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Nuclear Weapons in Russia's approach to conflict

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Abstract

President Putin has moved nuclear weapons to the foreground of the European security landscape. New risks and dangers arise from the apparent coupling of nuclear weapons capabilities with Moscow's revanchist and irredentist foreign and defence policies toward its neighbours. Nuclear weapons are the central feature and capstone capability in Russia's evolving concept of strategic deterrence and are important tools for achieving Russia's geopolitical aims. Russian thinking on the role and place of nuclear weapons in upholding national security and in achieving strategic aims is reflected in military policy, force structure and posture, and exercises and operations. Russia's political and military leaders are not only reconceptualising the role of nuclear weapons. They are also building the military capabilities that can credibly threaten the calibrated employment of nuclear weapons for deterrence, de-escalation and warfighting from the regional to large-scale and global levels of conflict. New and still developing concepts for the employment of conventional long-range precision weapons in tandem with nuclear weapons for regional deterrence and containment of local and regional conflicts add volatility to the regional tensions and uncertainties created by recent Russian aggression. Russia's reliance upon integrated conventional and nuclear capabilities in reasserting its influence in its perceived sphere of special interest, intended to contain conflicts at a manageable level, could actually increase the risk of the potential employment of nuclear weapons. NATO nations collectively, and the three NATO nuclear powers (Great Britain, France, and the United States) individually, have recognized this new reality and have begun to adapt to it. In that context, the aim of this paper is to elaborate a clearer understanding of the place and role of nuclear weapons in Russia's approach to conflict, based on nuclear-related policy statements and military-theoretical writing, force structure and posture choices, and exercises and operations. If the contours of the Russian side of this new deterrence dynamic are correctly recognised and assessed, including its nuclear dimension, its challenges could be manageable in a deterrence framework tailored by NATO and individual Allies for Europe's 21st Century circumstances.

Executive Summary¹

Introduction. President Putin has moved nuclear weapons to the foreground of the European security landscape. Statements by him and other Russian leaders have emphasised the nuclear dimension of the increasingly antagonistic relations between Russia and the West. Exercises and operational activities by Russia's nuclear and nuclear-capable forces in many instances appear designed to reinforce this message. In some respects, these developments represent an effort by Moscow to revive the status quo ante of the Cold War, in which decision-makers on both sides saw nuclear weapons as an element of strategic stability within a mutual deterrence relationship between the Soviet Union and the United States. This policy choice by Moscow undermines more than two decades of efforts to reduce the salience of nuclear weapons in Europe and the world and is a significant setback for NATO's post-Cold War security agenda.

The turn away from efforts toward strategic partnership and back to an East-West relationship based on mutual deterrence also has significant opportunity costs. NATO Heads of State and Government at Wales stated their continued belief "that a partnership between NATO and Russia based on respect for international law would be of strategic value" but regretted "that the conditions for that relationship do not currently exist." NATO Deputy Secretary General Vershbow later stated that it is in NATO's interest to engage with Russia "if only to ensure that tensions are not needlessly heightened...to constantly encourage greater transparency and predictability...to avoid misunderstandings and to prevent avoidable accidents where our forces come into contact." It all represents a dismally low level of ambition by comparison with the broad cooperation carried out within the NATO-Russia Council Framework prior to Russia's military intervention in Ukraine. In place of partnership, deterrence is now a primary element of NATO-Russia relations.

New risks and dangers arise from the apparent coupling of nuclear weapons capabilities with Moscow's revanchist and irredentist foreign and defence policies toward its neighbours. Nuclear weapons remain the supreme guarantee of Russia's security and a primary element of Russia's great power status. Russia continues to give top funding priority to its nuclear capabilities for modernisation. Nuclear weapons are the central feature and capstone capability in Russia's evolving concept of strategic deterrence and are important tools for achieving Russia's geopolitical aims. Russian thinking on the role and place of nuclear weapons in upholding national security and in achieving strategic aims is reflected in military policy, force structure and posture, and exercises and operations.

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Russia's political and military leaders are not only reconceptualising the role of nuclear weapons. They are also building the military capabilities that can credibly threaten the calibrated employment of nuclear weapons for deterrence, de-escalation and warfighting from the regional to large-scale and global levels of conflict. New and still developing concepts for the employment of conventional long-range precision weapons in tandem with nuclear weapons for regional deterrence and containment of local and regional conflicts add volatility to the regional tensions and uncertainties created by recent Russian aggression. Russia's reliance upon integrated conventional and nuclear capabilities in reasserting its influence in its perceived sphere of special interest, intended to contain conflicts at a manageable level, could actually increase the risk of the potential employment of nuclear weapons.

NATO nations collectively, and the three NATO nuclear powers (Great Britain, France, and the United States) individually, have recognized this new reality and have begun to adapt to it. In that context, the aim of this paper is to elaborate a clearer understanding of the place and role of nuclear weapons in Russia's approach to conflict, based on nuclear-related policy statements and military-theoretical writing, force structure and posture choices, and exercises and operations. If the contours of the Russian side of this new deterrence dynamic are correctly recognised and assessed, including its nuclear dimension, its challenges could be manageable in a deterrence framework tailored by NATO and individual Allies for Europe's 21st Century circumstances.

This study builds on the author's earlier paper, which described Russia's approach to conflict in general and its reliance on "full-spectrum conventional, unconventional and nuclear military capabilities." It is important to note, because of the role that Russia's nuclear weapons play across the spectrum of conflict, that this paper adopts an understanding evident in Russian security and defence writings of "conflict" as spanning political, diplomatic, economic and other non-military means all the way up to full-scale military operations and many gradations and combinations of instruments in-between.

Threat perceptions. The place and role of nuclear weapons in Russia's approach to conflict are framed by the threat perceptions and views on the character of modern war at the high end of the conflict spectrum outlined in Russia's Military Doctrine and in pronouncements by Russian military leaders. These emphasise the threat of the notional "aerospace adversary" (concretely, the US) and the strategic effects that might be achieved by his strategy of "non-contact" warfare employing long-range precision guided conventional weapons as part of a "reconnaissance-strike complex" comprising digital C4ISR, aerospace dominance, advanced weapons and, increasingly, robotics.

Unavoidably, there is a gap between Russia's 360-degree, multi-dimensional threat perception and the resources available for defence of a territory as vast as Russia's. Nuclear weapons are viewed as an important capability to mitigate the problem and will remain so in the long-term. Chief of the General Staff Gerasimov has said, "considering the significance of the preservation of the nuclear guarantee of national security in modern conditions and the foreseeable future, the Russian Federation will retain its nuclear potential at the level of reasonable sufficiency."

Strategic Deterrence. In its role as a vehicle for deterrence messaging and for guidance of the Armed Forces, Russia's Military Doctrine partially outlines several elements of

nuclear deterrence and strategic deterrence policy. The central element of nuclear deterrence policy guidance conveyed in the Military Doctrine 2014 is that a main task of the Armed Forces in peacetime is:

To maintain the composition, state of combat and mobilization readiness, and training of the strategic nuclear forces and their supporting forces and assets, as well as command and control systems at a level guaranteeing the infliction of unacceptable damage on an aggressor in any situation.

This political directive sets the level of ambition for Russia's strategic nuclear capability. The level of ambition is implicit in the phrase "at a level guaranteeing the infliction of unacceptable damage on an aggressor in any situation." This demanding level of ambition provides the basis for military planning assumptions and drives the minimum military requirements for the technical characteristics of strategic nuclear weapons systems; strategic nuclear force levels, structure and posture; and related command and control (C2) and support capabilities.

For the Russian strategic nuclear forces, this translates into a requirement to ensure a guaranteed retaliatory strike capability under conditions of an attempted disarming first strike by an aggressor. This requirement includes launch vehicles, delivery systems and warheads, and a C2 structure sufficient to conduct a retaliatory strike even after a first strike by an adversary has significantly degraded the force.

The Place and Role of Nuclear Weapons in Strategic Deterrence. The picture of the Russian concept of strategic deterrence that emerges is that nuclear weapons no longer stand alone but are now among a range of military and non-military means to be employed together for deterrence and other objectives (punishment, denial, coercion and compellence). In some respects, some Russian experts suggest that Russia's adoption of the concept of strategic deterrence in place of nuclear deterrence mirrors changes in US deterrence thinking observed initially in the 2002 Nuclear Posture Review. Nevertheless, Russia's approach also differs in important aspects, in particular concerning the central role assigned by Russia's leaders to nuclear weapons in peace, crisis and conflict. The other major observable features of current nuclear policy and doctrine include an effects-based approach that integrates nuclear and conventional capabilities in a continuous spectrum; the related emergence of distinct regional and global roles for nuclear weapons; and the integration of nuclear deterrence with new concepts of employment of conventional long-range precision weapons for deterrence. This reconceptualization has important implications for NATO and Allied conceptual thinking about nuclear deterrence and for potential future crisis and conflict scenarios.

In his 2001 survey of Russia's non-strategic nuclear forces, David Yost noted nine functions attributed to nuclear weapons by Russian military authorities:

- to deter external aggression;
- to serve as an 'equalizer' or 'counterbalance' to the conventional force superiority of potential adversaries;
- to help maintain the 'combat stability' of forces engaged in an operation (assessed to be akin to supporting intra-war deterrence);

- to make possible the ‘de-escalation’ of conventional conflicts;
- to make it possible for Russia to conduct limited nuclear strikes in a regional (or theatre) war while avoiding an escalation to intercontinental nuclear operations or any other geographical extension of the conflict;
- to inhibit the intervention of outside powers (such as the United States or NATO) in regional conflicts involving Russia;
- for non-strategic nuclear forces to substitute for advanced long-range non-nuclear precision strike systems;
- to enable the high command to change the correlation of forces in specific theatres or sectors of military operations;
- to compensate for reductions in Russia’s strategic nuclear forces.

The list partially illustrates the conceptual way that Russia’s political and military leaders integrate nuclear and conventional capabilities in their approach to conflict. Because of that integrative approach, Russia’s nuclear weapons should be considered in the context of Russia’s full capabilities spectrum and the evolving concepts for their employment in local, regional and global contingencies. This is particularly important in consideration of Russia’s “whole of government” approach to conflict (often referred to, perhaps too narrowly, as a hybrid strategy), which is intended to achieve Russia’s aims while remaining below the threshold for direct military conflict. Although this approach employs non-military levers of power for effect, it relies on hard power, including nuclear capabilities for deterrence, coercion and compellence, to succeed.

The Place and Role of Non-Strategic Nuclear Weapons (NSNW) in Strategic Deterrence. NSNW retain an important role at the regional level of strategic deterrence despite the Russia’s growing conventional precision strike capabilities. Non-strategic nuclear weapons no longer only substitute for conventional long-range precision weapons but serve together with them as a regional deterrence dyad. Evolving Russian thinking on deterrence and the roles of nuclear weapons, derived in part from ongoing systems analysis, has resulted in a refined and reinforced role for non-strategic (tactical) nuclear weapons in a regional deterrence and de-escalation role, in tandem with conventional long-range precision weapons. This is evident, for example, in Russian military analyses of the role of “strategic weapons” that appear to blur the distinctions between long-range precision weapons armed either with conventional or nuclear warheads. This creates a doctrinal link between employment of conventional nuclear weapons at the level of regional and global conflict.

In terms of capabilities, the array of delivery platforms in Russia’s inventory described below under Force Structure and Posture provides a flexible range of employment options. Although the weapons are designated as non-strategic or tactical, the ranges of many of the delivery platforms combined with that of some of the weapons themselves allows them to operate from the operational-tactical to the operational-strategic level of conflict. The fact that nearly all Russian delivery platforms are dual-capable (able to deliver nuclear or conventional variants of their weapons) compounds the flexibility of Russia’s strategic weapons set and supports the calibrated approach envisioned by Russian experts to containing and de-escalating conflicts. It also creates ambiguity. As

Pavel Podvig has noted, this blurring by Russia of distinctions between conventional and nuclear weapons is likely intended to complicate an adversary's calculus. It can also create dangerous ambiguity.

The Place and Role of Conventional Long-Range Precision Weapons in Strategic Deterrence. The 2014 Military Doctrine states, "within the framework of fulfilling strategic deterrence measures of a forceful nature, the Russian Federation foresees use of precision weapons." Elsewhere, it notes that a fundamental task of the Russian Armed Forces is "strategic (nuclear and non-nuclear) deterrence." This reflects the increasing role of conventional long-range precision weapons in Russia's deterrence strategies in combination with nuclear weapons as part of the strategic weapons set. Precision weapons, viewed by the Russian military as having combat effectiveness on a par with nuclear weapons, are designated as the first capability to be employed for strategic deterrence at the global and regional level. The Russian Aerospace Forces and Navy have demonstrated these capabilities in Syria.

Based on the literature reviewed and building on David Yost's survey of functions attributed to nuclear weapons, it is possible to list at least ten functions attributed to conventional long-range precision weapons by Russia's political and military leaders and its military and civilian experts who address aspects of deterrence. The list is not exhaustive and some of the functions are closely connected or overlapping, perhaps because the related concepts are still evolving. Nevertheless, the list is representative of the functions envisaged for conventional long-range precision weapons. The functions include:

- to be used in support of strategic deterrence;
- to counterbalance the large-scale deployment of conventional long-range precision weapons by other countries, principally the US;
- to increase Russia's offensive potential;
- to achieve strategic and political goals for which the utility of nuclear weapons has declined;
- to deter potential aggressors in armed conflicts, and local and regional wars through demonstrated readiness to conduct retaliatory or warning strikes for infliction of prescribed or deterring levels of damage to groups of forces as well as to the enemy's military-economic potential;
- to deescalate and terminate armed conflicts on terms acceptable to Russia by infliction of prescribed or deterring levels of damage to groups of forces as well as to the enemy's military-economic potential through demonstrative, single or grouped employment of nonnuclear means, potentially simultaneously with or followed by nuclear means, up to the maximum of infliction of unacceptable levels of damage;
- to participate in strategic operations for the destruction of critically important targets (SODCIT);
- to disorganize systems of government and military control;

- to degrade the effectiveness of enemy actions on the sea and from the sea;
- to destroy key targets in operations with general purpose forces.

Despite their prominence in Russian military theory, planning and acquisitions, some aspects of conventional precision strike may still be aspirational for the Russian Armed Forces. The cost and complexity of fielding and integrating precision weapons; position, navigation and timing (PNT); wide-area sensors and networked C2 has slowed Moscow's attainment of the "reconnaissance-strike" capabilities envisioned since the 1980s. Steady progress is being made, as evinced by growing concerns in the West over Russia's growing anti-access and area denial capabilities. Nevertheless, according to a recent analysis by two Russian military experts who see much work still to be done, "strategic deterrence with conventional weapons of a potential aggressor state (or coalition of states) from undertaking a large-scale or regional war is unlikely. It is possible only by the threat of preventive nuclear actions." It was likely with this in mind that President Putin said in 2012, "it is evident that nuclear deterrence retains its role and significance in the structure of the armed forces. At least until we have other types of weapons, new generation strike complexes. Including precision weapons." Russia's heavy investment in modernizing its nuclear capabilities further underscores the leadership's likely conviction that deterrence relying primarily on conventional precision weapons and new types of weapons is still over the horizon. Despite this caveat, Russia's goals with regard to conventional precision strike are clear and its growing capabilities evident.

Employment of the Regional Deterrence Dyad. The regional deterrence dyad of conventional long-range precision weapons and non-strategic nuclear weapons (NSNW), which several sources suggest could be augmented in some scenarios by ICBMs or SLBMs, is intended to provide the capability for flexible and incremental escalation. It can apply "demonstrative, single or grouped employment of nuclear and non-nuclear means at various stages of development of inter-state conflicts corresponding to the situation, intended to provide for various levels of deterrent damage, the upper limit of which is unacceptable damage." Non-nuclear and nuclear deterrence are conceptually linked because strategic nuclear deterrence is viewed as creating the necessary preconditions for non-nuclear deterrence (by conventional precision weapons) to be effective. Non-nuclear deterrence is therefore based on the threat, first, of prescribed damage by conventional long-range precision weapons linked, second, with the threat of nuclear escalation of the conflict, potentially to the level of massed nuclear strikes. For as long as it persists, the relative imbalance between Russia's current conventional precision strike and nuclear capabilities may increase the risk inherent in this strategy.

Force Structure and Posture. Russia has a strategic nuclear triad comprising silo-based and mobile intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and long-range cruise missiles delivered by strategic bombers. Russia also has fighter aircraft, tactical and theatre bombers, ground-based short-range ballistic missiles and cruise missiles, and air and sea-launched intermediate-range cruise missiles. These platforms are capable of delivering conventional precision or non-strategic nuclear weapons. This set of weapons supports Russia's strategic deterrence strategy in a seamless spectrum on the local, regional, and global levels of conflict.

Exercises. Russia's apparent inclusion of a simulated employment of a non-strategic nuclear weapon to "de-escalate" the conventional theatre engagement during the ZAPAD-1999 strategic military exercise was a notable event. It drew the attention of Western observers to a potentially dangerous new development in Russian warfighting strategy. As Jacob Kipp has pointed out, it occurred at a time when post-Cold War NATO-Russia relations were reaching a nadir over Alliance operations in Kosovo. Seventeen years later, some similar elements are in the mix including renewed tensions between Russia and NATO and high profile nuclear signaling by Russia for strategic deterrence purposes. New elements in the already volatile mix include Russia's regional aggression, crash military modernization, and development of conventional precision strike capabilities to augment nuclear weapons in supporting deterrence. Against this background, Russia is pursuing a robust exercise and training programme that displays aspects of its developing strategic deterrence strategy, including integrated non-nuclear and nuclear capabilities.

Operations. In terms of operations, President Putin's leveraging of Russia's nuclear capability in order to deter outside military involvement during the initial phase of the conflict in Ukraine is the most salient example of Russia's concept of strategic deterrence. He highlighted Russia's nuclear capability in the context of the Ukraine crisis in August 2014. He subsequently said that he had been prepared to take Russia's nuclear forces to a state of alert over Crimea if necessary. This confirmed impressions that had already formed among some observers that Russia was using its nuclear forces to send deterrent messages in relation to the crisis. Even before Putin explicitly placed the Ukraine crisis in a nuclear context, Foreign Minister Lavrov had implied that Russia's nuclear deterrent umbrella now extends over Crimea as part of Russian territory. Putin and Lavrov have both said that Russia may deploy nuclear-capable systems and nuclear weapons in Crimea. Explicit nuclear-related Russian messaging around the Ukraine crisis and potential reactions by the West to related regional instability continued through the initial months of the conflict. One of the most explicit warnings was delivered during a bi-lateral meeting of Russian and US former officials in early 2015 when the Russian side conveyed a message, apparently sent by the Kremlin, that any effort to re-take Crimea by force would be considered a direct attack on Russia. Such an attack "will be responded to forcefully, including through the use of nuclear force...In this type of scenario, the United States should also understand it would also be at risk."

The Syrian operation has also provided Russia the opportunity to employ elements of its regional deterrence dyad under operational conditions. The Caspian Sea Flotilla conducted the first-ever operational strike using KALIBR-NK land attack cruise missiles on 5-6 October 2015. KALIBR cruise missiles, with a range of approximately 1500 kilometres, were subsequently launched from a Russian Navy surface vessel and a multi-purpose submarine in the Mediterranean. TU-95 BEAR and TU-160 BLACKJACK strategic bombers flying missions from Russia later launched Kh-101 cruise missiles against what Moscow described as ISIL targets in Syria. The successful employment of these conventionally armed long-range cruise missiles demonstrated the operational reach of these important elements of Russia's non-nuclear/nuclear regional deterrence capability. The subsequent confirmation of the presence of the ISKANDER missile system deployed at Humaymim Air Base suggests that Russian Forces also tested that operational-tactical element of the regional deterrence tool kit in Syria.

