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Chairman Sessions, Ranking Member Donnelly, members of the committee, thank you for inviting me to participate in this important hearing. I am pleased to be here alongside my distinguished colleagues Andrew Krepinevich, George Perkovich, and Ashley Tellis.

I would like to commend the committee for initiating this timely discussion of regional nuclear dynamics. I have worked on nuclear issues both in and out of government for over a decade and, as a professor at Georgetown University and a senior fellow at the Atlantic Council, I have focused increasingly on Russian nuclear capabilities and strategy and its implications for the United States and NATO.<sup>1</sup> It is this subject on which I have been invited to speak today.

I will begin with Russia's nuclear capabilities. Along with the United States, Russia is one of the world's foremost nuclear powers. At the strategic level, it possesses a triad of nuclear bombers, intercontinental ballistic missiles (ICBMs), and submarines.<sup>2</sup> Under the New START Treaty, signed in 2010, Russia has committed to deploying no more than 1,550 strategic nuclear warheads by 2018.<sup>3</sup>

Russia has made the thoroughgoing modernization of its nuclear forces and the development of new nuclear capabilities a national priority even under difficult economic circumstances.<sup>4</sup> Russia is updating its bomber fleet, which will carry a new precision-strike, long-range, nuclear-armed cruise missile. A new generation of nuclear submarines is set to enter service and they are designed to deliver a new, more advanced submarine-launched ballistic missile (SLBM), intended to penetrate enemy missile defenses. Moscow is also developing new silo-based and

<sup>&</sup>lt;sup>1</sup> For my recent work in this area, see Matthew Kroenig and Walter Slocombe, "Why Nuclear Deterrence Still Matters to NATO," The Atlantic Council (August 2014), available at

http://www.atlanticcouncil.org/images/publications/Why\_Nuclear\_Deterrence\_Still\_Matters\_to\_NATO.pdf and Matthew Kroenig, "Facing Reality: Getting NATO Ready for a New Cold War," *Survival: Global Politics and Strategy* (February/March 2015), pp. 49-70.

<sup>&</sup>lt;sup>2</sup> For more detail on Russia's nuclear forces, see Hans M. Kristensen and Robert S. Norris, "Russian Nuclear Forces, 2014," *Bulletin of the Atomic Scientists*, Vol. 70, No. 2 (2014), pp. 75-85.

<sup>&</sup>lt;sup>3</sup> New Strategic Arms Reduction Treaty (New START), April 8, 2010, available at

http://www.state.gov/t/avc/newstart/c44126.htm

<sup>&</sup>lt;sup>4</sup> On Russian nuclear modernization, see also Kristensen and Norris, 2014.

road-mobile ICBMs capable of carrying warheads with multiple independently-targetable reentry vehicles (MIRVs), also designed to defeat enemy defenses.

In addition, Russia has tested a new intermediate-range, ground-launched cruise missile (GLCM).<sup>5</sup> This development is of particular concern because it is in violation of Russia's commitments under the 1987 Intermediate Range Nuclear Forces (INF) Treaty, the only arms control treaty ever to eliminate an entire class of nuclear weapons.<sup>6</sup> In addition, Russia's RS-26 ballistic missile, although tested at longer ranges, can be operated at intermediate range, providing a technical circumvention of the INF Treaty.

In addition to its strategic forces, Russia retains an arsenal of around 2,000 tactical nuclear weapons for battlefield use.<sup>7</sup> This arsenal includes nuclear-armed: torpedoes, depth charges, short-range surface-to-surface missiles, air-to-surface missiles and bombs, and surface-to-air missiles for use in air defense. Although Russia has not publicized plans to modernize its tactical nuclear forces, it is possible that Russia is also upgrading some of these systems as it modernizes its strategic forces.

Turning next to Russian strategy and doctrine, it is important to emphasize that, unlike the United States, since the end of the Cold War, Russia has moved nuclear weapons toward the center of its national security strategy and military doctrine. In the past, Moscow maintained a nuclear "no first use" doctrine, but this policy was abandoned in the year 2000. Since the early 2000s, Russian strategists have promoted the idea of "de-escalatory" nuclear strikes.<sup>8</sup> According to this "escalate to de-escalate" concept, Moscow will threaten, or, if necessary, carry out, limited nuclear strikes early in a conventional conflict in order to force an opponent to sue for peace on terms favorable to Moscow.<sup>9</sup> Russia's 2000 military doctrine stated that nuclear strikes might be conducted in any situation "critical to the national security" of the Russian Federation.<sup>10</sup> The more expansive language about nuclear preemption was excluded from Russia's most recent public documents, but the idea remains firmly engrained in Russian thinking and some speculate that the language remains in classified annexes.<sup>11</sup>

At least as telling as public documents, however, are how military forces actually plan and exercise. Nearly all of Russia's major military drills over the past decade have concluded with

<sup>11</sup> Elbridge Colby, "Nuclear Weapons in the Third Offset Strategy: Avoiding a Blind Spot in the Pentagon's New Initiative," Center for a New American Security (February 2015), pp. 6, available at

http://www.cnas.org/sites/default/files/publications-

<sup>&</sup>lt;sup>5</sup> Michael R. Gordon, "U.S. Says Russia Tested Cruise Missile, Violating Treaty," *The New York Times*, July 28, 2014.

