians claim or if it did and the second and third tests of the RS-26 which the Russians say went to INF

range were not the same type of missile as in the first successful test, the missile would be a violation of the INF Treaty.

Bill Gertz, writing in *The Washington Times* and in the *The Washington Free Beacon*, stated that an intelligence community official told him, “The intelligence community believes it’s [the RS-26/Rubezh] an intermediate-range missile that [the Russians] have classified as an ICBM because it would violate the INF treaty’ if its true characteristics were known...”<sup>81</sup> He also reported, “The Air Force National Space and Missile Intelligence Center reported recently within classified channels that Russia conducted a test launch of a new intermediate-range missile disguised as an intercontinental ballistic missile.”<sup>82</sup>

In April 2013, Congressmen Howard P. “Buck” McKeon, Chairman of the House Committee on Armed Services and Mike Rogers, Chairman of the House Permanent Select Committee on Intelligence wrote the President noting that they twice expressed “concerns about a massive Russian violation and circumvention of an arms control obligation to the United States of great significance to this nation and to its allies.”<sup>83</sup> They also noted that Senators on the Senate Intelligence Committee had written “to senior Administration officials about this and other clear examples of Russia’s non-compliance with its arms control obligations.”<sup>84</sup> In February 2014, Congressman McKeon, Congressman Mike Rogers and Congressman Ed Royce, Chairman of the House Committee on Foreign Affairs again wrote the President pressing him to take action on the INF violations and circumventions.<sup>85</sup>

In a commentary on President Obama’s June 2013 Berlin speech advocating deeper nuclear weapons reductions, Congressman McKeon stated, “The President’s desire to negotiate a new round of arms control with the Russians, while Russia is cheating on a major existing nuclear arms control treaty, strains credulity. I have been urging the President through classified and unclassified correspondence to take seriously these violations by Russia since last year, but the President has ignored these concerns.”<sup>86</sup>

In June 2013, 24 Senators wrote Secretary of State John Kerry stating:

The first issue we will be watching closely as the Senate considers these nominations relates to Russia’s compliance with its arms control commitments to the United States. Specifically, we will seek assurances from the administration that Russia is in compliance with its nuclear arms control agreements and obligations, including the Intermediate-range Nuclear Forces treaty, the Presidential Nuclear Initiatives (PNIs) agreed to by President George H.W. Bush

and President Boris Yeltsin, and its Comprehensive Nuclear-Test Ban Treaty obligations as the United States defines those obligations. We note the recent amendment adopted by the House Armed Services Committee which states that Russia is ‘in active noncompliance with existing nuclear arms obligations.’

Earlier this year, all Republican members of the SSCI [Senate Select Committee on Intelligence] sent you a classified letter on these very issues. The fact that the response did not address many of the issues raised in the letter, combined with the fact that the annual compliance report is already several months past-due calls into question just how seriously the administration takes the issue of verification and enforcement of existing agreements. We agree with President Obama’s statement that “[r]ules must be binding. Violations must be punished. Words must mean something” and look forward to receiving additional information from you that this is the case when it comes to Russia’s track record on its multilateral and bilateral arms control commitments.<sup>87</sup>

The following discussion of the RS-26/Rubezh issues is based mainly on Russian open sources since the Obama administration has said little about it. In May 2012, the Russian Defense Ministry announced the successful launch of a “new type” of ICBM, the second new ICBM announced since the ratification of the New START Treaty in December 2010. The Russian Defense Ministry was unusually tight-lipped about this launch, not even revealing the name or designator of the new missile. It stated only that this “new type” of mobile ICBM made maximum use of existing components.<sup>88</sup> Russian press reports were contradictory, ranging from reports that the new missile was a Bulava 30 SLBM derivative to reports it was a modified SS-27 Mod 2 (RS-24/YARS) or even a larger version of the SS-27. Note that all these reports say the missile is a derivative of an ICBM or SLBM which brings New START into play.