Implications. It has become a truism to observe that nuclear weapons are one of Russia's few claims to great power status. This notion should not be neglected as a cliché but fully understood for its implications, including as a driving factor in Russia's approach to nuclear weapons. Russia intends to exercise its status as a great power that is fully sovereign and independent and not subject to coercion, in large part due to its possession of large inventory of nuclear weapons.

Foreign observers often point to Russia's reliance on nuclear weapons in support of a broader argument of Russia's fundamental weakness. Russians may not accept the assertion that nuclear weapons are Russia's only claim to great power status, but the political, foreign policy and military establishments all recognised Russia's over-reliance on nuclear weapons during the 1990s when its Armed Forces were at their nadir. They also recognised the associated political constraints and security risks as untenable in the long-term.

Russia's ongoing military reform and modernisation are intended to address this problem and to make the Armed Forces a more usable policy instrument. By most measures, this effort is succeeding. Russia now fields increasingly capable full-spectrum forces that can be brought to bear for strategic political effect. Nuclear weapons have not been sidelined by increasingly capable conventional forces. Instead, they have been integrated in conceptual and practical terms. The roles assigned to Russia's nuclear weapons in deterrence, de-escalation and warfighting place them at the centre of the geopolitical competition that President Putin has re-opened in Europe.

The foregoing arguments are not intended to characterise the role and place of nuclear weapons solely as tools for aggression. The primary role of nuclear weapons, and now of their non-nuclear counterparts, is to deter aggression against Russia. However, as integrated operational elements in Russia's full-spectrum capabilities, that is far from their sole purpose as demonstrated during and after the operations to seize Crimea. Additionally, according to the Russian concept of deterrence, the credibility of the nuclear component of strategic deterrence rests on its warfighting capability. Finally, Russia's political and military leadership can perceive as defensive, in a strategic sense, military actions perceived as aggression by outside observers. From Moscow's point of view, Russia's military operations against Georgia and Ukraine were both strategic deterrence (defensive) operations. This all evinces an evolution in Russian political-military thinking away from the 1980s view of the non-utility of nuclear war, through the 1992 adoption by necessity of potential nuclear employment for regional deterrence purposes, to today's renewed political-military consensus on the utility of nuclear weapons in a shared deterrence and warfighting role with advanced conventional weapons.

Brad Roberts proposes the useful construct of a red theory of victory as a tool for assessment of the "thinking done by potential US adversaries about how to manage the risks of escalation against a militarily superior foe and otherwise secure their interests when in conflict or confrontation with the United States." All evidence points to Russia's primary theory of victory being to achieve its strategic aims while avoiding direct military conflict with NATO, relying on a "whole of government" approach that exploits, but preferably need not resort to military force.

It is heavily dependent on strategic deterrence, including the implicit threat presented by non-nuclear and nuclear weapons, for maximum effect and ultimate success. However, the conflicts in Georgia and Ukraine also show that Russia will resort to military force if it perceives an imminent threat to its vital interests or an opportunity that can be exploited “if the associated political and military risk is assessed as acceptable or manageable.” This is the context for the extensive conceptual thinking and related systems analysis and operational modelling outlined in the paper. That work aims to develop the underpinnings for a second theory of victory in the event that deterrence fails and direct military conflict ensues, including the employment of Russia’s strategic deterrence weapons set. These parallel efforts enable Russia to pursue victory in peacetime through non-military and military coercion, including brinkmanship and blackmail, or in war using “options for diverse and continuous nuclear operations at the sub-strategic level that are truly unique.” This supports the hypothesis that Russia’s nuclear posture is an amalgam of the assured retaliation and symmetric escalation strategies proposed by Narang. One Russian military expert put it more starkly, saying, “at the present time the Russian Federation uses a concept based on the ideas of Mutual Assured Destruction and limited nuclear war.”

Russia’s nuclear weapons and warfighting. In line with its belief that credible deterrence derives from warfighting capabilities, Russia thoroughly analyses, plans, structures, and postures its forces for the ultimate contingency – employment of nuclear weapons. The paper examines Russia’s second theory of victory – achieving its aims through employment of nuclear weapons for de-escalation and containment of a regional conflict. It examines the potential deployment and employment of the main elements of Russia’s non-nuclear and nuclear strategic deterrence weapons set in the context of an escalating regional crisis. The paper is not intended to propose a template for Russian strategic deterrence operations, to describe an escalation ladder for regional conflict with Russia, or propose a political-military scenario in which the potential for nuclear weapon employment could arise. It is intended to piece together a notional illustration of the employment of Russian non-nuclear and nuclear weapons in a regional conflict and related considerations. It presents a mosaic and not a snapshot. Its lines are therefore indistinct and pieces are missing. In this regard, it is important to recall David Yost’s admonition that both sides should cultivate humility about their level of understanding of “the internal political dynamics of their adversaries and their military and nuclear strategies.” This illustration should nevertheless help to ground further discussion and analysis of nuclear weapons in Russia’s approach to conflict in a more tangible framework. The paper focuses on the latter stages of a crisis, where military conflict and potentially the employment of non-nuclear and nuclear weapons for containment and de-escalation of a regional conflict would occur.

The illustration draws upon authoritative Russian statements and military writings, patterns of exercise and operational activity, and known capabilities, cited above. The picture that emerges from overlaying those elements is of a concept of controlled escalation for deterrence and de-escalation purposes that, in practice, could quickly evolve to nuclear warfighting. The evident strategic intent is to leverage Russia’s non-nuclear and nuclear strategic deterrence capabilities to deter US or NATO involvement in a local or regional conflict in order to allow Russia’s conventional forces to operate against limited local resistance. Should deterrence fail, the non-nuclear and nuclear strategic deterrence weapons set, and their integration with conventional capabilities, are oriented toward providing as many military options as possible in order to enable

maximum freedom of action for Russia's political-military leadership. This translates into a military concept for gradually escalating employment of conventional long-range precision weapons and nuclear weapons calibrated to compel an adversary to desist from further conflict at successive stages or off-ramps from escalation. Two key principles for the operation of the concept appear to be the ability for rapid escalation of force readiness paired with the capability for gradual, calibrated employment. The first is enabled by force posture, training and exercises. The second is enabled by a broad array of available weapons capabilities and responsive, flexible and survivable command and control.

Conclusion. This paper tries to lay out the place and role of nuclear weapons in Russia's approach to conflict and to describe the many elements of this problem in ways relevant to those grappling with how to adapt NATO's concepts, forces and force posture to the new and foreseeable status quo. In many respects, the picture that emerges from this investigation belies the widespread image of a militarily weakened Russia forced to cling to nuclear weapons for its security. In fact, it depicts a militarily strengthened Russia with nuclear weapons complementing increasingly capable conventional forces that constitute a flexible and useful military tool for Russia's political leadership.

Faced with the task of maximizing the military effectiveness and political-military utility of armed forces that remain, in absolute terms, numerically inferior to Russia's potential adversaries, Russian military theorists, analysts and planners have adopted an approach calculated to make the most of all available means, including nuclear weapons. Their innovations, while adopting some elements of Western thinking and technology application, have also run counter to them in some respects, particularly in reasserting the centrality of nuclear weapons and in their operational integration with conventional capabilities. The Russian rationale, which aims to de-escalate and contain conflicts at the lowest possible level, appears on close examination to instead create or ease pathways to escalation and potential employment of nuclear weapons. This is due, in part, to Russia's concept of combined non-nuclear and nuclear deterrence relying upon a mix of conventional long-range precision weapons and nuclear weapons at the high end of regional conflicts, which simultaneously expands Russia's military options in regional scenarios and potentially introduces nuclear weapons into them.

On the other hand, Russia's intellectual and financial investment in developing concepts and capabilities appears to be on course to enable the controlled, calibrated application of weapons in support of strategic deterrence in regional conflicts. The role and place of these capabilities as an enabler for Russia's non-military approaches at the low end of the conflict spectrum and up through progressively higher phases of conflict could be used to exploit gaps in a potential adversary's capabilities and impose choices between significant escalation and capitulation. This creates important challenges and risks for NATO and, in particular, for US extended deterrence in the context of Russia's revanchist and irredentist policies.

In light of Russia's adoption of an adversarial posture against NATO, along with other rising security challenges close to NATO's borders, it has become necessary for the Alliance to revive its strategic culture, a task undertaken in successive steps at the Wales and Warsaw Summits. Previously, more than two decades of comparative peace and stability in Europe allowed Allies the luxury of focusing on the management of external crises with potential impacts on collective security. Nearer to home, it let Allies

focus on efforts to “promote stability based on common democratic values and respect for human rights and the rule of law throughout Europe.” In line with these strong trends, NATO reduced and reoriented its general purpose forces and radically reduced its reliance on nuclear weapons and the number of weapons, shifting them to a “fundamentally political” role.

Changed circumstances have imposed a need for adaptation. The measures adopted at the Warsaw Summit to strengthen NATO’s deterrence and defence posture provide the right mix of elements to address these challenges. Effective governance combined with credible and effective deterrence and defence, including immunity to nuclear blackmail, is the recipe for addressing Russia’s full-spectrum approach to conflict. The measures adopted at the Wales and Warsaw NATO summits, including commitments to increase defence spending, increase force readiness, enhance forward presence, define a strategy for countering hybrid warfare, and re-affirmation of the fundamental purpose of NATO’s nuclear capability meet these requirements. Sustained effort along all the lines set out at Warsaw, including enabling their coherent application, and ensuring the ability to frustrate Russian aggression at any carefully calibrated level of threat or violence will be essential.

At Warsaw, NATO Heads of State and Government reaffirmed their view that “the circumstances in which NATO might have to use nuclear weapons are extremely remote.” Yet the evolving security environment is such that they also felt it necessary to recall that, “if the fundamental security of any of its members were to be threatened however, NATO has the capabilities and resolve to impose costs on an adversary that would be unacceptable and far outweigh the benefits that an adversary could hope to achieve.” This is a significant contrast with the conclusions drawn 25 years ago when Allies saw strong positive trends in the security environment and first took a public view on the “remoteness” of the circumstances for the potential use of nuclear weapons. President Putin’s successful effort to increase the salience of nuclear weapons in international politics has been a strong motivating element in that incremental adjustment to how NATO assesses the role of nuclear weapons in Alliance security. President Putin’s statements on nuclear deterrence and his deep personal involvement in strategic and operational aspects of nuclear weapon deployment and employment suggest that he more readily envisions a range of circumstances in which nuclear weapons might be used. The Russian military establishment has been busy thinking through and preparing for such an eventuality. NATO needs to be at least equally well prepared in order to prevent such an eventuality and to make the circumstances for the use of nuclear weapons as remote as they once were.

Nuclear Weapons in Russia's Approach to Conflict

Introduction

President Putin has moved nuclear weapons to the foreground of the European security landscape. Statements by him and other Russian leaders have emphasised the nuclear dimension of the increasingly antagonistic relations between Russia and the West. Exercises and operational activities by Russia's nuclear and nuclear-capable forces in many instances appear designed to reinforce this message. In some respects, these developments represent an effort by Moscow to revive the status quo ante of the Cold War, in which decision-makers on both sides saw nuclear weapons as an element of strategic stability within a mutual deterrence relationship between the Soviet Union and the United States. This policy choice by Moscow undermines more than two decades of efforts to reduce the salience of nuclear weapons in Europe and the world and is a significant setback for the Alliance's post-Cold War security agenda.

The turn away from efforts toward strategic partnership and back to an East-West relationship based on mutual deterrence also has significant opportunity costs. NATO Heads of State and Government at Wales stated their continued belief "that a partnership between NATO and Russia based on respect for international law would be of strategic value" but regretted "that the conditions for that relationship do not currently exist."² NATO Deputy Secretary General Vershbow later stated that it is in NATO's interest to engage with Russia "if only to ensure that tensions are not needlessly heightened...to constantly encourage greater transparency and predictability...to avoid misunderstandings and to prevent avoidable accidents where our forces come into contact."³ It all represents a dismally low level of ambition by comparison with the broad cooperation carried out within the NATO-Russia Council Framework prior to Russia's military intervention in Ukraine. In place of partnership, deterrence is now a primary element of NATO-Russia relations.⁴

² Wales Summit Declaration Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Wales, Press Release (2014) 120, paragraph 15, 5 September 2014, <http://www.nato.int>.

³ NATO and the New Arc of Crisis, Speech by NATO Deputy Secretary General Ambassador Alexander Vershbow at the Conference on NATO and the New Arc of Crisis, Fundacion Botin, Madrid, 28 October 2015, <http://www.nato.int>.

⁴ Wales Summit Declaration, paragraph 11: "NATO has responded to this changed security environment by enhancing its deterrence and defence posture, including by forward presence in the eastern part of the Alliance, and by suspending all practical civilian and military cooperation between NATO and Russia, while remaining open to political dialogue with Russia. We reaffirm these decisions." In contrast, in 2010, NATO Allies and Russia declared in a joint statement by the NATO-Russia Council that, "We will work towards achieving a true strategic and modernised partnership based on the principles of reciprocal confidence, transparency, and predictability, with the aim of contributing to the creation of a common space of peace, security, and stability in the Euro-Atlantic area." NRC Joint Statement - Meeting of the NATO-Russia Council at the Level of Heads of

New risks and dangers arise from the apparent coupling of nuclear weapons capabilities with Moscow's revanchist and irredentist foreign and defence policies toward its neighbours. Nuclear weapons remain the supreme guarantee of Russia's security and a primary element of Russia's great power status. Russia continues to give top funding priority to its nuclear capabilities for modernisation. Nuclear weapons are the central feature and capstone capability in Russia's evolving concept of strategic deterrence and are important tools for achieving Russia's geopolitical aims. Russian thinking on the role and place of nuclear weapons in upholding national security and in achieving strategic aims is reflected in military policy, force structure and posture, and exercises and operations.⁵

Russia's political and military leaders are not only reconceptualising the role of nuclear weapons. They are also building the military capabilities that can credibly threaten the calibrated employment of nuclear weapons for deterrence, de-escalation and warfighting from the regional to large-scale and global levels of conflict. New and still developing concepts for the employment of conventional long-range precision weapons in tandem with nuclear weapons for regional deterrence and containment of local and regional conflicts add volatility to the regional tensions and uncertainties created by recent Russian aggression. Russia's reliance upon integrated conventional and nuclear capabilities in reasserting its influence in its perceived sphere of special interest, intended to contain conflicts at a manageable level, could actually increase the risk of the potential employment of nuclear weapons.

NATO nations collectively, and the three NATO nuclear powers (Great Britain, France, and the United States) individually, have recognized this new reality and have begun to adapt to it. In that context, the aim of this paper is to elaborate a clearer understanding of the place and role of nuclear weapons in Russia's approach to conflict, based on nuclear-related policy statements and military-theoretical writing, force structure and posture choices, and exercises and operations.⁶ If the contours of the Russian side of this new deterrence dynamic are correctly recognised and assessed, including its nuclear dimension, its challenges could be manageable in a deterrence framework tailored by NATO and individual Allies for Europe's 21st Century circumstances.

State and Government Held in Lisbon on 20 November 2010, 20 November 2010, http://www.nato.int/cps/en/natolive/news_68871.htm.

⁵ Vipin Narang provides a good working definition of nuclear posture (which he uses inter-changeably with nuclear strategy) as "the capabilities (actual nuclear forces), employment doctrine (under what conditions they might be used, and command-and-control procedures (how they are managed, deployed, and potentially released) a state establishes to operationalize its nuclear weapons capability." This largely encompasses the elements the author takes into consideration in trying to describe where nuclear weapons fit in Russia's approach to conflict. Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict*, Princeton University Press, Princeton, 2014, p. 4.

⁶ In order to extend earlier research, the analysis and assessments in this paper are based largely on official documents such as the Russian National Security Strategy and Military Doctrine, writings by Russian military or civilian experts who are authoritative because of their current or past position or affiliation with Ministry of Defence (MOD) or research institutes of the Armed Forces, and MOD reporting on military modernization, operations, exercises and other activities. The analyses of non-Russian experts have been valuable in pointing to areas for further exploration, amplifying specific points, illustrating where there are continuities or discontinuities with past Soviet practice in Russian thinking about nuclear deterrence and warfighting, and providing a framework of deterrence thought against which to evaluate Russian nuclear deterrence thinking.

This study builds on the author's earlier paper, which described Russia's approach to conflict in general and its reliance on "full-spectrum conventional, unconventional and nuclear military capabilities."⁷ It is important to note, because of the role that Russia's nuclear weapons play across the spectrum of conflict, that this paper adopts an understanding evident in Russian security and defence writings of "conflict" as spanning political, diplomatic, economic and other non-military means to full-scale military operations and many gradations and combinations of instruments in-between.

Concepts, Policy, and Doctrine

On the role of nuclear weapons - Wars of the future will be conducted, as a rule, only with the use of conventional, largely precision weapons, but with the constant threat of the employment of nuclear weapons. For Russia, in the most unfavourable balance of forces in all strategic directions, nuclear weapons remain the most important, most reliable means of strategic deterrence of external aggression and provision of security.⁸

General of the Army M. A. Gareev
President, Academy of Military Science
of the Russian Federation

Threat perceptions. The place and role of nuclear weapons in Russia's approach to conflict are framed by the threat perceptions and views on the character of modern war at the high end of the conflict spectrum outlined in the Military Doctrine and in pronouncements by Russian military leaders. These emphasise the threat of the notional "aerospace adversary" (concretely, the US) and the strategic effects that might be achieved by his strategy of "non-contact" warfare employing long-range precision guided conventional weapons as part of a "reconnaissance-strike complex" comprising digital C4ISR, aerospace dominance, advanced weapons and, increasingly, robotics.⁹ The Russian military has observed the employment and refinement of this strategy and the enabling capabilities by the US in a succession of conflicts, beginning with the 1990-1991 Gulf War, and concluded that they represent a third revolution in military affairs (RMA) that is changing the dynamic between conventional and nuclear capabilities in deterrence.¹⁰

⁷ Dave Johnson, *Russia's Approach to Conflict – Implications for NATO's Deterrence and Defence*, NATO Defence College Research Paper No. 111, April 2015.

⁸ M. A. Gareev, *Struktura I Osnovnoe Soderzhanie Novoi Voennoi Doktriny Rossii, Voennaya Mysl'*, No. 3, March 2007, p. 10.

⁹ In the context of standard Russian usage, "aerospace adversary" is a euphemism for the US.

¹⁰ William Kintner and Harriet Fast Scott have noted, "Many Soviet military theoreticians have divided the revolution in military affairs into three phases. The first was the creation of the nuclear weapon. The second was the development of the dominant weapon carrier, the missile. The third phase, sometimes referred to as the cybernetics revolution, still is under way and provides the guidance and control system." William R. Kintner and Harriet Fast Scott, *The Nuclear Revolution in Soviet Military Affairs*, Norman, University of Oklahoma Press, 1968, p. 4. On the origins of the term "RMA" in Soviet military thought, the disputed nature of the concept in the West, and the latest stage of technological advances contributing to the ongoing RMA, including with regard to nuclear deterrence, see Michel Fortmann and Stéfanie Von Hlatky, *The Revolution in Military Affairs in T. V. Paul, P. Morgan and J. Wirtz, eds., Complex Deterrence: Strategy in the Global Age*, Chicago, University of Chicago Press, 2009, pp. 304-319.

