



A Contentious New START: A Snapshot of the Debate over the New START Treaty

October 19, 2010

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Introduction

The New START Treaty is the first strategic arms control agreement to face congressional and public scrutiny in the information age. The debate over the Treaty has unfolded in congressional hearings, at think tank events, in op-ed pages, and in the blogosphere. And it is all accessible on the internet. As a result, even though the Treaty has yet to come to the Senate floor for a full debate, the arguments for and against Treaty ratification have already solidified in the broader national security policy community. The Obama administration and other treaty supporters have made their case and responded to concerns about the verifiability of the Treaty, its implications for U.S. missile defenses and Conventional Prompt Global Strike, and many other issues. Congressional and independent opponents of New START have also voiced their opinions. Two Republican senators on the Foreign Relations Committee who were “on the fence” voted for the committee’s resolution to ratify New START, but many of the Treaty’s critics remain unconvinced. They were opposed to ratification in April 2010, and their positions have not changed. This Research Memorandum provides a snapshot of this debate. It attempts to capture the most common arguments voiced by supporters and opponents of the Treaty.

I. Key Limits:

Guidance and Assumptions Underlying New START Limits

The strategic guidance, analysis, and assumptions underlying U.S. negotiating positions for the New START Treaty have not received as much congressional attention as missile defense, modernization, and verification. Despite this, explaining the origins and rationale of the key warhead, delivery vehicle, and launcher limits in the New START Treaty is important; it substantiates the assertion that the United States can maintain strategic deterrence under the New START Treaty.

The 2010 Nuclear Posture Review Report states that the administration analyzed potential reductions in strategic weapons using “conservative assumptions,” including the assumption of parallel Russian reductions. It also states that four objectives guided the NPR analysis of New START warhead, delivery vehicle, and launcher limitations: “supporting strategic stability through an assured second strike capability; retaining sufficient force structure in each leg of the Triad...to hedge effectively by shifting weight from one Triad leg to another if necessary...; retaining a margin above the minimum required force structure for the possible addition of non-nuclear prompt-global strike capabilities...that would be accountable under the Treaty; and maintaining the needed capabilities over the next several decades.”¹

General Kevin Chilton's description mirrored the NPR Report: "And it was decided, rather than work through, which is normally a year-long process to develop new strategies and guidance, we would just fix that for our analysis of the force structure for the START negotiations. And so, that's how we moved forward. So, that is the context of my statement, there, is that—it was how—more about how we went forward. And, yes, I am comfortable with the force structure we have. I believe it is adequate for the mission that we've been given, and is consistent with NPR. The only assumptions we had to make with regard to the new NPR, which was, of course, in development, in parallel, at the time, was that there would be no request for increase in forces. And there was also an assumption, that I think is valid, and that is that the Russians, in the post-negotiation time period, would be compliant with the treaty, should they ratify that, and that we would, too."²

Delivery Vehicle Limit

The New START Treaty's limit on delivery vehicles has generated controversy because it is lower than an estimate that General James Cartwright provided during the summer 2009. Senator Thune noted this: "General Cartwright... testified before this committee that he would be, quote, "very concerned" about endangering the triad if the number of strategic delivery vehicles dropped below 800. And yet, the newly signed START Treaty limits the number of delivery of vehicles to only 700. And I guess my question is, what is the rationale for the agreement on only 700 delivery vehicles included in the New START Treaty? And what justifications and analysis did you rely on to come to that—to arrive at that number?"³

Senator Thune was presumably referring to a comment that General Cartwright made in July 2009. General Cartwright said that he would be very concerned if the number of U.S. deployed strategic delivery vehicles dropped below about the midpoint between 1,100 and 500 (excluding nuclear

delivery vehicles that have been either retired or converted to a conventional-only role): "When we get into that range...500 being principally where the Russians would like to be, 1,100 being principally where we would like to be—now the negotiation starts. I would be very concerned if we got below those levels about mid point."⁴

In response to Senator Thune's 2010 question, General Chilton replied that subsequent analysis since General Cartwright's response supported the transition to a lower number of strategic delivery vehicles: "Senator, I would only add that, of course, time has passed since General Cartwright testified, and we had the opportunity to do a lot more analysis during this time period. And as we looked at it, it not only made sense strategically, but it certainly is doable, to continue to sustain the triad at these current numbers and, I believe, at lower numbers."⁵

Requirements of U.S. Strategic Forces & Consequences of Russian Cheating

Administration officials, Congressional officials, and independent analysts are conflating three related but distinct issues: the overarching strategic requirements that the administration uses to size and structure U.S. strategic forces; the narrower metrics by which U.S. officials evaluate the strategic effects of potential Russian non-compliance with the Treaty; and the administration's hedge against Russian cheating.