The unusual Russian secrecy about this new missile raised concerns that Russian silence relates to a treaty compliance issue. When a compliance issue is involved, Russia has avoided providing technical details about a new missile. An example of this is the MIRVed SS-27 (which Russia calls the RS-24 or Yars) for which there is much evidence that it violated the START Treaty because the SS-27 was declared to be a single warhead ICBM and it is not permissible to increase the number of nuclear warheads from the number originally declared.<sup>89</sup> (Since the first launch of the RS-24 occurred on the same day as the first launch of the R-500, Russia may have violated both the INF and START Treaties on the same day.) Pavel Felgengauer has characterized it as a “rebranded” Topol M (SS-27).<sup>90</sup> In February 2014, *ITAR-*

*TASS* called it “a modernised version of the Topol-M ICBM...”<sup>91</sup> Russia placed no information in the START Memorandum of Understanding (MOU) data exchange on the characteristics of this missile. This is in stark contrast with what they did with regard to the original version of the SS-27 and the Bulava 30 SLBM. Moreover, the START Treaty required exhibition of a new ICBM, in which the missile and its launcher are viewed, measured and photographed. This did not take place until March 2011 under New START, after the expiration of the START Treaty in December 2009.<sup>92</sup>

Had the exhibition been held under the START Treaty, the MOU information would have become unclassified after 90 days and released to the public. This would have definitively decided the compliance issue. Under New START, information relating to the MIRVed SS-27/RS-24/Yars will never be released to the public because this is prohibited by the Treaty. Information concerning the RS-26/Rubezh will also never be released for the same reason. Russia announced that the Rubezh would go on alert in 2013 but they did not meet this deadline.<sup>93</sup>

As Russian expatriate Pavel Podvig has noted, “two of the three successful tests [of the RS-26/Rubezh] were conducted from Kapustin Yar to Sary-Shagan - far from a nominal range.”<sup>94</sup> Podvig’s source for this information is the Russian Defense Ministry.

In light of the short range to which the missile has been tested on two of the three successful tests, there appears to be little question that this missile is being developed mainly for peripheral attack. Tests of ICBMs to INF range are unusual for a new ICBM development program, particularly for one in which the missile will be, according to the Russian Defense Ministry, deployed after only four successful tests.<sup>95</sup> Russian Defense Ministry announcements of ICBM launches routinely include the launch point and the impact point. Russia has launched old SS-25 (Topol M) missiles from Kapustin Yar to Sary Shagan on several occasions, but the main stated purpose of most of these flights was related to missile defense and development of new reentry vehicles with the secondary purpose to test the reliability of the old booster.<sup>96</sup>

Launch of an ICBM to INF range does not violate the INF Treaty. For the RS-26/Rubezh to be an actual violation of the INF Treaty, the missile would have to be a “new type,” which the Russians say it is, and the first flight of this type would have to be to INF range (500-5,500-km). Commander of the Strategic Missile Forces, Colonel General Sergei Karkayev, claims that the

first successful RS-26 test went over 5,600-km.<sup>97</sup> This is interesting because it means that the missile warhead could not have impacted in the normal test range in Kamchatka. It implies that the flight test was conducted not for the development of a new ICBM but rather to evade the INF Treaty by establishing an IRBM as an ICBM under New START. 5,600-km is a very short range for an ICBM, particularly in light of the Russian statement that the missile delivered only a single RV during the test.<sup>98</sup> However, the Russians say that the missile will carry multiple maneuvering hypersonic warheads.<sup>99</sup> Assuming what General Karakayev said is true (and we must remember their statements could be self-serving), it would constitute a circumvention rather than a legal violation of the INF Treaty.