From a threat perspective, this has translated into a perception that an aerospace adversary can operate across the entirety of the adversary's territory, simultaneously in the global information space (including cyberspace), in aerospace, land and sea.¹¹ This permits the aerospace adversary to hold at risk simultaneously key C2 nodes and systems, critical infrastructure, strategic offensive and defensive forces (strategic nuclear forces and the aerospace forces, including missile attack early warning systems and integrated air and missile defence systems), and military, industrial and economic mobilization capacities, with strategic implications for the existence of the state as an organized entity.

These considerations are distilled into threat perceptions in the 2014 Military Doctrine highlighting as threats and characteristic features of modern war "Prompt Global Strike", the potential weaponization of space, conventional long-range precision weapons, electronic warfare, information warfare, robotics, hypersonics, and weapons based on new physical principles. US missile defence and its European segment, which is the basis for NATO's missile defence system, are highlighted as particularly destabilising and dangerous.¹²

This perception of a major non-nuclear/conventional threat to Russia's security is paired with the long-standing perception of a nuclear threat. General Gareev, then president of the Academy of Military Science, provided an excellent summary of the Russian perception of the nuclear threat it faces. He said, "practically all nuclear weapons possessed by states today are, in the final analysis, aimed against Russia. In connection with this, the defence task connected with strategic nuclear deterrence of possible aggression assumes even greater significance than in past years."¹³

General's Gareev's remarks on nuclear encirclement are coherent with the overall Russian perception of encirclement. In this picture, potential adversaries are bent on containing Russia and, at some point in the future, may contend for its territory and natural resources. According to this perception, NATO menaces Russia from the west, instability and radicalism threaten from the south, and in the east China and all the problems of managing that complex relationship loom along with the US and its encircling ring of Asian allies. Even Russia's north, once its most secure frontier, is potentially vulnerable as the northern sea route thaws.¹⁴

Unavoidably, there is a gap between this 360-degree, multi-dimensional threat perception and the resources available for defence of a territory as vast as Russia's. Nuclear weapons are viewed as an important capability to mitigate the problem and will remain so in the long-term. Chief of the General Staff Gerasimov has said, "considering the significance of the preservation of the nuclear guarantee of national security in modern conditions and the foreseeable future, the Russian Federation will retain its nuclear potential at the level of reasonable sufficiency." Regarding the role of non-strategic weapons for regional security, one Russian official has asserted that the number of Russian non-strategic nuclear weapons (NSNW) required should align with

¹¹ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 15. v.

¹² *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 12.

¹³ M. A. Gareev, *Struktura i Osnovnoe Soderzhanie Novoi Voennoi Doktriny Rossii*, *Voennaya Mysl'*, No. 3, March 2007, p. 6.

¹⁴ National Security Strategy of the Russian Federation 2015, paragraphs 12-19.

Russia's "particular geostrategic location...the balance of conventional forces and existence for Russia of potential threats in other regions adjoining her borders" rather than parity with US NSNW.¹⁵ China, though relations with it are currently being successfully managed, presents a significant potential security challenge.¹⁶

Within this security context, President Putin has said that he sees a low probability of global nuclear war between the nuclear super powers.¹⁷ However, he has also noted that, "in the past 25 years, the threshold for the use of force has gone down noticeably."¹⁸ He has also drawn a connection between regional clashes and potential escalation in speaking about the Turkish shoot down of a Russian bomber that had strayed into Turkish airspace while involved in operations in Syria. He said:

I hope that such incidents will not lead to any sort of large-scale collision. Of course, we all understand that in the case of any threats to itself Russia will defend its security interests with all means obtainable or available to her, if such threats to Russia will arise.¹⁹

Russia's Military Doctrine Document and Russia's Nuclear Doctrine. Russia, like all nuclear weapons states, keeps secret its nuclear warfighting doctrine, strategy and plans. Also like other nuclear weapons states, Russia keeps these and other key elements concealed for warfighting advantage while selectively revealing others for deterrence purposes. The document entitled "*The Military Doctrine of the Russian Federation*" is a primary vehicle for the latter purpose.

The Military Doctrine is one of the fundamental national security documents along with documents such as the National Security Strategy, the Foreign Policy Concept, the Maritime Strategy, and the State Armaments Programme. It is a wide-ranging, strategic-level political-military document that outlines Russian defence policy, broadly describes the role of the Russian Armed Forces, defines key terms, outlines threat perceptions, enumerates defence priorities, provides broad guidance to the Armed Forces and agencies of the defence and security sector, and assigns strategic-level tasks to the Armed Forces. The Russian Military Doctrine, in its own words, presents "a system of views officially accepted in the state on preparation of armed defence and on the armed defence of the Russian Federation."²⁰ It is updated periodically through an inter-agency

¹⁵ I. M. Kamenskikh, *Kontseptual'nii Analiz Problem Strategii Razvitiya Yadernogo Oruzheinogo Kompleksa Rossiiskoi Federatsii*, 11 May 2012, <http://federalbook.ru/files/OPK/Soderjanie/OPK-6/III/Kamenskikh.pdf>.

¹⁶ See Jacob W. Kipp, Russia as a Nuclear Power in the Eurasian Context in Ashley J. Tellis, Abraham M. Denmark, Travis Tanner, eds. *Strategic Asia 2013-2014: Asia in the Second Nuclear Age, Seattle and Washington, The National Bureau of Asian Research*, pp.35-64. On China, India, and Pakistan in Russia's nuclear deterrence perspective, see also A. A. Kokoshin, *Yadernoe Sderzhivanie I Natsional'naya Bezopasnosti Rossii*, *Vestnik Rossiiskoi Akademii Nauk*, Vol. 69, No. 10, 1999, pp. 893-904.

¹⁷ V. Putin, *Byt' Sil'nymi: Garantii Natsional'noi Bezopasnosti Dlia Rossii*, *Rossiskaya Gazeta*, No. 5708 (35), 20 February 2012, <http://www.rg.ru/2012/02/20/putin-armiya.html>.

¹⁸ V. Putin, Meeting of the Valdai International Discussion Club, 22 October 2015, Kremlin Website, <http://en.kremlin.ru/events/president/news/50548>.

¹⁹ V. Putin, Interview with Bild, Kremlin Website, 11 January 2016, <http://kremlin.ru/events/president/news/51154>.

²⁰ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 1, 24 December 2014, <http://Kremlin.ru/media/events/files/41d527556bec8deb3530.pdf>. As the versions of the Military Doctrine and other fundamental national security documents available from the Russian government via the internet are not paginated, references to those documents hereinafter will cite the alpha numeric (transliterated) paragraph

process led by Russia's National Security Council. The Russian government has published the Military Doctrine four times, in 1993, 2000, 2010, and 2014.

While it is a directive document, the Military Doctrine has tended to reflect and validate established trends in political-military thinking, threat perception, policy, and programmatic decisions rather than breaking new ground. As a strategic-level document providing the fundamental tenets of military policy and the military-economic provision for defence of the state, the Russian Military Doctrine is distinct from the understanding in the US and NATO of doctrine as an authoritative but non-directive body of knowledge that guides decision-making on such things as operations, organisation, training, leadership development, and materiel.²¹ The Russian Military Doctrine is therefore better understood as comparable to the US National Military Strategy regarding its place in the hierarchy of fundamental national security documents and as regards its scope and purpose.²²

In this context, it should be understood that text in the Military Doctrine related to nuclear weapons does *not* constitute Russia's nuclear doctrine, as doctrine is understood in western militaries, per se. Vladimir Dvorkin has said of the first three iterations of the Military Doctrine that

One of the substantial shortcomings of all these documents is the partial, fragmentary depiction of Russia's nuclear policy in all three, beginning in 1993, that does not allow a full evaluation. The real nuclear policy is not as much in declarative formulations connected to threats and the conditions for use of nuclear weapons as in approved programmes for support and development of the strategic nuclear triad, of non-strategic nuclear weapons and of missile defence, with concrete financing of all components, with the level of their combat capabilities (operational and technical characteristics), with the stages of withdrawal and entry into the arsenal.²³

With this caution in mind, and when read in the context of the entire document, the nuclear-related text in the Military Doctrine reveals *some* aspects of Russia's nuclear strategy and provides an *initial* basis for assessing the place and role of nuclear weapons in Russia's approach to conflict. Careful reading of articles by Russian military officers and civilian defence experts provides more illumination, as do the frequent nuclear-related pronouncements of political and military leaders, as well as reportage on military modernization, exercises and operations.

In addition to providing guidance on the elements described above, the Military Doctrine also serves a political purpose, conveying messages to a domestic political audience and to foreign observers. In this role, the four iterations of the Military Doctrine have conveyed Russia's *declaratory* policy on employment of nuclear

designations used in the documents. Similarly, editions of *Voennaya Mysl'* accessed by the internet for the most part are not paginated.

²¹ See US Army Doctrine Publications 3-0 (ADP 3-0) Unified Land Operations, p. 1, Washington, HQ Department of the Army, 10 October 2011 and AJP-01(D) Allied Joint Doctrine, December 2010, p. 1-1 and NATO Glossary of Terms and Definitions (English and French) (AAP-06, Edition 2012 Version 2), NATO Standardization Agency, 2012, p. 2-D-9.

²² General M. A. Gareev has drawn this explicit comparison. See M. A. Gareev, *Struktura I Osnovnoe Soderzhanie Novoi Voennoi Doktriny Rossii, Voennaya Mysl'*, No. 3, March 2007, p. 3.

²³ V. Dvorkin, *Prazhskii Rubezh Proiden – Kakovy Dal'neishie Tseli?*, *Nezavisimoe Voennoye Obozrenie*, 4 February 2011, http://nvo.ng.ru/concepts/2011-02-04/1_snv.html?print=Y.

weapons. Other elements related specifically to nuclear weapons and described to varying degrees in the Military Doctrine include: command and control of nuclear weapons, extended deterrence guarantees, the role of nuclear weapons in strategic deterrence, the military's politically-assigned level of ambition with regard to strategic nuclear capability, the role of nuclear weapons below the level of general war, and the role of long-range conventional precision weapons in strategic deterrence.

Strategic Deterrence. The Russian political-military leadership asserts a system of strategic deterrence that is multidimensional and comprises non-military (political and economic) and military (conventional and nuclear) means:

With the aims of providing for strategic deterrence and prevention of military conflicts interconnected political, military, military-technical, diplomatic, economic, informational and other means are being developed and realized, directed at the prevention of the use of force in relation to Russia, defence of her sovereignty and territorial integrity.²⁴

In order to provide for flexibility in reacting to changing circumstances, strategic deterrence is sub-divided into global and regional deterrence, with the two closely interconnected and regional deterrence being a sub-component of global deterrence.²⁵ In Russian policy, the main aim of strategic deterrence is “prevention of any form of aggression against Russia and her allies, and in the event of aggression – guaranteed defence of the sovereignty, territorial integrity and other vitally important national interests of the Russian Federation and its allies.”²⁶ The military (*silovoye*, literally “force” or “forceful”) dimension and a non-military (*nevoyennoye*) dimension of strategic deterrence are increasingly viewed as complementary. The system of non-nuclear deterrence is “a complex of foreign policy, military and military-technical means directed at prevention of aggression using non-nuclear means against the Russian Federation.”²⁷

The Russian Armed Forces uphold the military dimension of strategic deterrence by what they term conventional, non-nuclear or pre-nuclear (conventional long-range precision weapons) and nuclear (strategic and non-strategic) means.²⁸ This terminology, particularly as regards the distinction between conventional and non-nuclear or pre-nuclear. In common usage by Russian experts writing on this topic (and to be seen throughout this paper except when referring to conventional long-range precision weapons), conventional equates to general purpose forces. Conventional long-range precision weapons, which are considered along with nuclear weapons to be part of the strategic weapon set, are distinguished from conventional or general purpose forces by being designated as non-nuclear or pre-nuclear. As outlined in the 2014 Military Doctrine, nuclear potential maintained at a sufficient level is viewed as sustaining

²⁴ *National Security Strategy of the Russian Federation*, 31 December 2015, paragraph 36, <http://kremlin.ru/acts/bank/40391>.

²⁵ A. L. Khryapin, V. A. Afanas'ev, *Kontseptual'nye Osnovy Strategicheskogo Sderzhivaniya, Voennaya Mysl'*, No. 1, January 2005, p. 9.

²⁶ *Ibidem*, pp. 8-12. For a concise but wide-ranging overview of the main conceptual elements of Russian thinking about strategic deterrence, see Kristin Ven Bruusgaard, *Russian Strategic Deterrence, Survival*, Vol. 58, No. 4, August-September 2016, pp. 7-26.

²⁷ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 8. N.

²⁸ *Ibidem*, paragraphs 26 and 32. V.

deterrence and conflict prevention in support of both global and regional stability.²⁹ Conventional military forces maintained at the prescribed level of readiness for combat employment are viewed as contributing to strategic deterrence as part of non-nuclear deterrence.³⁰

The effectiveness of nuclear and conventional forces is considered as interdependent and mutually supporting, and strategic deterrence is achieved at the global and regional levels by the balanced application of nuclear forces and conventional forces.³¹ Experts in the Russian General Staff describe strategic deterrence as operating in peacetime to prevent military pressure and aggression against Russia and her allies and in conflict to de-escalate aggression and conclude military action on terms acceptable to Russia. In the view of the same experts,

Fear, limitation and compellence lie at the basis of strategic deterrence. Supplementing one another, they enter into the framework of a single mechanism, enabling the military-political leadership of the state to choose and to effectively realize one or another variation of deterrence depending on the developing situation and in accordance with the established goals.³²

This thinking has developed in response to Russia's post-Cold War circumstances and its perception of developments such as NATO operations in the former Yugoslavia. By the late 1990s, perceived changes in Russia's political-military situation, its shrunken economic capacity, and reduced military capabilities forced a reconsideration of the role of strategic weapons in national defence. This reconsideration has involved the roles of strategic and non-strategic nuclear weapons (NSNW) and the relative significance of conventional long-range precision weapons in deterrence. This evolving thinking about the application of strategic weapons appears, in turn, to have led to new concepts of global and regional deterrence. Russian observers have noted in this context the US use of precision guided weapons in deciding military conflicts at the regional level, the US aspiration to a global capability, and the US assertion of the right to their preventive employment. The relative decline of Russia's non-military (political and economic) capacities for protecting its interests was also a factor in these developments.³³

These considerations led to the development of the concept of a set of strategic weapons that includes strategic and non-strategic nuclear weapons and conventional long-range precision weapons which together provide for deterrence of global and regional large-scale aggression against Russia and support the attainment of Moscow's strategic goals.

²⁹ Ibidem, paragraph 21 V.

³⁰ Ibidem, paragraph 21. G and *National Security Strategy of the Russian Federation 2015*, paragraph 36.

³¹ A. L. Khryapin, V. A. Afanas'ev, *Kontseptual'nye Osnovy Strategicheskogo Sderzhivaniya*, p. 10, and B. I. Pustovit, *O Predpochtitel'nosti Vybora Napravlenii razvitiya Strategicheskikh Vooruzhenii, Voennaya Mysl'*, (5) Sep-Oct 1996, p. 10.

³² A. L. Khryapin, V. A. Afanas'ev, *Kontseptual'nye Osnovy Strategicheskogo Sderzhivaniya*, p. 8.

³³ Russia's energy resources remain a potent source of leverage with some of its clients. See, for example, Stuart Elliot, *Russia Arms Its Energy Weapon, Targets Belarus Over Gas Prices*, S&P Global: The Barrel, 19 July 2016, <http://blogs.platts.com/2016/07/19/russia-energy-weapon-belarus-gas-prices/>. However, Western Europe is increasingly energy independent due to its response to Russian efforts to "weaponize" its energy resources, combined with the downturn in gas and oil price. See Tim Boersma, *The End of the Russian Energy Weapon (That Arguably Was Never There)*, Brookings, 5 March 2015, <https://www.brookings.edu/blog/order-from-chaos/2015/03/05/the-end-of-the-russian-energy-weapon-that-arguably-was-never-there/>.

Significantly, planning for the employment of strategic weapons in operations is done “in coordination with the development and planning of combat use of conventional force components, defensive and supporting systems”, fusing conventional, strategic non-nuclear and nuclear weapons into a single continuum.³⁴ This has important implications for deterrence and conflict dynamics and potential responses by the US and NATO to Russian aggression. It is noteworthy that a concept and operational approach first adopted in the early 1990s out of necessity has been retained and refined for use under more favourable circumstances that provide for greater freedom of action.

Declaratory Policy. The central element of nuclear declaratory policy conveyed in the Military Doctrine is that:

The Russian Federation reserves the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and (or) its allies, as well as in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is threatened.³⁵

This formulation was entirely absent from the 1993 Military Doctrine but has appeared, with some variations, in each of the subsequent revisions.³⁶ The text, which appears relatively clear-cut on first reading, is actually ambiguous on each of its four substantive points, leaving room for interpretation or misinterpretation.

The clearest element is the first – the intention of an in-kind response to the employment of a specific type of weapon (nuclear) against Russia. The in-kind aspect relates to the weapon type but the scope and scale of a possible response is left non-specific. Clarity on the circumstances in which Russia might consider use of nuclear weapons is reduced further by other portions of the Military Doctrine text, in particular those portions touching on the role of nuclear weapons in local and regional conflicts, to be dealt with below.

The second element, referring to weapons of mass destruction (WMD), is also less clear than it first appears. The text indicates a nuclear response to the use of other types of weapons of mass destruction against Russia but is not specific as to what is included in that category. This creates ambiguity in the context of evolving Russian thinking about WMD, which is expanding beyond the previous understanding that nuclear, chemical and biological weapons comprise that category. This evolving thinking includes “weapons based on new physical principles” and cyber weapons. It is particularly noteworthy that Minister of Defence Shoygu has singled out cyber as moving closer to WMD in terms of its effects.³⁷ Finally, the Russian military has since the 1991 Gulf War

³⁴ A. A. Protasov, V. A. Sobolevskiy, V. V. Sukhorutchenko, *Planirovaniye Primeneniya Strategicheskikh Vooruzhenii, Voennaya Mysl'*, No. 7, July 2014, p. 22.

³⁵ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 27.

³⁶ This provides a good example of the caution to be exercised in assessing textual additions and subtractions from one revision to the next of the Military Doctrine in isolation from the broader context. The mere absence of this text from the 1993 Military Doctrine did not indicate that this long-standing central organizing principle of Soviet strategic nuclear forces had been abandoned. It was more reflective of the uncertainty and upheaval of the early post-Soviet years in the Russian Armed Forces, including how to frame publicly for the first time Russia's military doctrine.

³⁷ Tsifrovaya ili Kibervoina kak Realnost', *Armeiskii Vestnik*, 9 December 2013, <http://army-news.ru/2013/12/cifrovaya-ili-kibervojna-kak-realnost/>. See also S. Makarenko, Problemy i Perspektivy Primeneniya Kiberneticheskogo Oruzhiya v Sovremennoi Voine, *Spetstekhnika i Svyaz'*, No. 3, 2011,

assessed that precision-guided conventional munitions are capable of fulfilling tasks previously reserved for nuclear weapons. This is reflected in the strategic deterrence role assigned to conventional precision weapons in the Military Doctrine since the 2010 revision.³⁸ This perception of precision-guided conventional munitions adds another element of ambiguity and uncertainty as to what Russia might consider a WMD attack.

The third element is directly related to the assessed strategic role of precision-guided conventional munitions and the threat it presents to Russia. It asserts the intent to respond with nuclear weapons to “aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is threatened.” Ambiguity arises first from the perceived blurring of the distinction between conventional weapons and those traditionally understood as weapons of mass destruction and the effects they can achieve, as mentioned above. This is compounded by other considerations including the unknown criteria by which Russian leaders would assess the destruction or threatened destruction of the state.