The Obama administration has stated that Russian cheating would not undermine the United States' second strike capability. For instance, Principal Deputy Under Secretary of Defense for Policy James Miller testified that "Russian cheating or breakout under the treaty would have little effect on the assured second strike capabilities of U.S. nuclear forces. In particular, the survivability and responsiveness of strategic submarines at sea and alert heavy bombers would be unaffected by even large-scale cheating."⁶ Keith Payne interpreted this assertion as implying that a second strike capability *is the only driver* of the Obama administration's strategic forces: "This claim suggests that an

‘assured devastating second-strike capability’ is adequate for US strategic forces, and therefore ‘any’ Russian cheating could have no serious effect on our ability to deter or assure. Yet, as noted, every Republican and Democratic administration since the 1960s has concluded that an ‘assured destruction’ capability alone is inadequate because it requires little or none of the flexibility and resilience so important for *credible* deterrence and assurance.”⁷

However, it is clear that Miller was referring to Russia’s inability to alter the U.S.-Russian military balance by violating the key limits of the New START Treaty. But Payne’s analysis raises several good questions: what are the criteria by which the United States will evaluate the consequences of Russian non-compliance? Is Russian cheating only serious if it undermines the U.S. second strike capability? Further elucidation of the various ways Russian non-compliance could potentially or would not undermine the U.S. ability to deter and assure across the full spectrum of threats and crises might eliminate some of this confusion.

Similarly, Senator McCain said that the administration is unconcerned about Russian cheating. He characterized administration statements as suggesting that Russian non-compliance would be insignificant: “What this brings to the casual observer’s mind, General [Chilton], is if it doesn’t have any consequences if they do any cheating what’s the point in having a treaty?”⁸ Senator McCain further inferred that the Obama administration would be unalarmed if Russia deployed two or three times more nuclear weapons than the Treaty permits: “So it would have little, if any, effect, and we have a crisis and they triple their—two or three times as many nuclear weapons as we have. That doesn’t have any effect?”⁹

Obama administration statements suggest that the United States would hedge against Russian cheating in two ways.

First, as Miller has explained, under the Treaty the United States would maintain a diverse and

survivable nuclear force structure that is distributed across ICBMs, SLBMs, and bombers. This would be a passive hedge. It would require no additional actions by the United States. Russia would not gain a military advantage by deploying a small number of additional nuclear weapons beyond the amount permitted under the Treaty. As an example, fifty to one hundred extra warheads would not enable Russia to escape a devastating U.S. second strike.

Secondly, the United States retains a significant upload capacity: “the United States would be able to respond to Russian cheating or breakout with the ability to upload large numbers of additional nuclear warheads on both bombers and strategic missiles.”¹⁰ This would be an active hedge; the United States could increase the size of its nuclear arsenal to match or perhaps exceed Russia’s increased capability.

There is a disconnect between the administration and New START critics on this issue. Administration officials are describing how the United States is sufficiently prepared to deter and respond to Russian non-compliance. Skeptics of the New START Treaty are interpreting this confidence as carelessness.

Military Support for New START

Supporters of the Treaty often argue that the verification regime would make it easier for the United States to determine its strategic force requirements. Seven former commanders of U.S. strategic forces breathed credibility into this argument by co-authoring a letter endorsing the New START Treaty. They state that New START will provide “greater predictability about Russian strategic forces, so that we can make better-informed decisions about how we shape and operate our own forces.”¹¹ Opponents of the New START Treaty do not appear to have acknowledged this letter.