The Russians are now saying the RS-26 is a derivative of the SS-27, that the weight of its launchers is 40 tons lower than the RS-24/Yars, that it is cheaper than the RS-24,<sup>100</sup> and that it is MIRVed and carries hypersonic maneuvering warheads. A number of prominent Russian experts have said the RS-26 has a theater attack mission. According to *Kommersant*, former Duma Defense Committee Vice Chairman Alexsey Arbatov, said, “judging from the unofficial assessments of the experts, this system is also designed for intermediate-range targeting, which de facto corresponds to the category of missiles eliminated under the [INF] Treaty...”<sup>101</sup> He also linked the MIRVed payload to intermediate-range targeting. Sergey Rogov, Vice Admiral (ret.) Valentin Kuznetsov, Colonel General (ret.) Viktor Yesin and Major General (ret.) Pavel Zolotarev, experts associated with the USA and Canada Institute of the Russian Academy of Sciences, have called the Rubezh “an ICBM but with reduced flight range (consequently, it can accomplish missions for the destruction of targets in the European Theater).”<sup>102</sup>

A 2013 unclassified Air Force intelligence report made an obvious reference to the RS-26. It describes the “new ICBM” (the Russians had not yet called it the RS-26) as having “at least two stages” and a range of 5,500-km+.<sup>103</sup> It indicates its range is much lower than any other Russian ICBM. By comparison, it lists the range of the SS-19 as 9,000-km+, the SS-18 as 10,000-km+, the SS-25, the SS-27 Mod-1, and the SS-27 Mod-2 as 11,000-km. Russian sources support the Air Force intelligence assessment of the new missile.

In December 2013, Russia made it clear that the RS-26/Rubezh is significantly lighter than the Russian RS-24 ICBM (SS-27). The Commander of the Strategic Missile Forces, Colonel General Sergei Karakayev, said, “If we are to speak about the Yars [RS-24/SS-27 Mod

2] land-based mobile system, the launcher weighs more than 120 tonnes. The new missile [RS-26] will weigh less, no more than 80 tonnes.”<sup>104</sup> Pavel Podvig, a Russian émigré who specializes in Russian strategic systems, has written, “Although the missile is legally indeed an ICBM, it may well be that the demonstrated range of 5,800-km is close to the maximum range of the missile.”<sup>105</sup> (General Karakayev said later that the range in this test was over 5,600-km and the Russian announcement of the test indicated that it carried only a single RV.) Thus, if Podvig is correct, the RS-26 may be unable to propel its MIRV warhead package to even minimum ICBM range and the missile would not have enough range to target the U.S. from any likely launch point. If so, the missile is clearly a replacement for the Soviet SS-20 MIRVed IRBM eliminated by the INF Treaty. This is the basis of the judgment that it is a circumvention of the INF Treaty.

For many years Russia has been talking about creating a two stage SS-27 to perform the role of an intermediate-range missile. In December 2011, Moscow’s Institute of Thermal Technology general designer Yuri Solomonov said, “The transformation of an intercontinental missile into a shorter range missile is not a very difficult task. There are certain problems but they are solvable.”<sup>106</sup> In the words of Colonel General (ret.) Viktor Yesin, former Commander of the Strategic Missile Force, “Roughly speaking, if the third-stage engine is removed from our three-stage inter-continental ballistic missile Topol-M [SS-27], one will have an intermediate range missile.”<sup>107</sup>

According to Pavel Podvig, it is “possible that the new missile takes the first two stages of RS-24 - this was done in the past with Temp-2S [SS-16 ICBM] and Pioner/SS-20 [IRBM] and it will be compatible with various bits of information about the new TEL [transporter erector launcher] as well as much of the INF controversy.”<sup>108</sup> This could also be the basis for the claim that the RS-26 is cheaper since it is not necessary to pay for the omitted stage and it has a lighter, presumably less expensive, launcher. It could also be the basis of the Russian classification of the missile as a “new type” of ICBM.

A MIRVed IRBM could technically become an ICBM under New START by flying it with a single warhead to over 5,500-km, thus evading the INF Treaty prohibition. The elimination of all START qualitative and numerical limitations on ICBMs and SLBMs in the New START Treaty makes it fairly easy to circumvent the INF Treaty. Thus, if a two stage version of the SS-27 was tested to ICBM range in the first test and the same missile tested to INF

range in the second and third tests, the missile would be a circumvention of the INF Treaty rather than a legal violation.