In relation to all of these considerations, it is worth noting that the text on this point in the 2000 Military Doctrine reserved the right to use nuclear weapons “in response to *large-scale* aggression with the use of conventional weapons *in situations critical for the national security of the Russian Federation.*” (italics added by the author) These changes suggest two things. First, deletion of “large-scale” suggests an assessment that use of nuclear weapons could be necessary even at lower levels of conflict (local or regional). This appears to be in line with the concept of strategic deterrence and its global and regional components described above, which blurs the delineation between local, regional and large-scale conflict. Second, the addition of the concept that aggression with conventional weapons could destroy the state indicates a perception of the existential vulnerability of *the state* to the capabilities of modern conventional weapons. Both of these are related to the perception that precision-guided conventional weapons and other emerging non-nuclear technologies can produce effects previously achievable only with nuclear weapons.³⁹ This appears to translate in the Military Doctrine to a broadening of the circumstances in which the employment of nuclear weapons might be considered and, potentially, to a lowered threshold for use.⁴⁰

The fourth element of the declaratory policy is an extended deterrence guarantee, stating that Russia “reserves the right to use nuclear weapons in response to the use of nuclear

<http://cyberleninka.ru/article/n/Problemy-i-Perspektivy-Primeneniya-Kiberneticheskovo-Oruzhiya-v-Sovremennoi-Voine>.

³⁸ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 26. The 2010 revision of the Military Doctrine did not specify that Russia intended to use conventional precision weapons for strategic deterrence but recognized the potential strategic effect of the use of conventional precision weapons and other modern weapons. *Voennaya Doktrina Rossiiskoi Federatsii 2010*, Section II, paragraphs 1-3, paragraph 16.

³⁹ For the latest Russian thinking about emerging hypersonic cruise missile capabilities and an assessment of the potential related threat, see V. Dvorkin, *Hypersonic Threats: The Need for a Realistic Assessment*, Carnegie Moscow Center, 9 August 2016, <http://carnegie.ru/2016/08/09/hypersonic-threats-need-for-realistic-assessment/j3is>.

⁴⁰ With a focus on the specific word changes between the 2000 and 2014 Military Doctrine texts, others have assessed a possible raising of the threshold for nuclear employment. See V. Dvorkin in A. Arbatov, V. Dvorkin and S. Oznobishchev, *Russia and the Dilemmas of Nuclear Disarmament*, Moscow, IMEMO RAN, 2012, p. 47 and O. Olikier, *Russia's Nuclear Doctrine: What we Know, What We Don't, and What That Means*, CSIS, May 2016. V. Dvorkin caveats his assessment by allowing that it may apply only in terms of the declaratory policy.

and other types of weapons of mass destruction against it and (or) its allies.”⁴¹ This is elaborated below in connection with possible elements of Russia’s thresholds for employment of nuclear weapons.

Evolving concepts of the roles of conventional long-range precision weapons and non-strategic nuclear weapons for regional deterrence for containment and de-escalation of regional conflict are particularly significant in Russia’s nuclear policy, doctrine and declaratory policy. The Military Doctrine 2014 links nuclear capabilities to regional crises in identifying as a basic task of the Armed Forces, as part of the maintenance of deterrence and prevention of military conflicts, the “support of global and regional stability and nuclear deterrence potential at a sufficient level.”⁴² The author believes that the wording in the 2014 Military Doctrine, in the full context of the issues examined in this paper, relates to a lowering or, more likely, a blurring of the threshold for nuclear employment or at least an increased potential for nuclear employment because of the integration of nuclear weapons with conventional precision weapons for regional scenarios. Regional conflicts are the path to potential nuclear conflict, and conventional long-range precision weapons in their assigned “pre-nuclear” deterrence role are a potential step along the path.

As a final point on this section of the Military Doctrine text, some have viewed it as including a no first use pledge. This does not seem to be the case. The text does state *one* instance in which it will respond with nuclear weapons but *does not exclude* others. It also does not hold up to comparison with Brezhnev’s 1982 no first use pledge, “the Soviet state solemnly declares not to be the first to use nuclear weapons.”⁴³ It is also not comparable to the various wordings of China’s no first use pledge.⁴⁴ In any case, it is worth recalling Stephen Meyer’s trenchant assessment of Russia’s 1993 decision to drop its no first use pledge (Brezhnev’s 1982 pledge):

They have not really abandoned “no first use” – they only abandoned the statement. No one there or here ever had a “no first use” policy. Only very naïve people ever believed

⁴¹ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 27.

⁴² *Ibidem*, paragraphs 21 v.

⁴³ Brezhnev’s Statement and Excerpts from Gromyko’s Speech, *The New York Times*, 16 June 1982, <http://www.nytimes.com/1982/06/16/world/brezhnev-s-statement-and-excerpts-from-gromyko-s-speech.html?pagewanted=all>.

⁴⁴ “The nuclear force is a strategic cornerstone for safeguarding national sovereignty and security. China has always pursued the policy of no first use of nuclear weapons and adhered to a self-defensive nuclear strategy that is defensive in nature. China will unconditionally not use or threaten to use nuclear weapons against non-nuclear-weapon states or in nuclear-weapon-free zones, and will never enter into a nuclear arms race with any other country.”, *China’s Military Strategy*, *The State Information Council Information Office of the People’s Republic of China*, May 2015, at ChinaDaily.com, http://www.chinadaily.com.cn/china/2015-05/26/content_20820628_4.htm. “Nuclear weapons states should abandon the deterrence doctrine based on the first use of nuclear weapons...China has adhered to the policy of no first use of nuclear weapons at any time or under any circumstances, and made the unequivocal commitment that we will unconditionally not use or threaten to use nuclear weapons against non-nuclear weapons states or nuclear weapons free zones.” China Still Committed to No First Use of Nuclear Weapons, Union of Concerned Scientists, <http://allthingsnuclear.org/gkulacki/china-still-committed-to-no-first-use-of-nuclear-weapons>. Also, the original Chinese pledge: “The Chinese Government hereby solemnly declares that China will never at any time or under any circumstances be the first to use nuclear weapons.”, Modern History Sourcebook: China Gets the Bomb, 1964, *The Atomic Bomb, Statement of the Government of the People's Republic of China, October 16, 1964*, <http://sourcebooks.fordham.edu/halsall/mod/1964china-bomb.html>.

that. It doesn't mean any change in operations, in readiness, in technology, targeting. It's just a very practical statement for a country that now has few other ways of warning off attacks on its territory.⁴⁵

Nuclear Deterrence Policy. In its role as a vehicle for deterrence messaging and for guidance of the Armed Forces, Russia's Military Doctrine partially outlines several elements of nuclear deterrence and strategic deterrence policy. The central element of nuclear deterrence policy guidance conveyed in the Military Doctrine 2014 is that a main task of the Armed Forces in peacetime is:

To maintain the composition, state of combat and mobilization readiness, and training of the strategic nuclear forces and their supporting forces and assets, as well as command and control systems at a level guaranteeing the infliction of unacceptable damage on an aggressor in any situation.⁴⁶

This political directive sets the level of ambition for Russia's strategic nuclear capability. The level of ambition is implicit in the phrase "at a level *guaranteeing* the infliction of *unacceptable damage* on an aggressor in *any situation*."⁴⁷ (emphasis added) This demanding level of ambition provides the basis for military planning assumptions and drives the minimum military requirements for the technical characteristics of strategic nuclear weapons systems; strategic nuclear force levels, structure and posture; and related command and control (C2) and support capabilities.

For the Russian strategic nuclear forces, this translates into a requirement to ensure a guaranteed retaliatory strike capability under conditions of an attempted disarming first strike by an aggressor.⁴⁸ This requirement includes launch vehicles, delivery systems and warheads, and a C2 structure sufficient to conduct a retaliatory strike even after a first strike by an adversary has significantly degraded the force.⁴⁹ Additionally, this guaranteed retaliatory strike capability must be calculated by Russian military planners, and perceived by the potential adversaries, to be sufficiently damaging to deter the

⁴⁵ Serge Schmemmann, Russia Drops Pledge of No First Use of Atom Arms, *The New York Times*, 4 November 1993, <http://www.nytimes.com/1993/11/04/world/russia-drops-pledge-of-no-first-use-of-atom-arms.html?pagewanted=print>.

⁴⁶ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 32. v.

⁴⁷ As one example of a political translation of this directive, President Putin said in 2006 that "Sustainment of the strategic balance will mean for us that our strategic deterrence forces should be in a condition assuredly to destroy any potential aggressor, no matter what modern weapons systems he may possess." V. Putin, *Zaklyuchitel'noe Slovo na Soveshchaniy Rukovodyashchego Sostava Vooruzhennykh Sil*, 16 November 2006, <http://special.kremlin.ru/events/president/transcripts/23899>.

⁴⁸ This is similar to the US conception of strategic nuclear deterrence, which holds that "stability in the strategic nuclear relationship between the United States and the Russian Federation depends upon the assured capability of each side to deliver a sufficient number of nuclear warheads to inflict unacceptable damage on the other side, even with an opponent attempting a disarming first strike." From: *Report on the Strategic Nuclear Forces of the Russian Federation Pursuant to Section 1240 of the National Defense Authorization Act for Fiscal Year 2012*, p. 6, obtained under the Freedom of Information Act by H. Kristensen and available at DOD: Strategic Stability Not Threatened Even by Greater Russian Nuclear Forces, 2012, <http://www.fas.org/blog/ssp/2012/10/strategicstability.php>.

⁴⁹ General Sergeyev, Commander-in-Chief of the Strategic Rocket Forces at the time, provides useful insights to the range of considerations taken into account by Russian military planners to ensure strategic nuclear forces and capabilities are fit for the politically-assigned task in I. D. Sergeyev, *Sovershenstvovanie Boevoi Gotovnosti Raketnykh Voisk Strategicheskogo Naznacheniya v Usloviyakh Realizatsii Dogovorov po SNV*, *Voennaya Mysl'*, No. 6, Nov-Dec, 1995, pp.17-22.

potential adversaries from risking the initial strike. In practice, Soviet and Russian military planners have calculated the survivability requirement primarily against US military capabilities, taking into account the nuclear capabilities of other nations, and the damage level requirement in the strategic deterrence scenario against key US military capabilities, and the US economic-industrial and population (cities) target set.⁵⁰ One parameter of unstable deterrence is the “average number of warheads missing for infliction of unacceptable damage.”⁵¹

The term “unacceptable damage” is a generally understood but specifically undefined term of art in planning for nuclear deterrence by Russia and other nuclear powers, particularly in supporting systems analysis.⁵² Russian experts and those of other nations recognize that the level of unacceptable damage required for deterrence purposes varies according to the specific circumstances of the nations that are the objects of deterrence. V.M. Burenok and Yu. A. Pechatnov provide a valuable analysis of the term and its relevance in modern nuclear force planning, tracing the historical roots of “unacceptable damage” in US, Soviet and Russian deterrence thinking, and outlining some related considerations. They acknowledge the difficulty of identifying *criteria* of unacceptable damage and of determining the *levels* of unacceptable damage due to the complexity of states as subjects of systems modelling. They describe a methodology that combines two approaches. First, mathematical modelling is used to examine objective criteria evaluating “damage levels to the economic and military potential and recovery times.” Mathematical modelling is augmented by evaluation of subjective levels of unacceptable damage, taking into account the psychological factor of deterrence to analyse the mechanism for defining a “threshold of unacceptability.” This takes into account the fact that not only actual physical damage matters, but also its perception. They assert that, despite the significant analytical difficulties, the concept of unacceptable damage has become fundamental to analyses of deterrence and its elements, including parity, strategic stability, superiority, and military-strategic balance, and has been a deciding factor in negotiating arms control and disarmament agreements. They argue that, despite its shortcomings, objective criteria and levels of unacceptable

⁵⁰ On Soviet strategic nuclear targeting considerations, see, for example, J. Hines, *Soviet Intentions 1965-1985, Vol. II, Soviet Post-Cold War Testimonial Evidence*, McLean, Virginia, BDM, 1995, pp.27-53 and William T. Lee, *Soviet Nuclear Targeting Strategy* in Desmond Ball and Jeffrey Richelson, eds., *Strategic Nuclear Targeting*, Ithaca, Cornell University Press, 1986, pp. 84-109. On Russian targeting priorities in Strategic Operations for Destruction of Critically Important Targets, see Yu. I. Maevskii, *Kontseptual'nye Podkhody k Formirovaniyu Prostranstvenno-Raspredeleennykh Sistem Radioelektronnoi Borby*, AO Kontsern Radioelektronnye Tekhnologii Website, <http://www.ntc-reb.ru/article9.html>.

⁵¹ V. P. Luzyanin, *Strategiya Stabil'nosti i Mnogopol'yarnaya Model' Sderzhivaniya, Voennaya Mysl'*, No. 8-9, 1992, p. 14.

⁵² E.S. Quade offers a definition of systems analysis broadly held in the defence community as “the application of quantitative economic analysis and scientific methods to such matters as weapon design and the determination of force composition and deployment” and goes on to elaborate it as “a systematic approach to helping a decision-maker choose a course of action by investigating his full problem, searching out objectives and alternatives, and comparing them in the light of their consequences, using an appropriate framework – in so far as possible analytic – to bring expert judgment and intuition to bear on the problem.” E. S. Quade, Introduction, in E.S. Quade and W.I. Boucher, eds., *Systems Analysis and Policy Planning: Applications in Defense*, RAND Corporation Report R-439-PR, New York, American Elsevier Publishing Company, June, 1968, pp. 1-2.

damage based on systems analysis modelling should continue to guide strategic nuclear force development.⁵³

Significantly, Burenov and Pechatnov note a general decline in the required level of unacceptable damage in both Soviet/Russian and foreign research since the 1970s. In their view, reassessments of military-political, military-technical, social-economic, cultural-historical and scientific-methodological factors have led to a “quantitative-qualitative transformation of the level of unacceptable damage.”⁵⁴ A. A. Kokoshin also observes that the number of warheads required to achieve unacceptable damage is now, due to modelling-based understanding of the entire complex of first, second and even third-order consequences of nuclear detonations in large metropolitan areas, understood to be “significantly less” than the quantity considered previously.⁵⁵ The increasing sophistication and granularity of systems analysis, which has made possible a reduction in nuclear force levels (on the basis of lower numbers of warheads required to achieve damage goals), are also key to the ability of conventional long-range precision weapons to achieve effects comparable to those of nuclear weapons (i.e. a high probability of the destruction or disabling of critical targets). In connection with this research, the concept of a level of “detering damage” has been suggested as an extension of “unacceptable consequences.” Detering damage, in contrast to the maximum destruction implied by “unacceptable damage,” was proposed as “strictly measured damage inflicted by nuclear or strategic non-nuclear means on targets of vitally important infrastructure of the aggressor nation.”⁵⁶ This has more direct bearing on the regional applications described below than on the task assigned to the strategic nuclear forces to be able to inflict unacceptable damage on an aggressor in a strategic nuclear retaliatory strike.

De-escalation. The word “de-escalation” does not appear in the text of the Russian Military Doctrine. Nuclear weapons are mentioned in connection with prevention (predotvrashchenie) of conflict and upholding of deterrence (sderzhivanie).⁵⁷ Large-scale conflict is described as a potential outcome of the escalation (eskalatsiya) of local or regional wars.⁵⁸ The basic task of the Armed Forces in conflict is to defeat the enemy forces in order to compel him to cease military operations on conditions that favour the interests of the Russian Federation and its allies.⁵⁹ However, neither the word “de-escalation” nor the concept of “escalate to de-escalate” appear explicitly in the Military Doctrine in relation to nuclear weapons. This is a notable omission since the term “de-escalation” and the concept of employing nuclear weapons in order to de-escalate permeate Russian thinking about nuclear weapons in conflict. One could speculate that the omission is intended for public messaging purposes. If that was the intention, it was

⁵³ V. M. Burenok and Yu. A. Pechatnov, O Kriterial'nykh Osnovakh Yadernogo Sderzhivaniya, *Vooruzhenie i Ekonomika*, No. 1 (22), 2013, pp. 21-30.

⁵⁴ *Ibidem*, p. 24.

⁵⁵ A. A. Kokoshin, *Politiko-Voennyye i Voennno-Strategicheskiye Problemy Natsional'noi Bezopasnosti Rossii i Mezhdunarodnoi Bezopasnosti*, Moscow, Vyshaia Shkola Ekonomiki, 2013, p. 168.

⁵⁶ R. G. Tagirov, Yu. A. Pechatnov, V. M. Burenok, K Voprosu ob Opredelenii Urovnei Nepriemlemosti pri Reshenii Zadachi Silovogo Strategicheskogo Sderzhivaniya, *Vestnik Akademii Nauk*, No. 1, 2009, <http://naukaxxi.ru/materials/74/>.

⁵⁷ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 16.

⁵⁸ *Ibidem*, paragraph 8. z.

⁵⁹ *Ibidem*, paragraph 34.

a flimsy effort given the wealth of references to use of nuclear weapons for conflict de-escalation in Russian military journals. The misleading notion that the 2014 revision of the Military Doctrine precludes pre-emptive use of nuclear weapons was widely reported after its publication in December of that year.⁶⁰ It appears to have been widely understood as precluding first use by Russia of nuclear weapons, which in the context of the sources reviewed for this paper appears to be a false assumption.

That literature reveals several aspects of Russian concepts for employment of nuclear weapons for de-escalation. This includes the notion that “if deterrence proves to be insufficiently effective and aggression occurs anyway, it follows that nuclear weapons be viewed not only as a means for decisive defeat of the enemy, but as a means for de-escalation of military actions.”⁶¹ Use of nuclear weapons in such a scenario is aimed at “de-escalation of military actions and their termination on conditions favourable to the Russian Federation and, as an extreme measure, the crushing of the enemy.”⁶² Nuclear weapons can be integrated into “strategic operations for global or regional deterrence aims, de-escalation and suppression of regional or large-scale aggression.”⁶³ Conventional precision weapons can be used for “deterrence or to compel the opposing side to cease military resistance (localization and termination of the conflict).”⁶⁴

The Place and Role of Nuclear Weapons in Strategic Deterrence. Russian thinking about nuclear weapons and nuclear deterrence has evolved in several stages since the collapse of the Soviet Union. An initial adaptation of the Soviet legacy strategy was undertaken in the early 1990s, which has been referred to by Russian experts as the period of the final “legitimization” of deterrence theory, and was outlined in the 1993 Military Doctrine.⁶⁵ A more fully considered nuclear policy was only developed and approved by the Security Council during 1998 and put into force by presidential decree in December of that year. Russia has continued to adapt its nuclear policy and doctrine in response to the evolving security environment, particularly the strategic relationship with the US. The availability of new technologies and considerations of defence sufficiency balanced against available resources have also shaped nuclear policy and doctrine within the evolving concept of strategic deterrence.⁶⁶

⁶⁰ See, for example, Doktrina: RF Mozhet Primenit' Yadernoe Oruzhie v Otvét na Agressiyu, RIA Novosti, 26 December 2014, http://ria.ru/defense_safety/20141226/1040317907.html.

⁶¹ V. I. Levshin, A. V. Nedelin, M. E. Sosnovskii, O Primenenii Yadernogo Oruzhiya dlya Deeskalatsii Voennykh Deistvii, *Voennaya Mysl'*, No. 3 (5-6), 1999, 34-37.

⁶² A. L. Khryapin, V. A. Afanas'ev, *Kontseptual'nye Osnovy*, p. 11.

⁶³ A. A. Protasov, V. A. Sobolevskiy, V. V. Sukhorutchenko, *Planirovaniye Primeneniya*, p. 23.