II. Tactical Nuclear Weapons:

New START skeptics argue that the Treaty’s failure to capture tactical nuclear weapons solidifies a

Russian military advantage. Mitt Romney articulated this argument in an op-ed: “The treaty ignores tactical nuclear weapons, where Russia outnumbers us by as much as 10 to 1...Russia will retain more than 10,000 nuclear warheads that are categorized as tactical because they are mounted on missiles that cannot reach the United States. But surely they can reach our allies, nations that depend on us for a nuclear umbrella.”¹²

Senator Lugar’s rebuttal to Romney’s op-ed captures the standard counter-argument to this critique. He argued that Romney’s analysis of the military significance of tactical nuclear weapons is flawed: “Russia does have more tactical weapons than we do, but he distorts their value by implying that they constitute a serious missile threat to Europe. In fact, most of Russia’s tactical nuclear weapons either have very short ranges, are used for homeland air defense, are devoted to the Chinese border, or are in storage... these weapons do not compromise our strategic deterrent.” Senator Lugar also noted that rejecting the New START Treaty would “guarantee that no agreement on tactical nukes would occur.”¹³ Fred Kaplan offered a similar rebuttal: “First, a Senate rejection of the treaty won’t limit tactical nuclear weapons, either. If the choice is to ratify the treaty or reject it, the point is irrelevant.”¹⁴

III. Verification

Amy Woolf, of the Congressional Research Service, articulates the premise underlying the Obama administration’s explanation of the New START Treaty’s verification regime: “the verification regime in the new START Treaty has been streamlined, to make it less costly and complex than the regime in START, and adjusted to reflect the limits in new START and the current circumstances in the relationship between the United States and Russia. In particular, it focuses as much on maintaining transparency, cooperation and openness as it does on deterring and detecting potential violations.”¹⁵ This argument, however, has not resonated with the Treaty’s critics. They argue that

New START’s verification regime is significantly weaker than that of the START Treaty. For instance, Eric Edelman and Robert Joseph argue that “the verification measures under the new agreement are considerably weaker than those in the expired agreement. In fact, New START may well be unverifiable.”¹⁶ In particular, critics argue that fewer on-site inspections and telemetry exchanges constitute a major shortcoming of the New START Treaty. As an example, Senator McCain recently wrote that “the reduction of on-site inspections and the lack of meaningful telemetry data exchanges under the new Treaty will greatly diminish our ability to assess and evaluate future Russian capabilities and may lead to increasing uncertainty.”¹⁷

These critiques, however, do not address the Obama administration’s explanations of on-site inspections and telemetry exchanges in the New START Treaty.

Inspections

As an example, Rose Gottemoeller, Assistant Secretary of State for Verification, Compliance, and Implementation, explained why there would be fewer inspections under New START than START: “The new treaty provides for the conduct of up to 18 on-site inspections annually, while START provided for 28 annual inspections. As noted above, however, there are only 35 facilities that will be subject to inspection at the beginning of New START—half the number that was subject to inspection at the beginning of START. In addition, the inspections under New START combine elements of the most commonly used types of inspections and exhibitions under START. Furthermore, some New START inspections may be longer than their predecessors. Conducting fewer and longer inspections and combining inspection tasks mean fewer disruptions to U.S. and Russian strategic nuclear force operations, which is highly desired by military commanders.”¹⁸

Admiral Mullen, the Chairman of the Joint Chiefs of Staff, has argued that the number of yearly

inspection has increased relative to the number of declared Russian facilities: “And in fact, based on the number of inspections—18—there are almost twice as many inspections per facility, per year than under the previous treaty.”¹⁹

Telemetry

Telemetric data exchanges were critical for verifying compliance with the START Treaty’s warhead and missile throw-weight limitations. Obama administration officials explain that this is not the case with New START.

For instance, in a Senate hearing, Gottemoeller explained that telemetric data would not be necessary to verify warhead limitations under the New START Treaty: “START used an attribution rule. That is, if a system was tested with 10 warheads, it was always counted with 10 warheads, and in order to determine that attribution for a particular missile, telemetric information was required. This new treaty, we use a completely different kind of counting rule. I noted it’s an innovative and different kind of approach, but it does not require telemetric information to confirm.”²⁰ (Note that the New START Treaty contains provisions that enable inspectors to examine the actual rather than the attributed number of warheads on a strategic missile.)

Similarly, Edward Warner, the Secretary of Defense Representative to Post-START Negotiations, explained that telemetric data exchanges provide information about the throw-weight of a missile. The START Treaty limited throw-weight, but the New START Treaty would not. Therefore, “Without that needed, there was no need to have to exchange telemetric information of that nature.”²¹

Verifying Compliance vs. Gathering Intelligence

Differing interpretations of the purpose of verification in arms control agreements might account for some of the disagreements about the New START Treaty’s verification regime. For instance, Greg Thielmann argues that “Mutually agreed provisions must be negotiated and

legitimized on the basis of their contribution to verification of treaty limits, not to enhancing a party’s intelligence database.”²² Dr. John Foster’s critique of the New START verification regime suggests that he has the opposite view: “But there are no limitations on new missile characteristics and more telemetry would be very important if we chose, for example, to defend our ICBM’s.”²³ In other words, even though the Treaty does not cover missile characteristics, telemetric data about new Russian missiles would be valuable to U.S. defense planners. According to Thielmann, however, this is not a legitimate reason to include mandatory exchanges of telemetry in New START’s verification regime.