If the START Treaty were still in effect and the RS-26/Rubezh exited a production facility as a two stage configuration with the SS-27 Mod 2/RS-24 first stage, the missile would clearly violate it due to the START Treaty's 28<sup>th</sup> Agreed Statement that codifies classification of missiles on the basis of its first stage and imposes a major penalty if it is breached. New START has the same missile type classification rule as old START but no 28<sup>th</sup> Agreed Statement. Under START and New START the first stage of an ICBM maintained, stored and transported as an assembled missile is not supposed to leave a production facility without all its upper stages attached. This is very important to the verification regime. In the 1990s the Russians actually ran afoul of the 28<sup>th</sup> Agreed Statement when the space-launch version of the SS-25 exited the production facility with only one of its two upper stages attached to the first stage.<sup>109</sup> While the RS-26 is a weapon rather than a space-launch derivative of an ICBM, the same legal principles apply. However, absent a 28<sup>th</sup> Agreed Statement in New START, it would be difficult to argue that the RS-26 violated New START.

Had the Clinton administration enforced the 28<sup>th</sup> Agreed Statement and if it had been included in New START, it might have prevented the RS-26 at least in its current form. An alternative approach would have probably been far more expensive. Instead, the Clinton administration let the Russians off the hook,<sup>110</sup> and the Obama administration agreed to the New START Treaty without the 28<sup>th</sup> Agreed Statement. If the RS-26 really is a derivative of the RS-24/Yars as the Russians claim, it owes its legal existence to a flawed U.S. approach to New START .

The preceding analysis assumes the Russians are accurate in their characterization of the RS-26/Rubezh as a derivative of RS-24/Yars. This may not be the case. Pavel Podvig believes that this launcher is the Rubezh missile launcher.<sup>111</sup> It is possible that it carries a missile smaller and lighter than a two stage RS-24/Yars.





A *Vesti.ru* newscast contains a video of the launcher used in the second RS-26 test that appears to confirm Podvig's conclusion that this is the RS-26 launcher. Podvig has pointed out that this new mobile launcher can't carry the SS-27 Mod 2/Yars missile. Podvig's conclusion appears consistent with what General Karakayev has said about the weight of the Yars launcher and the RS-26 launcher.<sup>112</sup> The launcher appears similar to the type of launchers the Russians use for non-canisterized theater attack missiles.

After the first flight-test, *Vedomosti* reported that the missile now called the RS-26 is fairly small.<sup>113</sup> *Kommersant* has said, "According to Kommersant information, the officially unnamed missile complex in fact is a ground-based analog of the Bulava."<sup>114</sup> It quoted its sources as saying that the missile is similar to Bulava, with the weight of about 36 tons and the length of about 12 meters. This would be a missile that might fit on the six-axle Transporter Erector Launcher TEL depicted above. *Lenta.ru* also reported, "According to unconfirmed information, the new missile is a ground version of the Bulava sea-launched complex..."<sup>115</sup>

The missile *Kommersant* describes would probably be accountable as a Bulava 30 SLBM under New START. Pavel Podvig also has suggested that the RS-26 is a land-based Bulava

30.<sup>116</sup> Using a three stage Bulava 30 as an “ICBM” would likely be a cheaper option than a two stage version of the Yars or a two stage version of the Bulava 30 because they would likely need a more extensive flight test program.

In the middle part of the last decade there was an announced Russian program to develop a common missile based upon the Bulava 30.<sup>117</sup> This never made much sense for an ICBM but it could perform the IRBM attack role quite well. It is interesting that after the September 2013 launch failure of the Bulava 30, talk about an early deployment of the RS-26 terminated in Russia. Is there a connection?