⁶⁴ V. V. Sukhorutchenko, A. B. Zel'vin, V. A. Sobolevskii, Napravleniya Issledovaniy Boevykh Vozmozhnostei Vysokotochnogo Oruzhiya Bol'shoi Dal'nosti v Obychnom Snaryazhenii, *Voennaya Mysl'*, No. 8, August 2009, p. 33.

⁶⁵ R. G. Tagirov, Yu. A. Pechatnov, V. M. Burenok, K Voprosu ob Opredelenii Urovnei Nepriemlemosti pri Reshenii Zadachi Silovogo Strategicheskogo Sderzhivaniya, *Vestnik Akademii Nauk*, No. 1, 2009, <http://naukaxxi.ru/materials/74/>. On the Party dogma-based polemics around the concept of deterrence during the Soviet era, see Lawrence Freedman, *The Evolution of Nuclear Strategy*, 3rd edition, New York, Palgrave MacMillan, 2003, pp. 243-247.

⁶⁶ V. Esin, Doklady na 2-y Mezhdunarodnoi Konferentsii po Strategicheskoi Stabil'nosti, 4 June 2003, http://milrf/conference/cf_030604/5ru_esin.htm and I. Safranchuk, *Budushchee Yadernykh Sil Rossii, Nauchnyye Zapiski No. 10*, Moscow, PIR Center, 1999, pp. 34 and 56.

The picture of the Russian concept of strategic deterrence that emerges is that nuclear weapons no longer stand alone but are now among a range of military and non-military means to be employed together for deterrence and other objectives (punishment, denial, coercion and compellence). In some respects, some Russian experts suggest that Russia's adoption of the concept of strategic deterrence in place of nuclear deterrence mirrors changes in US deterrence thinking observed initially in the 2002 Nuclear Posture Review.⁶⁷ Nevertheless, Russia's approach also differs in important aspects, in particular concerning the central role assigned by Russia's leaders to nuclear weapons in peace, crisis and conflict. The other major observable features of current nuclear policy and doctrine include an effects-based approach that integrates nuclear and conventional capabilities in a continuous spectrum; the related emergence of distinct regional and global roles for nuclear weapons; and the integration of nuclear deterrence with new concepts of employment of conventional long-range precision weapons for deterrence. This reconceptualization has important implications for NATO and Allied conceptual thinking about nuclear deterrence and for potential future crisis and conflict scenarios.

In his 2001 survey of Russia's non-strategic nuclear forces, David Yost noted nine functions attributed to nuclear weapons by Russian military authorities:

- to deter external aggression;
- to serve as an 'equalizer' or 'counterbalance' to the conventional force superiority of potential adversaries;
- to help maintain the 'combat stability' of forces engaged in an operation (assessed to be akin to supporting intra-war deterrence);
- to make possible the 'de-escalation' of conventional conflicts;
- to make it possible for Russia to conduct limited nuclear strikes in a regional (or theatre) war while avoiding an escalation to intercontinental nuclear operations or any other geographical extension of the conflict;
- to inhibit the intervention of outside powers (such as the United States or NATO) in regional conflicts involving Russia;
- for non-strategic nuclear forces to substitute for advanced long-range non-nuclear precision strike systems;
- to enable the high command to change the correlation of forces in specific theatres or sectors of military operations;
- to compensate for reductions in Russia's strategic nuclear forces.⁶⁸

⁶⁷ For a critical review of the development of Soviet and Russian deterrence thinking, including in response to observed developments in US approaches to deterrence, see A. Fenenko, *Transformatsiya Sderzhivaniya, Rossiya v Global'noi Politike*, No. 6, Nov-Dec, 2009, http://www.globalaffairs.ru/number/n_14290. A related analysis, with a particular focus on conventional deterrence, is provided in S. M. Minasyan, *Razvitie Teorii Konventsional'nogo Sderzhivaniya v Sovremennoi Politicheskoi Nauke*, *Vestnik Tomskogo Gosudarstvennogo Universiteta*, No. 370, 2013, pp. 114-119.

⁶⁸ David S. Yost, *Russia's Non-Strategic Nuclear Forces*, *International Affairs*, vol. 77, No. 3, July 2001, pp. 531-551.

The list partially illustrates the way the conceptual way that Russia's political and military leaders integrate nuclear and conventional capabilities in their approach to conflict. Because of that integrative approach, Russia's nuclear weapons should be considered in the context of Russia's full capabilities spectrum and the evolving concepts for their employment in local, regional and global contingencies. This is particularly important in consideration of Russia's "whole of government" approach to conflict (often referred to, perhaps too narrowly, as a hybrid strategy), which is intended to achieve Russia's aims while remaining below the threshold for direct military conflict. Although this approach employs non-military levers of power for effect, it relies on hard power, including nuclear capabilities for deterrence, coercion and compellence, to succeed.⁶⁹

The Place and Role of Non-Strategic Nuclear Weapons (NSNW) in Strategic Deterrence. In keeping with their intended deterrence and de-escalation role through theatre employment, Russian political and military leaders continue to assert a requirement for significant numbers of NSNW for regional deterrence purposes. In 2003, Viktor Esin said that in the late 1990s 3000 NSNW had been identified as the force level required for regional deterrence.⁷⁰ Russia provides no transparency on the actual numbers of its deployed non-strategic nuclear warheads and outside estimates vary between approximately 1000 and 2000.⁷¹ During congressional testimony in 2011, James Miller, then Principal Deputy Under Secretary of Defense for Policy, said, "unclassified estimates suggest that Russia has 4,000 to 6,500 total nuclear weapons, of which 2,000 to 4,000 are non-strategic tactical nuclear weapons."⁷²

Non-strategic nuclear weapons (NSNW) appear to have been the main option under consideration when the weakened state of Russia's military led to adoption in the 1990s of the notion of employing nuclear weapons for regional deterrence and de-escalation. As late as 1999, the potential role of conventional long-range precision weapons in tandem with nuclear weapons for strategic deterrence was undeveloped (since significant numbers of conventional precision weapons were lacking) and regional deterrence focused primarily on the use of non-strategic nuclear weapons (operational-strategic and operational-tactical in the authors' designations) for de-escalation of

⁶⁹ Johnson, *Russia's Approach to Conflict*, p. 2. Commenting on the various levers of power at Russia's disposal as it competes with other nations for global influence, Bobo Lo has noted that "There is no meaningful soft power without at least a reliable element of hard power. Economic development, technological advancement, and cultural power are more effective than military strength in projecting long-term influence in the contemporary international environment. But this does not mean that military strength has become redundant. Unfortunately, most European governments seem to labour under this misapprehension." Bobo Lo, *Russia and the New World Disorder*, Chatham House, London, 2015, p. 228.

⁷⁰ V. Esin, *Doklady na 2-y Mezhdunarodnoi Konferentsii po Strategicheskoi Stabil'nosti*, 4 June 2003, http://milrf/conference/cf_030604/5ru_esin.htm. While Esin asserted at the time a clear division of roles between global and regional deterrence for strategic and non-strategic nuclear weapons, such a clear division does not appear to hold in current Russian thinking.

⁷¹ See H. Kristensen and R. Norris, *Russian Nuclear Forces 2016*, *Bulletin of the Atomic Scientists Nuclear Notebook*, <http://www.tandfonline.com/doi/pdf/10.1080/00963402.2016.1170359> and I. Sutyagin, *Atomic Accounting: A New Estimate of Russia's Non-Strategic Nuclear Forces*, RUSI Occasional Paper, November 2012.

⁷² Statement of Dr. James N. Miller, Principal Deputy Under Secretary of Defense for Policy Before the House Committee on Armed Services, 2 November 2011, p.1.

military conflicts.⁷³ Here it is worth recalling that, as noted above, David Yost observed in 2001 that one function attributed to NSNW by Russian military authorities was to *substitute* for advanced long-range non-nuclear precision strike systems. At the time, this was viewed as closely related to another function, that of offsetting the conventional military superiority of adversaries.⁷⁴

Fifteen years later, it appears that NSNW retain an important role at the regional level of strategic deterrence despite the Russia's growing conventional precision strike capabilities. Non-strategic nuclear weapons no longer only substitute for conventional long-range precision weapons but serve together with them as a regional deterrence dyad. Evolving Russian thinking on deterrence and the roles of nuclear weapons, derived in part from ongoing systems analysis, has resulted in a refined and reinforced role for non-strategic (tactical) nuclear weapons in a regional deterrence and de-escalation role, in tandem with conventional long-range precision weapons. This is evident, for example, in Russian military analyses of the role of "strategic weapons" that appear to blur the distinctions between long-range precision weapons armed either with conventional or nuclear warheads.⁷⁵ This creates a doctrinal link between employment of conventional nuclear weapons at the level of regional and global conflict.⁷⁶

In terms of capabilities, the array of delivery platforms in Russia's inventory described below under Force Structure and Poster provides a flexible range of employment options. Although the weapons are designated as non-strategic or tactical, the ranges of many of the delivery platforms combined with that of some of the weapons themselves allows them to operate from the operational-tactical to the operational-strategic level of conflict.⁷⁷ The fact that nearly all Russian delivery platforms are dual-capable (able to deliver nuclear or conventional variants of their weapons) compounds the flexibility of Russia's strategic weapons set and supports the calibrated approach envisioned by Russian experts to containing and de-escalating conflicts. It also creates ambiguity. As Pavel Podvig has noted, this blurring by Russia of distinctions between conventional and nuclear weapons is likely intended to complicate an adversary's calculus. Remarks by General Esin while discussing the ISKANDER missile system provide one example of the intentional ambiguity created by dual-capable systems:

One good thing about the ISKANDER is that it is dual-capable. It can use land-based ballistic and cruise missiles with either nuclear or conventional equipment. So if these systems are relocated to Belarus, this does not mean that Russia will place nuclear

⁷³ V. I. Levshin, A. V. Nedelin, M. E. Sosnovskii, O Primenenii Yadernogo Oruzhiya dlya Deeskalatsii Voennykh Deistvii, *Voennaya Mysl'*, No. 3 (5-6), 1999.

⁷⁴ David Yost, Russia's Non-Strategic Nuclear Forces, pp. 536-537. Emerging trends in the evolving role of Russia's non-strategic nuclear weapons were first thoroughly outlined and assessed by Dr. Jacob W. Kipp in "Russia's Non-Strategic Nuclear Weapons", *Military Review*, Volume LXXXI, No. 3, May-June 2001, pp. 27-38 with a particular focus on the ideas laid out in V. I. Levshin, A. V. Nedelin, M. E. Sosnovskii, O Primenenii Yadernogo Oruzhiya dlya Deeskalatsii Voennykh Deistvii, 34-37.

⁷⁵ As in Protasov, Sobolevskiy, Sukhorutchenko, Planirovaniye Primeneniya Strategicheskikh Vooruzhenii.

⁷⁶ For an important alternative view that sees less coherence in Russia's approach to non-strategic nuclear weapons, see Dmitry Adamsky, Nuclear Incoherence: Deterrence Theory and Non-Strategic Nuclear Weapons in Russia, *Journal of Strategic Studies*, Vol 37, No. 1, 2014, pp. 91-134.

⁷⁷ Levshin, Nedelin, and Sosnovskii, O Primenenii Yadernogo Oruzhiya dlya Deeskalatsii Voennykh Deistvii, p. 35.

weapons outside its own territory. But, at a certain moment when the need arises, nuclear munitions can be brought in. The same goes for Kaliningrad Oblast. Although regarding this region there are no restrictions and ISKANDERs could immediately be located there with both types of equipment.⁷⁸

However, cultivating ambiguity also carries the risk of unintentional escalation due to the potential for misunderstanding by the adversary as to the weapons, aims, and potential effects of strikes delivered by dual-capable systems.⁷⁹ Russia's heavy emphasis on dual-capable weapons systems also adds technical and operational links between the employment of conventional and nuclear weapons, in addition to the doctrinal link described above.

This operational-technical blurring is reflected in the evolving missions of Long Range Aviation Command and of the Navy, which operate many of the dual-capable systems of concern. Long Range Aviation Command (*Komandovanie Dal'nei Aviatsii*, a component of the Air Force branch of the Aerospace Forces created in August 2015) has the twin tasks of "strategic deterrence of the enemy as well as to strike groups of forces and targets in armed conflicts and wars of various scales by employment of nuclear and conventional weapons on continental, oceanic theatres of operation and in strategic directions." The LRA is viewed as both a part of the system of strategic deterrence means, employing either nuclear weapons or "strategic nonnuclear weapons" for deterrence and, with modernized capabilities and weapons, as an aviation combat system for use with general purpose forces in armed conflicts and local and regional wars.⁸⁰ The Navy is also adapting its strategic nuclear and general purpose forces to support strategic deterrence in lieu of nuclear deterrence by:

- possessing the ability to operate in any of the world's oceans and to launch nuclear missile strikes on the territory of any country from any direction and distance with minimal flight time to the target;
- the ability to neutralize and liquidate threats to the military, political and economic security of Russia beyond her borders, and the unique ability for demonstration of military force and creation of retaliatory threats in the world oceans and on the territory of other states.⁸¹

It was likely with regard to these tasks and the successful cruise missile attacks against targets in Syria by the Caspian Sea Flotilla that the new Commander-in-Chief of the Russian Navy said, "the ships of the Black Sea Fleet and the Caspian Flotilla

⁷⁸ Igor Plugatarev, Udry po Byvshim "Brat'yam", *Nezavisimoe Voennoe Obozrenie*, 28 February 2008, http://nvo.ng.ru/wars/2008-02-29/1_strikes.html.

⁷⁹ Pavel Podvig, Blurring the Line Between Nuclear and Nonnuclear Weapons: Increasing the Risk of Accidental Nuclear War?, *Bulletin of the Atomic Scientists*, May 2016, Vol. 72, No. 3, pp. 145-149. In his analysis of US efforts toward a conventional prompt global strike capability, James Acton elaborates the generic concept of ambiguity related to the blurring of distinctions between nuclear and conventional weapons, in combination with considerations related to delivery platform capabilities, as warhead ambiguity, target ambiguity, and destination ambiguity. See James M. Acton, *Silver Bullet? Asking the Right Questions About Conventional Prompt Global Strike*, Carnegie Endowment for International Peace, 2013, pp. 11-129.

⁸⁰ M. V. Fomin, Osobennosti Formirovaniya Ratsional'noi Sistemy Boevykh Sredstv Dal'nei Aviatsii, *Voennaya Mysl'*, No. 5, May 2007, pp. 26-28.

⁸¹ Yu. P. Gladyshev and Yu. A. Uvarov, Voenno-Morskoi Flot v Strategicheskome Sderzhivanii, *Voennaya Mysl'*, No. 11, November 2007, p. 32.

confidently fulfil the task of strategic deterrence, providing security in the region in the southwestern strategic direction.”⁸²

In addition to the impetus of technological progress and doctrinal innovation, elements of pragmatism are also evident in Russia's heavy reliance on dual-capable systems. Strategic nuclear forces remain the cornerstone of Russia's deterrence and retain priority for funding. For that reason, affiliation with the new strategic deterrence mission, via dual-capable systems, is likely viewed by the individual services as having a lifting effect on their own priority and budget allocations. The related influence of service equities and competition is evident between the lines of articles written by military officers expounding the unique contributions to deterrence of their parent services. More tangibly, continuation of the Soviet legacy of dual-capable platforms meets the demand to make the most efficient use of limited financial resources. Mr. Putin, during his tenure as Prime Minister, said of the huge amount of funds allocated for military acquisition that “we have strained ourselves to the limit to come up with these funds, and therefore we will try to use them as effectively as possible.”⁸³

The Place and Role of Conventional Long-Range Precision Weapons in Strategic Deterrence. The 2014 Military Doctrine states, “within the framework of fulfilling strategic deterrence measures of a forceful nature, the Russian Federation foresees use of precision weapons.”⁸⁴ Elsewhere, it notes that a fundamental task of the Russian Armed Forces is “strategic (nuclear and non-nuclear) deterrence.”⁸⁵ This reflects the increasing role of conventional long-range precision weapons in Russia's deterrence strategies as part of the strategic weapons set. Precision weapons, viewed by the Russian military as having combat effectiveness on a par with nuclear weapons, are designated as the first capability to be employed for strategic deterrence at the global and regional level.⁸⁶ This second role, foreseen in 2007, has been demonstrated by the Aerospace Forces and the Navy in Syria.

The Soviet Military concluded in 1991, on the basis of what it observed in the Gulf War, that conventional precision guided munitions (PGMs) could have effects previously achievable only with nuclear weapons.⁸⁷ The Russians also perceived that PGMs enhanced US freedom of action in regional crises while Russia was constrained by its over-reliance on nuclear deterrence. This led to significantly revised thinking on the role of PGMs to augment nuclear deterrence at a point on the escalation ladder

⁸² Ministr Oborony Rossii Vrushil Admiralu Vladimiru Korolevu Shtandart Glavnokomanduyushego VMF Rossii, Ministry of Defence Website, 18 April 2016, http://function.mil.ru/news_page/person/more.htm?id=12083387@egNews.

⁸³ V. Putin, Prime Minister Vladimir Putin Meets with Experts in Sarov to Discuss Global Threats to National Security, Strengthening Russia's Defences and Enhancing the Combat Readiness of the Armed Forces, Official Site of the Prime Minister of the Russian Federation, 24 February 2012, <http://archive.premier.gov.ru/eng/events/news/18248/>.

⁸⁴ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 26.

⁸⁵ *Ibidem*, paragraph 32. b.

⁸⁶ A. L. Khryapin, V. A. Afanas'ev, *Kontseptual'nye Osnovy Strategicheskogo Sderzhivaniya*, pp. 8-12.

⁸⁷ Yu. V. Lebedev, I. S. Liutov and V. A. Nazurenko, *Voyna v Zone PersidskoGo Zaliva: Uroki I Vyvody, Voennaya Mysl'*, No. 11-12, November-December 1991, pp. 109-117.

designated as “non-nuclear (pre-nuclear) deterrence”.⁸⁸ The use of conventional long-range precision weapons along with nuclear weapons for deterrence is viewed as significantly increasing military options and freedom of action in crisis and conflict. Prime Minister Putin noted this just before his 2012 re-election to the presidency, writing that conventional long-range precision weapons “are comparable to employment of nuclear weapons in results but more ‘acceptable’ in political and military terms. In this manner, the role of the strategic balance of nuclear forces in deterring aggression will gradually decline.”⁸⁹

Russian military systems analysts are working to refine concepts and models in support of optimized employment of the full range of strategic weapons and in particular of conventional long-range weapons.⁹⁰ These efforts include work to add specificity to terms such as “critically important target” and the development of new related concepts such as the “critical aggregate of targets.” This work supports the analysis and disaggregation of specific targets into systems of elementary targets. This is considered critical for evaluating the effectiveness of conventional precision guided long-range weapons due to the high degree of selectivity in targeting that they enable.⁹¹ The combination of systems analysis and modelling of strategic weapons employment (including conventional long-range weapons and potentially strategic missiles with conventional warheads⁹²) with that of employment of general purpose forces is expected to support:

⁸⁸ V. Selivanov, I.P. Machneva and Yu. D. Il'in, Dolgosrochnoe Prognozirovaniye Napravlenii Razvitiia Vysokotochnnykh Boyepripasov, *Voennaya Mysl'*, No. 4, April 2014, p. 15. And A. A. Kokoshin, *Politiko-Voennyye I Voенно-Strategicheskiye Problemy Natsional'noi Bezopasnosti Rossii i Mezhdunarodnoi Bezopasnosti*, Vyshaya Shkola Ekonomiki, Moscow, 2013, pp. 213-223. In standard usage in official Russian documents and authoritative statements and writing of the last decade or so, “non-nuclear” (neyadernoye) indicates the particular role of conventionally armed long-range precision weapons as elements, along with nuclear weapons, of strategic deterrence and differentiates them from conventional (obychnyye) weapons and (obschiye) forces.