A Web of Verification Measures

Administration officials have argued that the New START Treaty provides a web of interrelated measures that will enable the United States to verify Russia’s compliance. For instance, in a recent Senate hearing, Warner explained: “So it’s this kind of combination of identifiers, notifications and comprehensive database that give us this ability to track, and it’s on that basis that we launch our inspections. Inspectors go to a facility knowing, in their case, in advance where they want to go, doing their homework, preparing, knowing the information, then they’re able to verify the accuracy of that information through the inspection itself.”²⁴

Russian Compliance with Previous Treaties

Russian compliance with previous arms control agreements is another contentious issue in the New START debate. Several sources interpreted the Department of State’s recent unclassified compliance report as concluding that Russia routinely violated the START Treaty. For instance, Bill Gertz wrote: “Russia continued to violate provisions of the 1991 START nuclear-arms treaty up until the agreement expired in December, raising new concerns that Moscow will violate the pending ‘New START’ treaty now being debated for ratification in the Senate.”²⁵

Administration officials and independent analysts quickly refuted this interpretation. In an interview with Josh Rogin, Gottemoeller said: “Cheating implies intent to undermine a treaty. There’s no history of cheating on the central obligations of START; there’s a history of abiding by the treaty...Generally the record for the major conventions is a good one. With regard to START, the Russians have been very serious and it has been a success.”²⁶ Similarly, Jeff Lewis concluded that Gertz inaccurately characterized the compliance report: “What the report does say, in very plain language, is that Russia is ‘in compliance with the START strategic offensive arms (SOA) central limits for the 15 year term of the Treaty...’”²⁷

IV. Missile Defense

Missile defense has been a divisive issue in the New START debate. Skeptics have raised a number of questions about the Treaty’s potential and actual constraints on U.S. missile defense plans. The Obama administration has attempted to address these concerns, but it has been unable to convince many critics of the New START Treaty.

Russia’s Interpretation of Missile Defense Limits

Some are concerned that Russia’s unilateral statements suggest that Russia believes the Treaty places legal constraints on U.S. missile defense plans. Senator Risch voiced this concern: “So that’s why I am concerned when, at the end of the day, after all the discussions, we have irreconcilable differences with the Russians. We say this doesn’t impede our abilities. The Russians say, yes, it does. And I—with—I have the greatest respect for the ranking member here who says we need to say over and over again that this doesn’t affect our ability to do that, but yet, when you read the preamble, when you read some of the language in it, and most importantly when you read the unilateral statements, we have irreconcilable differences.”²⁸

The administration response is that the Treaty is legally binding, but Russia’s unilateral statements are not. Miller recently articulated this position:

“This statement is not part of the treaty and is not legally binding. As I know the Senators also know, the United States made a unilateral statement in response that we will continue to improve our missile defense capabilities to provide for effective defense of our homeland against limited missile attacks and we will do so also for our deployed forces and our allies and partners against growing regional threats.”²⁹

Russian use of New START as a Political Constraint on the Phased Adaptive Approach

A related concern is that Russia will threaten to withdraw from the New START Treaty unless the United States abandons the final phase of the Phased Adaptive Approach (PAA) to missile defense. Senator Chambliss articulated this concern: “Now to my question, in the 2020 time frame, the United States is currently planning to deploy the SM-3 Block IIB missile in Europe. And although it is intended to defend against launches from the Middle East, the missile will have an ICBM intercept capability and could represent under this treaty, from the Russian perspective, a qualitative or quantitative improvement in U.S. missile defenses that could provoke a Russian withdrawal from the treaty... would you recommend the United States deploy this system regardless of the Russian response?”³⁰