If these reports are true and the missile is a three stage Bulava 30, it clearly violates the New START Treaty. The Bulava 30 is an SLBM and the START Treaty provides that, “Each Party shall install deployed launchers of SLBMs only on ballistic missile submarines.”<sup>118</sup> A two stage Bulava 30 derivative would, at a minimum, be a circumvention of the INF Treaty because its role would clearly be theater attack. Again, the omission of the 28<sup>th</sup> Agreed Statement in New START makes this possible. A Bulava 30 would make no sense for an ICBM role because its capabilities would be marginal to attack the U.S. from likely deployment areas even if it were the three stage Bulava 30. According to the Air Force intelligence report on worldwide missile capability, the three stage Bulava 30 has about 3,000-km less range than the RS-24/Yars.<sup>119</sup> As noted above, a range of 5,500-km legally makes a ground-launched missile an ICBM but it does not give the missile real ICBM targeting capability against the U.S.

Podvig’s analysis<sup>120</sup> could explain the changing names for RS-26 missile. First calling it a Yars-M could have been linked it to a desire not to raise the issue of INF compliance by suggesting it was an ICBM. The name “Rubezh” may be linked to a need to avoid explaining why the Yars-M was not a Yars, which would be the case if it is a Bulava 30 derivative.

To come to a definitive judgment on the RS-26/Rubezh it would be necessary for the Obama administration to provide unclassified information concerning what has actually happened. We would need to know the characteristics of the RS-26, how they compare to the SS-27 Mod 2/RS-24 and the Bulava 30 and how far it went on the first successful test.

The threat to U.S. allies from the RS-26/Rubezh is quite substantial. If the missile were placed on a rail mobile launcher, it would be completely outside of any arms control limitations. Significantly, the New START Treaty omitted all references to rail mobile ICBMs and changed

the mobile ICBM launcher definition to exclude them.<sup>121</sup> Not surprisingly, Russia has announced it is developing a rail mobile ICBM.<sup>122</sup> It will reportedly be based on the Yars.<sup>123</sup> Hence, it is certainly possible that the RS-26 will end up on rail mobile launcher and hence not limited in numbers by New START unless the Treaty is amended.

### **The Moscow ABM and Surface-to-Air Missile (SAM) Issues**

The issue of whether or not the Moscow ABM system, the S-300 and S-400 surface-to-air missiles and the new S-500 ABM system now under development in Russia have prohibited INF capabilities depends largely on the fact situation since the legal issues are clear. If what has been reported in the Russian press is true, Russia has violated the INF Treaty. This may also explain the ridiculous Russian charges that the U.S. GBI missile is a prohibited INF missile system. Russia tends to mirror image its own behavior on to the U.S.

In July 2010, Pavel Felgengauer, a distinguished Russian journalist, wrote: "...Moscow plans to covertly quit the 1987 treaty on medium and short-range missiles" because the Russian S-300 and the S-400 air defense missiles, the new S-500 air and missile defense interceptor and the Moscow ABM interceptors are nuclear armed and can function as "dual-use as conventional or nuclear medium or shorter range ballistic missiles."<sup>124</sup> He has also written that such capability was actually "demonstrated" in the Russian Vostok-2010 military exercise conducted in the Far East.<sup>125</sup> *Red STAR*, the official newspaper for the Russian Defense Ministry, has reported that Russia has 700 nuclear warheads for the Moscow ABM and its surface-to-air missiles.<sup>126</sup>

The INF Treaty contains an exception to allow for missile defense and air defense interceptors missiles used "solely" for air or missile defense,<sup>127</sup> but that exception would be lost if it also had a surface-to-surface role. Absent this exception, many ABM interceptor missiles and surface-to-air missiles would be prohibited by the INF Treaty. If what Felgengauer claims is true, the Moscow ABM system violated the INF Treaty since its first day in force. The range of some of its interceptors was long.<sup>128</sup> Whether the S-300 and S-400 surface-to-air missiles violate the INF Treaty depends upon their testing history. If the S-500 has a surface-to-surface role, it would be virtually impossible for this missile with a stated intercept range of 600-km<sup>129</sup> not to violate the INF Treaty once it is fully tested.