⁸⁹ V. Putin, Byt' Sil'nymi: Garantii Natsional'noi Bezopasnosti Dlia Rossii, *Rossiskaya Gazeta*, No. 5708 (35), 20 February 2012, <http://www.rg.ru/2012/02/20/putin-armiya.html>. In some respects, the Russian thinking about the limited utility of nuclear weapons for regional contingencies is reflected in the views recently expressed by Jeremy Corbyn during the UK debate on Trident renewal. However, the two arrived at entirely different conclusions with Russia opting for innovations to increase the utility of nuclear weapons in achieving national security aims and Mr. Corbyn arguing for their total elimination. See Jeremy Corbyn, House of Commons Hansard, *UK's Nuclear Deterrent*, 18 July 2016, Volume 613, <https://hansard.parliament.uk/commons/2016-07-18/debates/16071818000001/UKSNuclearDeterrent>. “What, then, is the threat that we face that will be deterred by the death of more than 1 million people? It is not the threat from so-called Islamic State, with its poisonous death-cult that glories in killing as many people as possible, as we have seen brutally from Syria to east Africa and from France to Turkey. It has not deterred our allies Saudi Arabia from committing dreadful acts in Yemen. It did not stop Saddam Hussein's atrocities in the 1980s or the invasion of Kuwait in 1990. It did not deter the war crimes in the Balkans in the 1990s, nor the genocide in Rwanda. I make it clear today that I would not take a decision that killed millions of innocent people. I do not believe that the threat of mass murder is a legitimate way to go about dealing with international relations.”

⁹⁰ A. A. Protasov, V. A. Sobolevskiy, V. V. Sukhorutchenko, Planirovaniye Primeneniya Strategicheskikh Vooruzhenii, *Voennaya Mysl'*, No. 7, July 2014, p. 9.

⁹¹ V. V. Sukhorutchenko, N. A. Morozov, A. N. Kornienko, K Opredeleyniyu Ponyatiya “Kriticheski Vazhnyi Obekt.”, *Voennaya Mysl'*, No. 4, April 2016, pp. 27-31

⁹² V. V. Sukhorutchenko, A. B. Zel'vin, V. A. Sobolevskii, Napravleniya Issledovaniya Boevykh Vozmozhnostei Vysokotochnogo Oruzhiya Bol'shoi Dal'nosti v Obychnom Snaryazhenii, *Voennaya Mysl'*, No. 8, August 2009, p. 33.

- definition of the composition of forces of conventional long-range PGMs necessary for achieving strike aims against key targets in conventional forces operations;
- definition of the composition of forces of conventional long-range PGMs for strategic operations for the destruction of critically important targets (SODCIT);
- definition of the reserve of long-range PGM delivery platforms for achieving strike aims against enemy targets in strategic operations employing weapons of mass destruction.⁹³

On the third point, reserves of long-range PGM platforms for strikes using weapons of mass destruction, “WMD” in the context of this and similar articles implies nuclear weapons. The notion of systems analysis and modelling of apportionment of delivery platforms between conventional long-range precision weapons and NSNW is significant. It is a demonstration of the integration of conventional and nuclear capabilities, an example of a potential limiting factor in Russian employment of conventional precision weapons and nuclear weapons, and an indication of the ambiguity that will confront adversaries faced by Russian dual-capable systems.

These efforts follow a decision in the early 2000s to conduct an in-depth analysis of “the operational aspects of the organization, planning, and employment of strategic weapons” in line with other aspects of reform and in response to changed strategic conditions. This analysis “led to a refinement of the aims and goals, scale, form and means for the employment of strategic weapons of the Armed Forces of the Russian Federation in operations in coordination with the conception and plan for combat employment of components of the conventional forces, defensive and supporting systems.”⁹⁴ This research has led to “a transformation of the understanding of ‘strategic deterrence’ as regards its regional aspect” and “defined the further development of views on the role and place of strategic weapons in support of both global and regional stability.” This has included the integration of strategic and non-strategic weapons into a single system “not simply reinforcing each other but providing in aggregate more effective resolution of the entire sum of aims for countering the entire spectrum of threats to Russia.”⁹⁵

In this context, work “to define the combat aims, composition, means and variations for employment of conventional long-range precision weapons in operations (combat operations) can be presented in their entirety as the following prioritized sub-processes of development of the concept for employment of long-range precision weapons:

- definition of the concept parameters of organization, planning and conduct of demonstration strikes of long-range precision weapons;
- definition of variations of the concept for limited strikes aimed at de-escalation of the military conflict and compelling the enemy to halt armed opposition;

⁹³ A. A. Protasov, V. A. Sobolevskiy, V. V. Sukhorutchenko, *Planirovaniye Primeneniya Strategicheskikh Vooruzhenii, Voennaya Mysl'*, No. 7, July 2014, p. 27.

⁹⁴ *Ibidem*, p. 22.

⁹⁵ *Ibidem*, p. 23.

- development of the concept for strategic operations for destruction of critically important enemy targets (SODCIT - targeting nuclear forces, air-space defences, strategic-level command posts and critical infrastructure);⁹⁶
- development of the concept for employment of long-range precision weapons in operations by the Russian Federation Armed Forces in a Theatre of Military Operations (Strategic Direction), taking account of aims of the operation, capabilities of the conventional forces to resist enemy strikes and achieve destruction goals of targets (goals) with strikes by precision weapons and other Russian Federation Armed Forces means of fire destruction.”⁹⁷

Based on the literature reviewed in support of the above assessment and building on David Yost's survey of functions attributed to nuclear weapons, it is possible to list at least ten functions attributed to conventional long-range precision weapons by Russia's political and military leaders and its military and civilian experts addressing aspects of deterrence. The list is not exhaustive and some of the functions are closely connected or overlapping, perhaps because the related concepts are still evolving. Nevertheless, the list is representative of the functions envisaged for conventional long-range precision weapons. The functions include:

- to be used in support of strategic deterrence;⁹⁸
- to counterbalance the large-scale deployment of conventional long-range precision weapons by other countries, principally the US;⁹⁹
- to increase Russia's offensive potential;¹⁰⁰

⁹⁶ For a brief overview of the evolution of Soviet and Russian strategic offensive thinking and the place of SODCIT in the era of nuclear war, see Marina Elizeeva, Uroki na Vse Vremena, Krasnaya Zvezda, 27 October 2010, http://old.redstar.ru/2010/10/27_10/1_06.html. On the military category of critically important targets, see Yu. I. Maevskii, Kontseptual'nye Podkhody k Formirovaniyu Prostranstvenno-Raspredelennykh Sistem Radioelektronnoi Borby, AO Kontsern Radioelektronnye Tekhnologii Website, <http://www.ntc-reb.ru/article9.html>. On the infrastructure category of critically important targets see V. N. Tsygichko, G. L. Smolyan, D. S. Chereskin, Obespechenie Bezopasnosti Kriticheskikh Infrastruktur v SShA (Analiticheskii Obzor), Trudy ISA RAN 2006, Vol 27, <http://www.isa.ru/proceedings/images/documents/2006-27/4-34.pdf>. This paper provides insights into Russian analysis of US planning for defence of critical infrastructure in light of the potential effects of non-nuclear precision weapons or terrorism. The paper focuses on non-military infrastructure, divided into seven categories: agricultural and industrial production systems; the financial-banking system; transport system; water supply; emergency services; the electrical power production system; and government communications. On the basis of US Government studies, the study provides the subdivisions of categories of infrastructure targets (“Vitally Important,” “Extremely Important,” and “Important”, lists the targets within the categories, and reviews US analysis of risks, threats and strategy for mitigation. The considerations laid out in the paper provide some insight into likely Russian thinking about targeting for infliction of “prescribed” or “dosed,” “detering,” and “unacceptable” levels of damage.

⁹⁷ A. A. Protasov, V. A. Sobolevskiy, V. V. Sukhorutchenko, Planirovaniye Primneniya Strategicheskikh Vooruzhenii, pp. 25-26.

⁹⁸ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 26.

⁹⁹ A. A. Protasov, V. A. Sobolevskiy, V. V. Sukhorutchenko, Planirovaniye Primneniya Strategicheskikh Vooruzhenii, *Voennaya Mysl'*, No. 7, July 2014, p. 24.

¹⁰⁰ V. Putin, Soveshchanie o Vypolnenii Gosprogrammy Vooruzheniya na 2011-2020 Gody, President of Russia Official Website, 19 June 2013, <http://news.kremlin.ru/news/18368/print>.

- to achieve strategic and political goals for which the utility of nuclear weapons has declined;¹⁰¹
- to deter potential aggressors in armed conflicts, and local and regional wars through demonstrated readiness to conduct retaliatory or warning strikes for infliction of prescribed or deterring levels of damage to groups of forces as well as to the enemy's military-economic potential;¹⁰²
- to deescalate and terminate armed conflicts on terms acceptable to Russia by infliction of prescribed or deterring levels of damage to groups of forces as well as to the enemy's military-economic potential through demonstrative, single or grouped employment of nonnuclear means, potentially simultaneously with or followed by nuclear means, up to the maximum of infliction of unacceptable levels of damage;¹⁰³
- to participate in strategic operations for the destruction of critically important targets (SODCIT);¹⁰⁴
- to disorganize systems of government and military control;¹⁰⁵
- to degrade the effectiveness of enemy actions on the sea and from the sea;¹⁰⁶
- to destroy key targets in operations with general purpose forces;¹⁰⁷

One thing is important to note with regard to conventional long-range precision weapons. Despite their prominence in Russian military theory, planning and acquisitions, some aspects of conventional precision strike may still be aspirational for the Russian Armed Forces. The cost and complexity of fielding and integrating precision weapons; position, navigation and timing (PNT); wide-area sensors and networked C2 has slowed Moscow's attainment of the "reconnaissance-strike" capabilities envisioned since the 1980s.¹⁰⁸ Steady progress is being made, as evinced by growing concerns in the West over Russia's growing anti-access and area denial

¹⁰¹ S. G. Chekinov, S. A. Bogdanov, Prognozirovanie Kharaktera i Soderzhaniya Voin Budushchego: Problemy I Suzhdeniya, *Voennaya Mysl'*, No. 10, October 2015, p. 47.

¹⁰² V. M. Burenok, O B. Achasov, Neyadernoe Sderzhivanie, *Voennaya Mysl'*, No. 12, December 2007, pp. 12-15; A. L. Khryapin, V. A. Afanas'ev, Kontseptual'nye Osnovy, pp. 11-12.

¹⁰³ Ibidem and R. G. Tagirov, Yu. A. Pechatnov, V. M. Burenok, K Voprosu ob Opredelenii Urovnei Nepriemlemosti.

¹⁰⁴ A. A. Protasov, V. A. Sobolevskiy, V. V. Sukhorutchenko, Planirovaniye Primeneniya Strategicheskikh Vooruzhenii, *Voennaya Mysl'*, No. 7, July 2014, p. 27.

¹⁰⁵ M. V. Fomin, Osobennosti Formirovaniya Ratsional'noi Sistemy Boevykh Sredstv Dal'nei Aviatsii, *Voennaya Mysl'*, No. 5, 2007, p. 26.

¹⁰⁶ Ibidem, p. 26.

¹⁰⁷ Ibidem, p. 27.

¹⁰⁸ On the surprising slowness with which other nations besides the US have adopted reconnaissance strike capabilities (and concerns over their emergence more recently), Barry D. Watts, *The Evolution of Precision Strike*, Center for Strategic and Budgetary Assessments, 2013, pp. 5-23. Specifically on Russia's lagging efforts, relative to the US, in net-centric warfare and computerization and automation of communication and information systems, see A. E. Aleksandrov, O Perspektivakh Realizatsii Setetsentricheskikh Kontseptsiy, *Voennaya Mysl'*, No. 5, May 2014, pp. 18-25.

capabilities. Nevertheless, according to a recent analysis by two Russian military experts who see much work still to be done, “strategic deterrence with conventional weapons of a potential aggressor state (or coalition of states) from undertaking a large-scale or regional war is unlikely. It is possible only by the threat of preventive nuclear actions.”¹⁰⁹ It was likely with this in mind that President Putin said in 2012, “it is evident that nuclear deterrence retains its role and significance in the structure of the armed forces. At least until we have other types of weapons, new generation strike complexes. Including precision weapons.”¹¹⁰ Russia’s heavy investment in modernizing its nuclear capabilities further underscores the leadership’s likely conviction that deterrence relying primarily on conventional precision weapons and new types of weapons is still over the horizon. Despite this caveat, Russia’s goals with regard to conventional precision strike are clear and its growing capabilities evident.

Employment of the Regional Deterrence Dyad. The destructiveness and side effects of nuclear weapons make them the “argument of last resort in uncompromising conflicts”. Non-strategic (tactical) nuclear weapons are nevertheless still viewed as having an important role as the second leg of Russia’s regional deterrence dyad, supporting regional deterrence while strategic nuclear weapons primarily (but not exclusively) support deterrence at the global level.¹¹¹ The precision and selectivity of targeting of conventional long-range weapons, and the related political acceptability of their use, give them a greater utility than nuclear weapons. Consequently, conventional long-range precision weapons will be the first weapon of choice in conflicts of local and regional scale.¹¹² While, as noted above, the selectivity of precision weapons creates problems in terms of the significant analytical requirements to support their effective employment, it also enables the infliction of tailored levels of damage for deterrence or for compellence for conflict containment and termination.¹¹³ The regional deterrence dyad of conventional long-range precision weapons and non-strategic nuclear weapons (NSNW), which several sources suggest could be augmented in some scenarios by ICBMs or SLBMs, is intended to provide the capability for flexible and incremental escalation.¹¹⁴ It can apply “demonstrative, single or grouped employment of nuclear and non-nuclear means at various stages of development of inter-state conflicts

¹⁰⁹ V. I. Polegaev, V. V. Alferov, O Neyadernom Sderzhivani, Ego Rol’ I Meste v Sisteme Strategicheskogo Sderzhivaniya, *Voennaya Mysl’*, No. 7, July 2015, p. 9.

¹¹⁰ V. Putin, « Byt’ Sil’nymi. »

¹¹¹ V. Esin, Doklady na 2-y Mezhdunarodnoi Konferentsii po Strategicheskoi Stabil’nosti, 4 June 2003, http://milrf/conference/cf_030604/5ru_esin.htm.

¹¹² V. V. Sukhorutchenko, A. B. Zel’vin, V. A. Sobolevskii, Napravleniya Issledovaniya Boevykh Vozmozhnostei Vysokotochno Oruzhiya Bol’shoi Dal’nosti v Obychnom Snaryazhenii, *Voennaya Mysl’*, No. 8, August 2009, p. 33.

¹¹³ Ibidem, p. 33.

¹¹⁴ For example, General Esin has suggested that ICBMs could be used in regional contingencies involving Ukraine. Interestingly, this was well before the 2014 seizure of Crimea and was in the context of the months prior to NATO’s 2008 Budapest Summit when a potential invitation to membership was being debated. Igor Plugatarev, Uday po Byvshim “Brat’yam”, *Nezavisimoe Voennoe Obozrenie*, 28 February 2008, http://nvo.ng.ru/wars/2008-02-29/1_strikes.html. A role for ICBMs with conventional warheads is suggested in V. V. Sukhorutchenko, A. B. Zel’vin, V. A. Sobolevskii, Napravleniya Issledovaniya Boevykh Vozmozhnostei Vysokotochno Oruzhiya Bol’shoi Dal’nosti v Obychnom Snaryazhenii, *Voennaya Mysl’*, No. 8, August 2009, p. 33. Levshin and his co-authors also suggested the utility of ICBMs with nuclear warheads for de-escalation purposes in some scenarios. See V. I. Levshin, A. V. Nedelin, M. E. Sosnovskii, O Primenenii Yadernogo Oruzhiya dlya Deeskalatsii Voennykh Deistvii, *Voennaya Mysl’*, No. 3 (5-6), 1999, 34-37.

corresponding to the situation, intended to provide for various levels of deterrent damage, the upper limit of which is unacceptable damage.”¹¹⁵ Non-nuclear and nuclear deterrence are conceptually linked because strategic nuclear deterrence is viewed as creating the necessary preconditions for non-nuclear deterrence (by conventional precision weapons) to be effective. Non-nuclear deterrence is therefore based on the threat, first, of prescribed damage by conventional long-range precision weapons linked, second, with the threat of nuclear escalation of the conflict, potentially to the level of massed nuclear strikes.¹¹⁶ For as long as it persists, the relative imbalance between Russia’s current conventional precision strike and nuclear capabilities may increase the risk inherent in this strategy.

Force Structure and Posture

Nuclear Forces Modernization. An examination of Russia’s deterrence concepts without considering its military force structure and posture would be an empty exercise. Likewise, Russia’s evolving strategy of strategic deterrence would be a paper tiger if was not backed up by the forces and capabilities necessary to make it a reality, i.e. for warfighting. As Aleksei Arbatov has noted:

...in the 70-year history of nuclear weapons never has a single system or single unit been created or accepted into the arsenal for the abstract aim of deterrence. These means have always been created and developed for fulfilment of concrete combat goals and destruction of specific targets in accordance with real operational plans for the conduct of nuclear war.¹¹⁷

In line with this thinking, Russia undertook a comprehensive modernization of its nuclear forces as part of a broader military modernization effort launched as soon as its economic situation permitted. The definitive start of this initiative in 2008 followed decades of under-funding and neglect (compounded by bureaucratic inertia and resistance) during the latter Soviet years and through the 1990s. During this period, Russia’s conventional military capabilities deteriorated to the point that the country was heavily, almost entirely, dependent on its strategic and non-strategic nuclear capability for security.¹¹⁸ Despite having priority, the nuclear forces also declined during these lean years and most of Russia’s strategic nuclear delivery systems were rapidly aging out of service.

Budget pressures were so extreme that by 1998 Russian leaders were forced to consider abandoning one leg of the strategic nuclear triad, with the focus on the possible

¹¹⁵ R. G. Tagirov, Yu. A. Pechatnov, V. M. Burenok, K Voprosu ob Opredelenii Urovnei Nepriemlemosti pri Reshenii Zadachi Silovogo Strategicheskogo Sderzhivaniya, *Vestnik Akademii Nauk*, No. 1, 2009, <http://naukaxxi.ru/materials/74/>. As one indication of the origins of this thinking and how such escalation scenarios might play out, Andrei Kokoshin noted in 1999 that the “preventive (warning) nuclear strikes” indicated in France’s nuclear doctrine resonated with the (then) “still forming new Russian ideology of nuclear deterrence”. A. A. Kokoshin, *Yadernoe Sderzhivanie I Natsional’naya Bezopasnost’ Rossii*, *Vestnik Rossiiskoi Akademii Nauk*, Vol. 69, No. 10, 1999, p. 896.

¹¹⁶ A. L. Khryapin, V. A. Afanas’ev, *Kontseptual’nye Osnovy*, pp. 11-12.

¹¹⁷ Aleksei Arbatov, *Yadernii Potolok*, VPK News, 23 July 2014, <http://vpk-news.ru/print/articles/21133>.

¹¹⁸ For a contemporary view of the military problems of this era and associated considerations including Russia’s forced reliance on strategic nuclear forces for deterrence, see N. E. Solovtsov and V. T. Nosov, *Rol’ I Mesto RVSN v Vooruzhennykh Silakh Rossii*, *Voennaya Mysl’*, No. 9, November-December, 1994, pp.72-76.

elimination of the Navy's ballistic missile submarines (SSBNs) or the Air Force's strategic bombers. Ultimately, they decided to retain all three legs of the triad and to nurse them through with systems service life extensions and other cost-saving measures.¹¹⁹ This important decision led to the retention of capabilities that now support the global and regional levels of the strategic deterrence concept described above.