Obama administration officials continue to emphasize their commitment to implementing the PAA despite Russian opposition. They have also noted that Russian officials understand that Phase IV of the PAA will not threaten the viability of Russia’s nuclear forces. As an example, Miller said: “They [the Russians] have asked for a lot of information about these systems; we have provided it. General O’Reilly has provided extensive technical analysis of the capabilities of the system in a—in layperson’s terms. With those systems deployed in Europe, the Standard Missile 3 would be in a tail chase if it were to go after a Russian ICBM. It wouldn’t have the range or the velocity to

get there. There are other reasons as well that it would be unable to do so.”³¹

Lieutenant General Patrick O’Reilly, the Director of the Missile Defense Agency, elaborated on this: “It was not a very controversial topic of the fact that a missile given this size—this size of the payload—could not reach their strategic fields. And, as Dr. Miller said, even if they flew a missile within range of our Phase IV interceptors, given the time we would see the missiles and the velocity of their much larger strategic missiles and our smaller ones, we would not be able to catch up with those missiles in order to have an intercept.”³²

Despite these assurances, however, critics of the New START Treaty continue to question whether the Obama administration will curtail, or has already secretly agreed to abandon, future missile defense plans in exchange for Russian adherence to the New START Treaty.

The Rationale for the Launcher Conversion Ban

Treaty skeptics and supporters have noted that the New START Treaty does ban the United States from converting offensive missile launchers to launchers for missile defense interceptors and vice versa. Administration officials have said that such conversions do not make strategic sense and that they would not recommend them even if they were permitted under the Treaty. Lieutenant General O’Reilly recently testified to this: “Sir, from a technical basis, and being responsible for the development of our missile defenses, I would say that either one of those approaches of replacing ICBMs with ground-based interceptors or adapting the submarine launched ballistic missiles to be an interceptor, would be—would actually be a setback—a major setback—to the development of our missile defenses. One, because of the extensive amount of funding required in resources to redesign both the fire control system, the communications system, but especially the interceptors. They’re of completely different size and completely different functionality—different fuels—so they are

incompatible—our interceptors are—with submarines.”³³

Administration officials have also noted that the five converted ground base interceptors at Vandenberg Air Force Base are excluded from this provision. For instance, Miller said: “By the way, those were, as you know, grandfathered into the treaty, so those will continue to be allowed.”³⁴

Mutually Assured Destruction & Missile Defense in New START

Senator DeMint and others have recently argued that the United States should not accept a relationship of assured destruction with Russia. During several hearings, Senator DeMint has argued that the United States should instead build a missile defense shield that renders Russian nuclear missiles useless: “Well, it’s a very important issue to us, because I think if we told the American people that we are going to continue with a Cold War strategy with Russia of mutually assured destruction—that if they shoot at us, we’ll destroy them, they’ll destroy us—and that we will not attempt to use our technology to develop a system that could not only protect us against the Soviet Union, but multiple missiles from China or some other nation that was capable of developing multiple systems—I don’t think that’s something that the American people would like. I know it’s something I don’t like. But implicitly, if not explicitly, that is apparently the terms of the agreement with the START treaty.”³⁵

In one such hearing, Secretary Gates responded directly to Senator DeMint: “And I think it needs—I think it needs—one point needs to be clarified here. Under the last administration, as well as under this one, it has been the United States policy not to build a missile defense that would render useless Russia’s nuclear capabilities... The systems that we have, the systems that originated and have been funded in the Bush administration, as well as in this administration, are not focused on trying to render useless Russia’s nuclear capability. That, in our view, as in theirs, would be enormously

destabilizing, not to mention unbelievably expensive.”³⁶

Obama administration officials have identified the challenges of deploying a comprehensive shield against Russia’s nuclear forces. Lieutenant General O’Reilly noted that since U.S. policy allocates two to four missile defense interceptors per incoming missile, a comprehensive missile defense capability against Russia would require thousands of U.S. interceptors and much more complex command and control and sensor configuration: “So you would need at least two to four times that—the number of—or interceptors than you would the launch platforms, and that means maintaining missile fields, well over 1,000... So this is—a tremendously larger inventory of interceptors would be needed, and the command and control sensor and fire control would be tremendously more complex than what we’re developing today.”³⁷

Despite these explanations, Senator DeMint attempted to introduce an amendment to the Treaty that would commit the United States to deploy a global missile defense system capable of protecting against a large-scale Russian nuclear missile strike.³⁸ This suggests that the commonly-held conception of strategic stability through mutual vulnerability with Russia might be a point of contention during the New START Senate floor debate.