<sup>&</sup>lt;sup>6</sup> Treaty Between The United States Of America And The Union Of Soviet Socialist Republics On The Elimination Of Their Intermediate-Range And Shorter-Range Missiles (INF Treaty), December 8, 1987, available at http://www.state.gov/t/avc/trty/102360.htm.

<sup>&</sup>lt;sup>7</sup> Krisetenen and Norris, 2014.

<sup>&</sup>lt;sup>8</sup> Nikolai N. Sokov, "Why Russia Calls a Limited Nuclear Strike 'de-escalation," *Bulletin of the Atomic Scientists*, March 13, 2014, available at http://thebulletin.org/why-russia-calls-limited-nuclear-strike-de-escalation.
<sup>9</sup> Ibid.

<sup>&</sup>lt;sup>10</sup> Military Doctrine of the Russian Federation, 2000, available at http://igcc.ucsd.edu/assets/001/502378.pdf

pdf/Nuclear%20Weapons%20in%20the%203rd%20Offset%20Strategy.pdf.

simulated nuclear strikes.<sup>12</sup> Moreover, President Putin himself has personally overseen such nuclear exercises.<sup>13</sup>

In some ways, it is not surprising that Russia, as the conventionally inferior power in relation to the United States and NATO, would consider the use of nuclear weapons early in a conventional war, as this is essentially the reverse of NATO strategy during the Cold War when it faced a conventionally superior Soviet Union. Nevertheless, Russia's nuclear capabilities and strategy pose a serious threat to the United States and should be a cause of concern.

This brings me to my next major subject, the possibility of nuclear escalation. For years, Western analysts assumed that Russia's heavy reliance on nuclear weapons was envisaged in the context of a defensive war, but recent events have shown that these tactics can also be employed as part of an offensive campaign. The ongoing conflict in Ukraine is very much a nuclear crisis.<sup>14</sup> Throughout the crisis, President Putin and other high-ranking officials have repeatedly issued thinly-veiled nuclear threats. Moreover, these threats are backed up by explicit brandishing of Russia's nuclear forces at a level we have not seen since the end of the Cold War. Russia has also reserved the right to deploy nuclear weapons in Crimea and Kaliningrad.<sup>15</sup> The message is clear: the West must not interfere in Russia's invasion of Ukraine lest things escalate to catastrophic levels.

If the conflict in Ukraine were to escalate or President Putin were to rerun his playbook of hybrid warfare from Ukraine against a NATO member, the United States could find itself in direct military confrontation with Russia. In the event of such a conflict, Russia will likely issue nuclear threats in a bid to force NATO capitulation and, if on the losing end of a conventional conflict, Moscow may conduct a limited nuclear strike in an effort to "de-escalate" the conflict.

I will conclude with a discussion of the implications of these developments for U.S. nuclear strategy and posture. So long as nuclear weapons retain such a prominent place in Russian force structure, procurement priorities, doctrine, and political rhetoric, it remains an important deterrence mission for the United States and NATO to retain a policy of, and a serious capability for, nuclear deterrence as a potential instrument for dealing with the remote but calamitous contingency of a military confrontation with Russia.

At a minimum, U.S. nuclear deterrence doctrine needs to be clear and firm that any use of nuclear weapons against the United States or an ally would result in a nuclear counterstrike. In addition, the United States should leave on the table the possibility of a nuclear response to a

<sup>&</sup>lt;sup>12</sup> Sokov, "Why Russia Calls a Limited Nuclear Strike 'De-escalation.""

<sup>&</sup>lt;sup>13</sup> Alexey Nikolsky, "Putin Holds Military Drills to Repel Nuclear Strike," *RT*, May 8, 2014, available at http://rt.com/news/157644-putin-drills-rocket-launch/.

<sup>&</sup>lt;sup>14</sup> For more on this point, see Kroenig, "Facing Reality."