Russia has a strategic nuclear triad comprising silo-based and mobile intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and long-range cruise missiles delivered by strategic bombers. Russia also has fighter aircraft, tactical and theatre bombers, ground-based short-range ballistic missiles and cruise missiles, and air and sea-launched intermediate-range cruise missiles. These platforms are capable of delivering conventional precision or non-strategic nuclear weapons. This set of weapons supports Russia's strategic deterrence strategy in a seamless spectrum on the local, regional, and global levels of conflict.

Naval forces and air forces provide flexibility, demonstrative presence, and both conventional and nuclear precision strike capabilities that are key to Russia's strategic deterrence concept.¹²⁰ Intermediate (theatre) range cruise missile capabilities are another key contribution as the INF Treaty only prohibits land-based missiles of that range. Because of the treaty-based restriction on land-based missile ranges, the role of air and sea-launched systems is critical and comprehensive. For example, the developing role of Long Range Aviation (LRA) bombers (TU-95, TU-160 and TU-22M3) includes their traditional strategic nuclear mission and, at all levels of conflict, demonstrative non-nuclear and nuclear strikes for de-escalation, conventional long-range precision strikes in local and regional conflicts, and stand-off attack of zones covered by air defence and suppression of enemy C2 and air defence forces.

The Russian Air Force and Navy have demonstrated some of the capabilities to accomplish similar tasks in operations in Syria. Long-range combat patrol flights by LRA bombers, which recommenced in 2007, are also likely used for training in some of these roles.¹²¹ The then commander of Long Range Aviation, General Zhikarev, subsequently identified the renewed combat patrols as part of a strategic deterrence plan, saying "Long Range Aviation flights will be continued as part of combat training at the same level of intensity according to the strategic deterrence plan."¹²²

¹¹⁹ See V. Esin, Doklady na 2-y Mezhdunarodnoi Konferentsii po Strategicheskoi Stabil'nosti, 4 June 2003, http://milrf/conference/cf_030604/5ru_esin.htm; I. Safranchuk, Budushchee Yadernykh Sil Rossii, *Nauchnyie Zapiski No. 10*, Moscow, PIR Center, 1999, pp. 34 and 56; and *O Znachenii Reshenii Soveta Bezopasnosti RF, Podgotovlennym A. A. Kokoshinym, v Sokhraneni Rossijskoi Strategicheskoi Yadernoi Triady*, <http://viperson.ru/prnt.php?prnt=1&ID=652088>. According to these sources, the Strategic Rocket Forces retained priority during this period and the debate was over potentially eliminating the strategic nuclear role of either the Navy or Air Force.

¹²⁰ Yu. P. Gladyshev, Yu. A. Yvarov, Morskoi Flot v Strategicheskome Sderzhivanii, *Voennaya Mysl'*, No. 11, 2007, pp. 26-33 and M. V. Fomin, Osobennosti Formirovaniya Ratsional'noi Sistemy Boevykh Sredstv Dal'nei Aviatsii, *Voennaya Mysl'*, No. 5, 2007, pp. 25-29.

¹²¹ On 17 August 2007, President Putin ordered LRA bombers to recommence combat patrol flights, which had been suspended since 1992. This, along with Putin's Munich Speech in February, the mass cyber-attacks against Estonia starting in April, and Russia's suspension of its compliance with the CFE Treaty in December made 2007 a turning point in relations with Russia. Putin Prikazal Strategicheskoi Aviatsii Vozobnovit' Boevoe Dezhurstvo, *Izvestia*, 17 August 2007. <http://izvestia.ru/news/406669>.

¹²² Aleksandr Sharkovskii, Dolgozhitel' Eshche Poletaet, *Nezavisimoe Voennoe Obozrenie*, 6 October 2015, http://www.ng.ru/armies/2015-06-10/2_tu95.html.

The strategic nuclear forces and the armed forces as a whole were badly in need of rearmament and modernization by the time President Putin launched a wholesale military reform effort in 2008. That effort has made substantial progress. It includes the ongoing development of high-readiness joint forces emphasising firepower and mobility; improved special forces capabilities; enhanced C3I; robotics; and layered air-space defence.¹²³ Modernization of the nuclear forces is the top priority in this effort as nuclear weapons remain the cornerstone of Russia's deterrence and defence even as the military pursues increased capability in long-range conventional precision strike.¹²⁴ Russia has given priority to its strategic nuclear forces and set the goal of having 98 percent of its fielded strategic nuclear weapons systems being new or modernized by 2020. At the end of 2015, Minister of Defence Shoygu announced that 55 percent of the strategic nuclear triad had been modernised.¹²⁵

Russia is modernizing its strategic nuclear capabilities by building and deploying new land and sea-based missiles (RS-24 YARS ICBMs in silo-based and mobile versions, a new heavy ICBM called SARMAT, the new RS-26 RUBEZH/AVANGARD ICBM, nicknamed a BMD killer; BULAVA SLBMs on the new BOREY Class submarines. Moreover, Russia is developing a rail mobile ICBM called BARGUZIN. It is also modernizing and upgrading its existing fleet of strategic bombers (TU-95 BEAR and TU-160 BLACKJACK) and theatre bombers (TU-22M3 BACKFIRE) and developing a new nuclear long range ALCM called Kh-102 (Kh-101 is the conventional warhead version).

In another significant development, the US has determined that Russia has developed a cruise missile that meets the definition of a ground-launched cruise missile with a range capability of 500-5500 kilometres, prohibited under INF Treaty provisions.¹²⁶ General-Colonel Esin, former Chief of Staff of the Strategic Rocket Forces, was asked in 2008 if the ISKANDER missile system could reach elements of the US Missile Defence Third Site segments planned at that time for the Poland and the Czech Republic. He hinted at a tested range for the cruise missile variant of the system in excess of INF Treaty limitations, saying, "exact data on the outcome of the latest test of the ISKANDER are not made public but this system has significant missile range – 500 kilometers, and even more."¹²⁷ If such a system were to be fielded, it would augment the air and sea-launched

¹²³ V. Gerasimov, Nachal'nik Rossiskogo Genshtaba – Ob Osnovnykh Zadachakh Razvitiia Armii, *Nezavisimoe Voennoe Obozrenie*, 12 September 2014, <http://nvo.ng.ru/concepts/2014-09-12>.

¹²⁴ V. Gerasimov, Pervoye Glavanoye Ispytanie: Yadernyi Arsenal Ostaetya Vazhneshei Garantiei Natsional'noi Bezopasnosti, *Voенно-Promyshlenniy Kur'er*, 29 August 2014, <http://vpk-news.ru/print/articles/21648>.

¹²⁵ *Rasshirennoe Zasedanie Kollegii Ministerstva Oborony*, 11 December 2015, <http://kremlin.ru/events/president/50913>.

¹²⁶ "In 2014 and 2015, the United States published in the unclassified version of the Report its determination that Russia was in violation of its obligations under the INF Treaty not to possess, produce, or flight-test a ground-launched cruise missile (GLCM) with a range capability of 500 km to 5,500 km, or to possess or produce launchers of such missiles... The United States determined that the cruise missile developed by Russia meets the INF Treaty definition of a ground-launched cruise missile with a range capability of 500 km to 5,500 km, and as such, all missiles of that type, and all launchers of the type used or tested to launch such a missile, are prohibited under the provisions of the INF Treaty." *US Department of State, 2016 Report on Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, 11 April 2016, <http://www.state.gov/t/avc/rls/rpt/2016/255651.htm#INF>.

¹²⁷ Igor Plugatarev, Udary po Byvshim "Brat'yam", *Nezavisimoe Voennoe Obozrenie*, 28 February 2008, http://nvo.ng.ru/wars/2008-02-29/1_strikes.html.

intermediate-range cruise missiles that Russia already possesses. In a possibly related development, Russia is close to fielding the new RS-26 RUBEZH ICBM. Its first test was at strategic range (5,800 kilometres) and so it qualified as an ICBM in line with INF Treaty requirements.¹²⁸ All subsequent tests have been at intermediate ranges (below 5500 kilometres), suggesting that the RS-26 RUBEZH is intended, or appears to be also intended, for a theatre/regional role.¹²⁹ If so, it could serve to enhance Russia's regional (intermediate range) ballistic missile capability along lines suggested in 1994 by two Russian experts:

The aim of deterrence brings forward an additional demand for the strategic nuclear forces – the ability to carry out selective strikes, including single nuclear strikes in a wide spectrum of ranges, with minimal ecological consequences. This is possible with weapons of the greatest accuracy, operational re-targeting, and formation of a space-time structure for strikes, and employment of warheads with adjustable yield.¹³⁰

Given the subsequent efforts to develop conventional long-range precision strike capabilities, the RS-26 RUBEZH might also be intended for regional deterrence missions, including with conventional warheads. The Commander of the SRF has announced that the RS-26 RUBEZH will deploy first to the 29th Guards Missile Division in Irkutsk.¹³¹ If the missile is intended for strategic deterrence at the regional level, this basing location in Siberia could be meant to address Russia's regional deterrence requirements vis-à-vis China and possibly some Asia-based segments of US and Allied missile defences and other capabilities. If deployed elsewhere, it could also be intended for other regional contingencies. In remarks specifically about the hypothetical re-targeting of ICBMs against Ukraine but relevant to regional contingencies more broadly, General-Colonel Esin, former Chief of the Main Staff of the Strategic Rocket Forces, said that the assigned ICBMs need not be based in European Russia but could be launched from Siberia or Transbaikal.¹³²

For delivery of non-strategic nuclear weapons, Russia is fielding new dual-capable fighter aircraft such as the SU-34 and modernizing its fleet of existing dual-capable aircraft (SU-24M2 FENCER) and developing new air and sea-launched cruise missiles. These same delivery platforms would support conventional long-range precision strikes. The Armed Forces also are continuing the deployment into the ground forces' missile brigades of the dual-capable ISKANDER missile system, in both ISKANDER-M

¹²⁸ Jeffrey Lewis, An Intercontinental Missile by Any Other Name, *Foreign Policy*, 25 April 2014, <http://foreignpolicy.com/2014/04/25/an-intercontinental-ballistic-missile-by-any-other-name> and Pavel Podvig, Too Many Missiles – Rubezh, Avangard, and Yars-M, *Russian Strategic Nuclear Forces Blog*, <http://russianforces.org/blog/2013/07>.

¹²⁹ For a similar example of adaptation by the Soviets of an intercontinental-range ballistic missile to a regional/theatre role, see Raymond Garthoff, *Détente and Confrontation: American-Soviet Relations from Nixon to Reagan*, Washington D.C., The Brookings Institution, 1994, pp. 960-961 on the SS-11 variable-range ballistic missile (VRBM).

¹³⁰ N. E. Solovtsov and V. T. Nosov, Rol' I Mesto RVSN v Vooruzhennykh Silakh Rossii, *Voennaya Mysl'*, No. 9, Nov-Dec 1994, p. 75. The emphasis on seeking a nuclear strike capability with minimal ecological consequences suggests that the possible employment of nuclear weapons on or close to Russian territory for local or regional contingencies was foreseen.

¹³¹ Pavel Podvig, Deployment of RS-24 YARS and RS-26 RUBEZH in Irkutsk, *Russian Strategic Nuclear Forces Blog*, http://russianforces.org/blog/2016/04/deployment_of_rs-24_yars_and_r.shtml.

¹³² Igor Plugatarev, Udary po Byvshim "Brat'yam", *Nezavisimoe Voennoe Obozrenie*, 28 February 2008, http://nvo.ng.ru/wars/2008-02-29/1_strikes.html.

(ballistic) and ISKANDER -K (cruise missile) versions.¹³³ However, full realization of the stated force modernization and capability development goals in terms of dual-capable precision strike remains in the future and will require further investment to modernize the bomber fleet, to develop more capable conventional long-range precision weapons, to produce a sizeable stockpile of them, and integrate the weapon systems into a modern C3I network.

Command and Control. Aspects of nuclear command and control merit particular attention because of its central role in Russia's strategic deterrence capabilities, its significance in Russia's developing approach to strategic deterrence, and the relatively low profile it has had in other examinations of Russia's nuclear policy and doctrine. There are both political and technical-operational elements of Russia's C2 arrangements to be considered.

Regarding the political element, Russia's Military Doctrine states "the decision on the use of nuclear weapons is taken by the President of the Russian Federation."¹³⁴ The President, the Minister of Defence, and the Chief of the General Staff comprise the National Command Authority and their mutual participation is required for nuclear authorization and attack options to be transmitted through the General Staff to the nuclear forces.¹³⁵ In addition to the redundant and survivable command and control system, which provides the technical-operational capability to transmit nuclear launch authorization and commands, it appears that the National Centre for Direction of Defence (NCDD) has an important role in supporting political-military decision-making. The National Centre for Direction of the Defence of the Russian Federation (NCDD), with subordinate centres in the military districts and administrative regions, is the military element of the unified information space. It has served as the C2 hub of Russian military exercises and operations since early 2014. The NCDD began 24/7 combat watch on a test basis from 28 March 2014, and upgraded to full operational capability on 1 December 2014.¹³⁶

One role of the NCDD is to maintain constant situational awareness to support routine and crisis decision making. While the exact division of labour between the NCDD and other command posts is unclear, it would seem to play a significant role in conveying as much context as possible to Russia's NCA during crisis. Its establishment is part of Russia's response to the demands of net-centric warfare, along with force-wide

¹³³ H. Kristensen and R. Norris, Russian Nuclear Forces 2016, *Bulletin of the Atomic Scientists Nuclear Notebook*, <http://www.tandfonline.com/doi/pdf/10.1080/00963402.2016.1170359>.

¹³⁴ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 27.

¹³⁵ On technical aspects of the Russian nuclear command and control system, see Charles D. Lazar Jr., *Russian Strategic Nuclear Command and Control*, Naval Postgraduate School Thesis, March 2002, pp 45-67. A broader treatment of doctrinal, capability, and warning issues related to Soviet nuclear command and control, much of which remains relevant or provides important context, see Stephen M. Meyer, Soviet Nuclear Operations, in Ashton B. Carter, John D. Steinbruner, Charles A. Zraket, eds, *Managing Nuclear Operations*, Washington D.C., The Brookings Institution, 1987, pp. 470-531. Another source on Soviet C3 that remains valuable is Desmond Ball, The Soviet Strategic C3I System, in *Command, Control, Communications, Intelligence Edition One*, Palo Alto, Defense Electronics, 1986, pp. 206-216.

¹³⁶ Ministr Oborony Rossii General Armii Sergei Shoigu Provel Ocherednoie Selektornoie Soveschaniie, 31 March 2014, http://function.mil.ru/news_page/country/more.htm?id=11913366@egNews and Na Boievoie Dezhurstvo Zastupila Operativnaia Dezhurnaia Smena Natsional'nogo Tsentra Upravleniia Oboronoii Rossii, 1 December 2014, http://function.mil.ru/news_page/country/more.htm?id=12002205@egNews.

communications upgrades and heavy investment in C4ISR. The NCDD is an important enabler for Russia's close coordination and integration of forces at all levels of conflict and so an important tool for managing strategic deterrence along the conventional – non-nuclear (precision conventional strike) – nuclear spectrum.¹³⁷ General Gerasimov has said that the National Centre for Direction of Defence makes the notion of a “combat alert” order meaningless as the NCDD maintains on a constant basis many of the steps toward readiness that, in the past, would have been necessary to take after an alert order.¹³⁸ Collectively, the mission and capabilities of the NCDD represent a potentially significant enhancement to the crisis decision-making capability of Russia's National Command Authority.

However, one significant element of political command and control of Russia's emerging strategic deterrence strategy remains opaque. This is how political decision-making and control will be exercised over employment of conventional long-range precision weapons in crisis scenarios. This is important. In light of the Russian conceptualization of conventional precision strike as approaching nuclear weapons in effect and their planned operational integration with non-strategic nuclear weapons for graduated levels of deterrence operations. The question is, what is the level of political control over employment of conventional long-range precision weapons, which are envisioned on a conflict spectrum that can lead to employment of nuclear weapons?

The significance of the political control question is amplified by the apparent trend to integrate nuclear and non-nuclear weapons in planning. As a component of C2, planning for use of strategic (nuclear and non-nuclear) weapons appears to have been revised to encompass strategic and non-strategic nuclear weapons along with conventional strategic weapons and taking into account operations by conventional forces:

The result of the planning process is a set of documents, a collection of planning tables and electronic carriers of data for employment of strategic weapons. It includes quantitative characteristics of variants and means for realization of planned strikes for all components of forces (means) according to their type and organizational association – up to determining combat goals of each separate strike means.¹³⁹

On the technical-operational elements of Russian nuclear C2, the effort to modernize the C2 of strategic deterrence forces has been intensive. Effective command and control of nuclear forces has always been a top priority to ensure responsiveness, operational effectiveness, and survivability (positive control) and to prevent unauthorized launches (negative control). The Missile Attack Warning System, space monitoring system and

¹³⁷ For example, according to the Chief of Staff of the Strategic Rocket Forces (SRF), the SRF Central Command Post continued to operate as usual after activation of the NCDD, though he added that the NCDD would increase the effectiveness of SRF forces on watch. Vvod v Stroi Natsional'nogo Tsentra Upravleniya Oboronoj Rossii Povysit Effektivnost' Raboty Dezhurnykh Sil RVSN, *Krasnaya Zvezda*, 3 December 2014, <http://www.redstar.ru/index.php/news-menu/vesti/tablo-dnya/item/20315-vvod-v-stroj-natsionalnogo-tsentra-upravleniya-oboronoj-rossii-povysit-effektivnost-raboty-dezhurnykh-sil-rvsn>.

¹³⁸ Nachal'nik Rossiiskogo Genshtaba Rasskazal Zhurnalistam o Zadachakh i Roli Natsional'nogo Tsentra po Upravleniiu Oboronoj RF, 1 November 2014, http://function.mil.ru/news_page/country/more.htm?id=11998309@egNews; N. E. Solovtsov and V. T. Nosov, Rol' I Mesto RVSN v Vooruzhennykh Silakh Rossii, *Voennaya Mysl'*, No. 9, Nov-Dec 1994, p. 75.

¹³⁹ A. A. Protasov, V. A. Sobolevskiy, V. V. Sukhorutchenko, Planirovaniye Primeneniya Strategicheskikh Vooruzhenii, *Voennaya Mysl'*, No. 7, July 2014, p. 10.

air-space defence are considered, in combination with the strategic forces C2 system, critical elements of the strategic system of the “Information-Control” system and any efforts to impede it are considered a fundamental threat.¹⁴⁰

The tasks of Russian nuclear C2 comprise:

- prevention of unsanctioned use of nuclear forces;
- planning for combat employment of nuclear forces;
- maintenance of nuclear forces in the established level of combat readiness;
- transition of nuclear forces from peacetime status to wartime status;
- transmission of commands and orders under various conditions to nuclear forces units and nuclear delivery platforms.¹⁴¹

The criticality of reliable and survivable C2 of strategic nuclear forces gained increased emphasis in the context of significant post-Cold War nuclear force reductions during the early 1990s. The shift toward strategic deterrence incorporating nuclear and conventional precision elements at the global and regional levels was also evident in C2 development. Contemporary innovations in deterrence thinking, initially driven by severe resource and capability shortfalls as described above, led by the mid-1990s to work toward unified C2 of strategic nuclear forces (SRF, Navy and Long Range Aviation), and development of flexible planning for nuclear operations at all levels of conflict, including coordination of nuclear and conventional weapons.¹⁴²

Modernization efforts were taken forward in the 2000s with a view to providing the necessary flexibility to control forces for strategic deterrence by conventional and nuclear means. In line with this emphasis on enhanced combat control, Russia is fielding new digital command and control systems throughout the nuclear forces. The Strategic Rocket Forces are being provided with a 4th-generation digital C2 system designed specifically to improve command and control of mobile missiles, including by expanding reception range.¹⁴³ Among other effects, this should increase the size of territory in which the mobile missiles can operate while remaining under effective C2, thereby increasing survivability. It should also increase targeting flexibility of deployed units, enabling re-targeting in line with changes in the situation and improving nuclear warfighting capability. Modernization efforts have also included measures to address the relative lag in C2 of non-strategic nuclear weapons by comparison with strategic nuclear C2. The aim is to integrate NSNW into a joint strategic and non-strategic nuclear C2 system with enhanced and more survivable operational capability.¹⁴⁴

¹⁴⁰ Informatsionno-Ypravlyayushchaya Sistema (IYuC). On the related threat perception, see *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 14. b.