V. Rail-Mobile ICBM Launchers

Some have argued that the New START Treaty does not constrain rail-mobile ICBM launchers because it does not mention them specifically. For instance, Edelman and Joseph argue that “the treaty may contain a startling loophole, large enough to drive a train through, which would not count ICBM launchers on rail-mobile platforms.”³⁹

Others have argued that the Treaty’s definition of launchers would capture rail-mobile ICBM launchers. Woolf notes that the Treaty does not mention rail-mobile ICBM launchers because neither country currently deploys them; nor does it include sub-limits on these systems. She explains,

however, that the Treaty’s definition of ICBM launchers would capture these systems: “Any erector-launcher for ICBMs would be covered by this definition, regardless of whether it was deployed on a fixed site, on a road-mobile transporter, or on a railcar.”⁴⁰

VI. Conventional Prompt Global Strike Limits

Skeptics argue that the New START Treaty’s inclusion of conventional long-range ballistic missiles is dangerous; it will limit the United States’ ability to deploy some Conventional Prompt Global Strike (CPGS) weapon systems. Payne testified that it forces a one-for-one tradeoff with U.S. nuclear weapons: “In fact, New START would restrict deployment of US conventional PGS options based on existing ICBMs or sea-based ballistic missiles. These would be limited under New START’s ceiling of 700 deployed launchers. And, we would have to reduce our strategic nuclear force launchers below 700 on a 1:1 basis for each of these conventional PGS systems deployed. The treaty would thus limit our flexibility and resilience in this area.”⁴¹ Additionally, Edelman noted that this provision would apply to the Conventional Trident Modification (CTM) program, which is currently the most affordable, quickest route to a CPGS capability: “the fact remains that for the ten year life of this agreement the cheapest and quickest route to a PGS capability would be a conventionally armed Trident or Minuteman missile, whose numbers are limited by the Treaty.”⁴²

The Nuclear Posture Review Report addresses Payne’s critique. It states that one requirement of the analysis that formed U.S. New START negotiating positions was to protect “a margin above the minimum required nuclear force structure for the possible addition of non-nuclear prompt-global strike capabilities...that would be accountable under the Treaty.”⁴³ In Senate testimony, Miller elaborated on this, noting that the United States could deploy 24-28 CTM missiles without chafing under the Treaty’s limits: “if the Conventional Trident Modification program were

deployed, it would involve two missiles for each of twelve to fourteen submarines, or 24-28 strategic delivery vehicles total. This number of SDVs could easily be accounted for under the limit of 700 deployed SDVs under the Treaty, while still retaining a robust nuclear Triad.”⁴⁴ This is the same number of CTM missiles that the Bush administration attempted to deploy during its final two years in office.⁴⁵

Miller also noted that the Conventional Strike Missile (CSM) and other potential CPGS systems that employ boost-glide technology would not count against the Treaty’s limits. These CPGS systems would not meet the Treaty’s definition of ballistic (i.e. they would travel along a ballistic trajectory for less than half of their flight): “DoD is also exploring the potential of conventionally-armed, long-range systems not associated with an ICBM or SLBM that fly a non-ballistic trajectory (e.g., boost-glide systems)... We would not consider such non-nuclear systems that do not otherwise meet the definitions of the New START Treaty to be accountable as ‘new kinds of strategic offense arms’ for the purposes of the treaty.”⁴⁶

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³⁹ Eric Edelman and Dr. Robert Joseph, "New START: Weakening our Security," *National Review Online*, May 10, 2010 <http://www.nationalreview.com/articles/229704/new-start-weakening-our-security/robert-joseph>

⁴⁰ Woolf, "The New START Treaty: Central Limits and Key Provisions," Congressional Research Service, R41219, June 18, 2010 p. 12.

⁴¹ Payne prepared testimony, July 27, 2010, p. 3.

⁴² Edelman testimony prepared testimony for the Senate Foreign Relations Committee Hearing on the New START Treaty: Benefits and Risks," June 24, 2010, p. 7.

⁴³ 2010 *Nuclear Posture Review Report*, p.20.

⁴⁴ Miller prepared testimony, June 16, 2010, pp. 3-4.

⁴⁵ Statement of Mr. Brian R. Green, Deputy Assistant Secretary of Defense for Strategic Capabilities, for the Senate Armed Services Committee Hearing Regarding Global Strike Issues, March 28, 2007, p. 7.

⁴⁶ Miller prepared testimony, June 16, 2010, p. 4.