## Conclusion

The Russian INF Treaty non-compliance described in the Russian press is fully consistent with historic Soviet/Russian compliance behavior and the pattern of Russia threatening preemptive nuclear strikes against U.S. missile defenses deployed in Europe.<sup>130</sup> The U.S. government, until recently, has ignored this activity. Two weeks after the State Department confirmed *The New York Times* story concerning INF violations, Rose Gottemoeller, Acting Under Secretary of State for Arms Control and International Security delivered a speech entitled “Security Arm Control Priorities in 2014 and Beyond.” It did not say a word about INF Treaty compliance or compliance in general. Her main agenda item was stated to be the ratification of the Comprehensive Test Ban Treaty which has its own set of outstanding Russian compliance issues.<sup>131</sup>

The Obama administration’s own compliance reports confirm that no meetings of the INF Special Verification Commission were held and no INF issues were raised with the Russians through the end of 2012.<sup>132</sup> In light of the evidence reported in *The New York Times* account and by the Congressional leaders about cruise missile testing, the apparent inability of the Obama administration to reach a logical conclusion on compliance is troubling. There are no legal issues impacting this decision. The Obama administration is apparently ignoring its own interpretation of U.S. law relating to public disclosure of arms control violations. According to the administration’s 2012 compliance report, 22 U.S.C. 2593a(6) requires that the unclassified version of the compliance report “identifies questions [about foreign arms control compliance], to the maximum extent practicable.”<sup>133</sup> The State Department’s confirmation of *The New York Times* report certainly makes an unclassified compliance report “practicable.” It is also troubling that, according to *The New York Times* and other reports, the Obama administration knew about INF violations for years and did not even raise the issue with Russia until May 2013. .

The general approach of the Obama administration has been to provide the public almost no information on Russian arms control violations and it appears not to press Russia on compliance issues. In addition to saying nothing about INF compliance issues, the State Department’s 2010 compliance report only named START Treaty issues that had been resolved, but did not talk about other outstanding compliance issues. It revealed, “The United States raised new compliance issues since the 2005 Report,” but did not identify them.<sup>134</sup> It said that

some of the new issues “were closed” but gave no further explanation of what those issues were, or how and why they were closed, or what issues remain.<sup>135</sup> Subsequent reports merely assert complete Russia compliance with New START, which seems unlikely given the State Department’s own 2011 report which states, “As expected, there have been differences and concerns with implementation.”<sup>136</sup> The report fails to elaborate on those “differences” and “concerns.”

A compliance judgment about the cruise missile issue is long overdue. A serious review of the Skorost retention issue, the RS-26/Rubezh issue, the Iskander M range issue and the dual role of Russian ABM and air defense missiles is certainly warranted. Beyond that, a penalty must be imposed on Russia for its violations and circumventions of the INF Treaty. A finding of a material breach of the INF Treaty is clearly warranted. Attempting to negotiate a new arms control agreement as President Barak Obama proposed in his June 2013 Berlin speech while Russia is violating existing agreements is quite dangerous to U.S. national security. As President Reagan observed, “Simply collecting agreements will not bring peace. Agreements genuinely reinforce peace only when they are kept. Otherwise, we are building a paper castle that will be blown away by the winds of war.”<sup>137</sup>

<sup>1</sup> *Soviet Noncompliance with Arm Control Agreements, Special Report 136*, (Washington D.C.: U.S. Department of State, December 1985), p. 2.

<sup>2</sup> For more detail on the overall record of Soviet and Russian arms control violations see Mark B. Schneider, “Russian Violations of Its Arms Control Obligations,” *Comparative Strategy*, September 2012, available at <http://www.tandfonline.com/doi/abs/10.1080/01495933.2012.711115?journalCode=ucst20#preview>.

<sup>3</sup> *Ibid.*

<sup>4</sup> The INF Treaty, Article 1, available at <http://www.acq.osd.mil/tc/treaties/inf/text.htm#preamble>.

<sup>5</sup> *Ibid.*, Article VI, paragraph 1.

<sup>6</sup> “Adherence To and Compliance With Arms Control Agreements,” (Washington D.C.: U.S. Department of State, 1996), available at <http://www.state.gov/www/global/arms/reports/annual/comp.html>.

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<sup>8</sup> “Adherence To and Compliance With Arms Control Agreements.” 1996, *op. cit.*

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