<sup>&</sup>lt;sup>15</sup> On Russia's claims about nuclear weapons in Crimea, see Sergei L. Loiko, "Russia Says it Has a Right to Put Nuclear Weapons in Crimea," *Los Angeles Times*, September 15, 2014, available at

<sup>&</sup>lt;u>http://www.latimes.com/world/europe/la-fg-russia-nuclear-crimea-20141215-story.html</u>. On Russia's threats to deploy nuclear weapons in Kaliningrad, see Bruno Waterfield, "Russia Threatens NATO with Military Strikes over Missile Defence System," *The Telegraph*, May 3, 2012, available at

http://www.telegraph.co.uk/news/worldnews/europe/russia/9243954/Russia-threatens-Nato-with-military-strikes-over-missile-defence-system.html.

strictly conventional Russian assault against a NATO ally. The reason for not foregoing this option is not that an early nuclear response would be necessary or automatic, but rather because there is no reason to assure Russia that this would not happen. Moreover, the possibility of nuclear response to nonnuclear attack has a critical assurance element as NATO's easternmost neighbors would prefer that any potential Russian attack be deterred by the threat of nuclear strike, rather than needing to wait for a costly and lengthy conventional war of liberation.

To make these threats credible, the United States must field a sufficiently large, flexible, and resilient nuclear force, including capable nuclear delivery systems and supporting infrastructure. I, therefore, urge this body to fully fund the much-needed modernization of this country's nuclear forces and infrastructure as planned.

In addition, the United States should upgrade its homeland and theater ballistic and cruise missile defense systems. While missile defenses could not meaningfully blunt a large-scale Russian attack, an upgraded system could better provide a defense against, and thus complicate Russian calculations for, a more limited strike on the United States or its allies.

At the sub-strategic level, the United States must seek to negate Russia's overwhelming battlefield nuclear advantage as this is a major contributing causes to Russia's belief that it can achieve escalation dominance through a limited nuclear strike. Ideally, this would be done through arms control negotiations, but the Russians have refused to discuss the reduction of their tactical nuclear weapons and striking an agreement under current conditions would be extremely challenging.

The United States must make sure, therefore, that it has a credible response to any Russian battlefield use of nuclear weapons and it is not at all clear that it does at present.<sup>16</sup> The yields of strategic warheads may be too large for a credible response to a tactical strike and their use would risk escalation to a catastrophic, strategic nuclear exchange. The B61 gravity bombs in Western Europe are out of range of potential conflict zones in the East without redeployment and/or refueling, and the aircraft on which they are delivered would be highly vulnerable to Russian air defenses. American B-52H bombers and nuclear-armed ALCMs are based in the United States, reducing their utility for deterrence and assurance missions in Europe.

The United States should, therefore, consider additional options to deter Russian nuclear aggression, assure regional allies, and if necessary, respond to a limited Russian nuclear strike. The options could include: placing lower-yield nuclear warheads on SLBMs and ICBMs, training European crews to participate in NATO nuclear strike missions, forward basing B61 gravity bombs in Eastern Europe, rotationally basing B-52 bombers and nuclear air-launched cruise missiles in Europe, and developing a new sea-launched cruise missile, or designating the planned long-range standoff weapon (LRSO) for delivery by both air and sea.

The United States must also convince Russia to return to compliance with the INF Treaty and, if that fails, to prevent Russia from gaining a military advantage from its violation. Washington should, therefore, study the development of new GLCMs and their deployment to Europe. It

<sup>&</sup>lt;sup>16</sup> For information on U.S. nuclear forces and further details on the items in this paragraph, see Hans M. Kristensen and Robert S. Norris, "U.S. Nuclear Forces, 2014," *Bulletin of the Atomic Scientists* vol. 70, no. 1 (2014), pp. 85-93.

should also consider the deployment of cruise missile defenses in Europe to defend against Russian nuclear aggression.

Following through on some of these proposals would reverse longstanding U.S. and NATO policy of reducing reliance on nuclear weapons as an objective in and of itself. This policy was justifiable so long as Russia remained cooperative, but given increased Russian nuclear aggression, we no longer have the luxury of reducing reliance on nuclear weapons for its own sake and arguably never did.

Some of these proposals, if adopted, would also run counter to promises made to Russia in the NATO-Russia Founding Act of 1997, but Putin has already violated key provisions of this act, including the commitment to refrain "from the threat or use of force against … any other state, its sovereignty, territorial integrity or political independence in any manner."<sup>17</sup> It would be foolish for the United States to be constrained from taking action necessary for its national security by a document that Russia routinely ignores.

I know this Committee will help ensure the maintenance of the strong American nuclear forces that have undergirded international peace and security for nearly seventy years.

Thank you again for the opportunity to be here today. I look forward to your questions.

<sup>&</sup>lt;sup>17</sup> "Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation," May 27, 1997, available at http://www.nato.int/cps/en/natolive/official\_texts\_25468.htm.