¹⁴¹ A. A. Protasov, S. V. Kreidin, C. Yu. Egorov, *Sistemy Upravleniya Voiskami (Silami) kak Instrument Strategicheskogo Sderzhivaniya*, *Voennaya Mysl'*, No. 7, July 2009, p. 9.

¹⁴² I. Sergeev, *Sovershenstovanie Boevoi Gotovnosti Raketnykh Voisk Strategicheskogo Naznacheniya v Usloviyakh Realizatsii Dogovorov po SNV*, *Voennaya Mysl'*, No. 6, November-December, 1995, pp. 17-22.

¹⁴³ V Perevooruzhaemykh Soedineniyakh RVSN Nachalas' Modernizatsiya Sistemy Boevogo Upravleniya, *Krasnaya Zvezda*, 2 January 2014, <http://mil.ru/et/news/more.htm?id=11884005@egNews>.

¹⁴⁴ A. A. Protasov, S. V. Kreidin, C. Yu. Egorov, *Sistemy Upravleniya Voiskami*, pp. 9-10.

Modernization of C2 for strategic deterrence forces has taken place in the context of government-wide efforts toward enhanced military command, control, communications, computer, intelligence, surveillance and reconnaissance systems (C4ISR) to enable centralised command and control within a military “unified information space” integrated into a larger government “unified information space.” The President sits at the apex of the C2 pyramid and authority for employment of nuclear weapons rests with him in his capacity as Commander-in-Chief. President Putin appears to immerse himself in the Commander-in-Chief role and participates regularly in strategic command post and live-fire exercises involving strategic nuclear forces in preparation to execute those duties.¹⁴⁵

Exercises and Operations

Exercises. Russia’s apparent inclusion of a simulated employment of a non-strategic nuclear weapon to “de-escalate” the conventional theatre engagement during the ZAPAD-1999 strategic military exercise was a notable event. It drew the attention of Western observers to a potentially dangerous new development in Russian warfighting strategy. As Jacob Kipp has pointed out, it occurred at a time when post-Cold War NATO-Russia relations were reaching a nadir over Alliance operations in Kosovo.¹⁴⁶ However, as Kipp indicated, the nuclear “escalation to de-escalate” element in ZAPAD-99 was in part coincidental to the developments around Kosovo. There were ongoing public discussions regarding the role of nuclear weapons in Russia’s security due to the dire state of its general purpose forces at the time. As we now know, the public discussion echoed the political and military leadership’s internal debate during 1998 over a new nuclear strategy that President Yeltsin signed at the end of that year.¹⁴⁷ The ZAPAD-99 exercise was therefore opportune both to test an element of the new nuclear strategy and to send a strategic deterrence message to NATO. Seventeen years later, some similar elements are in the mix including renewed tensions between Russia and NATO and high profile nuclear signalling by Russia for strategic deterrence purposes. New elements in the already volatile mix include Russia’s regional aggression, crash military modernization, and development of conventional precision strike capabilities to augment nuclear weapons in supporting deterrence. Against this background, Russia is pursuing a robust exercise and training programme that displays aspects of its developing strategic deterrence strategy, including integrated non-nuclear and nuclear capabilities.

The Russian Armed Forces have been exercising and operating at significantly higher levels since 2007 than was the case during the early post-Soviet period. Since 2007, several post-Cold War “firsts” have taken place, including the first combat patrols by

¹⁴⁵ In contrast, General Secretary Brezhnev was said to have been “visibly terrified” when briefed during a strategic nuclear command post exercise on the consequences of a notional first strike by an enemy and, when asked to push a button to give a command for a retaliatory strike “Brezhnev was visibly shaken and pale and his hand trembled and he asked...several times...’are you sure this is just an exercise?’” Recounted by General-Colonel A. Danilevich in J. Hines, *Soviet Intentions 1965-1985, Vol. II, Soviet Post-Cold War Testimonial Evidence*, BDM, McLean, Virginia, 1995, p. 27.

¹⁴⁶ Dr. Jacob W. Kipp in “Russia’s Non-Strategic Nuclear Weapons”, *Military Review*, Volume LXXXI, No. 3, May-June 2001, pp. 27-38.

¹⁴⁷ V. Esin, Doklady na 2-y Mezhdunarodnoi Konferentsii po Strategicheskoi Stabil’nosti, 4 June 2003, http://milrf/conference/cf_030604/5ru_esin.htm

strategic bombers, the first snap exercises, first re-drawing of European borders by force since World War II, etc. Each of these firsts has been followed by progressively larger and more complex events of similar nature - larger and more complex bomber patrols, snap and strategic exercises; larger and more ambitious operations against Ukraine than Georgia, plus operations in Syria. The overall impression is one of steady, significant improvements in the operational capabilities of Russia's Armed Forces.

The increased activity level itself is revealing and highlights (along with the modernization programme) the political will, increased spending, and investment of intellectual capital that have halted and reversed Russia's military decline. Exercises and operations are also the concrete expression of military policy and doctrine, revealing capabilities and shortfalls and signposting future development. In this regard, activity and developments in Russia's nuclear forces match the overall pattern of steady progress and increasing coordination and integration for effective joint operations.¹⁴⁸

Russia's strategic deterrence forces participate in strategic, snap (surprise), command post and field training exercises conducted from the unit to the national level. The Strategic Rocket Forces, Long Range Aviation and Naval Strategic Forces conduct their own exercises at the unit level and above and take part in snap drills, which President Putin re-established beginning in 2013.

Annual exercises of all strategic nuclear forces test the reliability of C2 from the national command level to the units, check readiness, and integrate strategic defence through participation of the Air-Space Defence Forces. Live firing of strategic ballistic missiles and air-launched cruise missiles is normally included. In keeping with the evolving regional level of strategic deterrence, Army operational-tactical SS-21 TOCHKA and SS-26 ISKANDER units and Aerospace Forces dual-capable fighter aircraft also participate. The strategic forces snap exercise of October 2013 is an example.¹⁴⁹

In a significant exhibit of coordination of conventional and nuclear capabilities during exercises, elements of the strategic deterrence forces also participate in snap exercises of the military districts in ways that reflect various aspects of the evolving deterrence policy and doctrine. For example, Long Range Aviation TU-95 BEAR strategic bombers participated in a snap exercise of the Western Military District in March 2014. Given the nature of the exercise, the dual-capable bombers may have been simulating delivery of conventional air launched cruise missiles in a regional deterrence role or might have been simulating a selective nuclear strike for de-escalation purposes, or both.¹⁵⁰ In a variation on this theme, mobile missile units of the Strategic Rocket Forces

¹⁴⁸ For the broader context of Russia's invigorated programme and specific exercises during 2011-2014, see J. Norberg, *Training to Fight – Russia's Major Military Exercises 2011-2014*, FOI, FOI-R-4128-SE, December 2015.

¹⁴⁹ Podtverzhdena Nadezhnost' Yadernogo Shchita, 8 November 2013, *Nezavisimoe Voennoe Obozrenie*, 8 November 2013, http://nvo.ng.ru/2013-11-08/2_red.html?print=y.

¹⁵⁰ V. Khudoleev, V Nebe, Na More, Na Zemle, *Krasnaya Zvezda*, 2 March 2014, <http://www.redstar.ru/index.php/component/k2/item/14678-v-nebe-na-more-na-zemle>

went to full combat alert and deployed to their field operating locations as part of a snap exercise of conventional forces of the Western Military District in June 2014.¹⁵¹

The March 2015 snap exercise of the Arctic Joint Operational Command, created in 2014 and headed by the Northern Fleet Headquarters, is particularly noteworthy as an example of the integration of strategic deterrence forces into regional and global exercise scenarios. The six-day exercise opened with the alert and activation of the Arctic Joint Operational Command/Northern Fleet for an apparent Arctic region scenario, with the headquarters of the Airborne Forces and strategic nuclear forces put on stand-by alert. The scenario apparently escalated rapidly to large-scale conflict as demonstrated by the subsequent activation of the National Centre for Direction of Defence for a command post exercise and alert of all military districts and the armed forces. The scenario subsequently included SSBN C2 exercises, extensive participation by LRA aircraft and other dual-capable bombers and fighters, and activation of the air and space defence system to defend against a mass missile-aviation attack by a notional aggressor.¹⁵²

Deployed field exercises of the Strategic Rocket Forces emphasise readiness for mobilization and deployment, reliability of C2 links to and among deployed units, and survivability measures including active force protection, *maskirovka*, and rapid relocation.¹⁵³ Long Range Aviation (LRA) exercise and training activity has increased since the re-start of combat patrols in 2007. The size of the formations and the complexity and range of activities have also increased in stand-alone LRA exercises and as part of snap exercises of military districts.¹⁵⁴

¹⁵¹ Russian Ministry of Defence, Podrazdeleniya RVSN Vypolnyayut Uchebno-boevye Zadachi v Ramkakh Vnezapnoi Proverki Boegotovnosti Voisk TsVO, 24 June 2014, MOD Website, http://function.mil.fur/news_page/country/more.htm?id=11961049@agNews.

¹⁵² Po Resheniyu Vladimira Putina Provoditsya Vnezapnaya Proverka Boegotovnosti Severnogo Flota, Soedinenii Zapadnogo Voennogo Okruga I VDV, MOD Website, 16 March 2015, http://function.mil.ru/news_page/country/more.htm?id=12010279@egNews. V Khode Vnezapnoi Proverki Boegotovnosti Budet Otrabotano Usilenie Gruppировки Voisk (Sil) v Arktike, MOD Website, 16 March 2015, http://function.mil.ru/news_page/person/more.htm?id=12010282@egNews. Ministr Oborony Rossii General Armii Sergei Shoigu Provel Zasluzhivanie o Khode Vnezapnoi Proverki Boegotovnosti, MOD Website, 18 March 2015; Voiska PVO Vostochnogo Voennogo Okruga Uspeshno Otrazili Massirovannyi Udar Uslovnogo Protivnika, MOD Website, 18 March 2015, http://function.mil.fur/news_page/country/more.htm?id=12017. Uzhe 80 Tys Voennykh Uchastvuyut v Proverke Boegotovnosti V Arktike, *Nezavisimaya Gazeta*, 19 March 2015, <http://www.ng.ru/news/497621.html>. Pod Rukovodstvom Ministra Oborony Generala Armii Sergeya Shoigu Podkhodyat k Kotsu Strategicheskaya Komandno-Shtabnaya Trenirovka I Vnezapnaya Proverka Boegotovnosti Organov Voennogo Upravleniya, *Krasnaya Zvezda*, 23 March 2015, <http://www.redstar.ru/index.php/component/k2item/22525>. V Rossii Podoshli k Zaversheniyu Krupnomashtabnye Voennye Ucheniya, 21 March 2015, <http://www.interfax.ru/russia/431279>.

¹⁵³ The Russian MOD on-line Military Encyclopedic Dictionary defines *maskirovka* as, “a set of measures aimed at hiding troops (forces) and targets from the enemy and misleading the enemy concerning availability, locations, composition, condition, and intentions of troops (forces) and of command plans. *Maskirovka* contributes to surprise actions by troops (forces), the preservation of their combat effectiveness, and enhances survivability.” Military Encyclopedic Dictionary, Russian MOD Website, <http://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=7917@morfDictionary>.

¹⁵⁴ As one example of a complex, multi-aircraft exercise, see Russian Ministry of Defence, V Saratovskoi Oblasti Nachalos' Komandno-Shtabnoe Uchenie Dal'nei Aviatsii VVS Rossii, MOD Website, 1 April 2015, http://function.mil.fur/news_page/country/more.htm?id=120129@agnews.

Minister of Defence Shoygu has said with specific reference to the successful deployment and operations of a Russian expeditionary force in Syria that the return to the practice of snap exercises since 2013 has materially contributed to combat readiness.¹⁵⁵

Operations. In terms of operations, President Putin's leveraging of Russia's nuclear capability in order to deter outside military involvement during the initial phase of the conflict in Ukraine is the most salient example of Russia's concept of strategic deterrence.¹⁵⁶ He highlighted Russia's nuclear capability in the context of the Ukraine crisis in August 2014.¹⁵⁷ He subsequently said that he had been prepared to take Russia's nuclear forces to a state of alert over Crimea if necessary.¹⁵⁸ This confirmed impressions that had already formed among some observers that Russia was using its nuclear forces to send deterrent messages in relation to the crisis.¹⁵⁹ Even before Putin explicitly placed the Ukraine crisis in a nuclear context, Foreign Minister Lavrov had implied that Russia's nuclear deterrent umbrella now extends over Crimea as part of Russian territory.¹⁶⁰ Putin and Lavrov have both said that Russia may deploy nuclear-capable systems and nuclear weapons in Crimea.¹⁶¹ Explicit nuclear-related Russian messaging around the Ukraine crisis and potential reactions by the West to related regional instability continued through the initial months of the conflict.¹⁶² One of the most explicit warnings was delivered during a bi-lateral meeting of Russian and US former officials in early 2015 when the Russian side conveyed a message, apparently sent by the Kremlin, that any effort to re-take Crimea by force would be considered a direct attack on Russia. Such an attack "will be responded to forcefully, including through the use of nuclear force... In this type of scenario, the United States should also understand it would also be at risk."¹⁶³

¹⁵⁵ Tezisy Doklada Ministra Oborony Rossiiskoi Federatsii na Rasshirennom Zasedanii Kollegii Minoborony Rossii, MOD Website, 11 December 2015, p. 4, http://function.mil.ru/files/morf/2015-12-11_MoD_board_extended_session_RUS.pdf.

¹⁵⁶ A good précis of regional and global activity by Russian dual-capable aircraft in the context of the Ukraine crisis and the general downturn in relations with Russia can be found in, Alexandre Sheldon-Duplaix, *Qui Menace Qui ? Les Raisons d'une "Nouvelle Guerre Froide."* *Stratégie, Defense & Sécurité Internationale*, No. 112, March 2015, pp. 54-61.

¹⁵⁷ Remarks by President Putin at the All-Russian Youth Forum, 29 August 2014, <http://news.kremlin.ru/news/46507>.

¹⁵⁸ Jim Heintz, Putin: Russia Prepared Raising Nuclear Readiness Over Crimea, AP News, 15 March 2015, <http://apnews.myway.com/article/20150315/eu-russia-crimea-2859701388.html>.

¹⁵⁹ Thomas C. Moore, *The Role of Nuclear Weapons During the Crisis in Ukraine*, The Lugar Center, 2 July 2014, [www://the.lugarcenter.org/newsroom-tlcexperts-8html](http://www.lugarcenter.org/newsroom-tlcexperts-8html) and Adrian Croft, *Insight – Russia's Nuclear Strategy Raises Concerns in NATO*, Reuters, 4 February 2015, <http://uk.reuters.com/article/2015/02/04/uk-ukraine-crisis-russia-nuclear-insight-idUKKBNOL825A20150204>.

¹⁶⁰ Bai Yang, Russia to "adequately respond" to aggression against Crimea: FM, Xinhua, 7 July 2014, <http://english.cntv.cn/2014/07/09/ARTI1404913903653838.shtml>.

¹⁶¹ Lavrov quoted in Sergei L. Loiko, Russia says it has a right to put nuclear weapons in Crimea, *Los Angeles Times*, 15 December 2014, <http://www.latimes.com/world/europe/la-fg-russia-nuclear-crimea-20141215-story.html> and Bill Gertz, Russia Deploying Tactical Nuclear Weapons in Crimea, *Washington Free Beacon*, 10 October 2014, <http://freebeacon.com/national-security/russia-deploying-tactical-nuclear-arms-in-crimea/>.

¹⁶² Ben Hoyle and Michael Evans, Putin Threat of Nuclear Showdown Over Baltics, *The Times*, 2 April 2015, <http://www.thetimes.co.uk/tto/news/world/europe/article4399757.ece>.

¹⁶³ Umberto Bacchi, Russia Issues Nuclear Threat Over Crimea and Baltic States, *International Business Times*, 2 April 2015, <http://www.ibtimes.co.uk/russia-issues-nuclear-threat-over-crimea-baltic-states-1494675> reports

The Syrian operation has also provided Russia the opportunity to employ elements of its regional deterrence dyad under operational conditions. The Caspian Sea Flotilla conducted the first-ever operational strike using KALIBR-NK land attack cruise missiles on 5-6 October 2015. KALIBR cruise missiles, with a range of approximately 1500 kilometres, were subsequently launched from a Russian Navy surface vessel and a multi-purpose submarine in the Mediterranean. TU-95 BEAR and TU-160 BLACKJACK strategic bombers flying missions from Russia later launched Kh-101 cruise missiles against what Moscow described as ISIL targets in Syria. The successful employment of these conventionally armed long-range cruise missiles demonstrated the operational reach of these important elements of Russia's non-nuclear/nuclear regional deterrence capability. The subsequent confirmation of the presence of the ISKANDER missile system deployed at Humaymim Air Base suggests that Russian Forces also tested that operational-tactical element of the regional deterrence tool kit in Syria.¹⁶⁴

Implications

Our partners should always understand, whatever condition their states are in and whatever foreign policy concept they may have, that it is better not to mess with us... I want to remind everyone that Russia is one of the strongest nuclear powers."¹⁶⁵

V. Putin

Russia's nuclear weapons and geopolitics. It has become a truism to observe that nuclear weapons are one of Russia's few claims to great power status. This notion should not be neglected as a cliché but fully understood for its implications, including as a driving factor in Russia's approach to nuclear weapons. Russia intends to exercise its status as a great power that is fully sovereign and independent and not subject to coercion, in large part due to its possession of large inventory of nuclear weapons.

Foreign observers often point to Russia's reliance on nuclear weapons in support of a broader argument of Russia's fundamental weakness. Russians may not accept the assertion that nuclear weapons are Russia's *only* claim to great power status, but the political, foreign policy and military establishments all recognised Russia's over-reliance on nuclear weapons during the 1990s when its Armed Forces were at their

on the March 2015 meeting of the US-Russian Torgau Group (a bilateral group of retired and former military officers and intelligence officials), on the basis of meeting notes.

¹⁶⁴ Nachal'nik Glavnogo Operativnogo Upravleniya Genshtaba VS RF Andrei Kartapolov Rasskazal o Rezul'tatakh Primeneniya Krylatykh Raket po Boevikam v Sirii, MOD Website, 8 October 2015, <http://syria.mil/news/more.htm?id=12060062@egNews>; Massirovannye Aviatsionnye Udari Krylatymi Raketami I Aviabombami po Ob'ektam IGIL Nanesli Samolety Dal'nei Aviatsii VKS Rossii, MOD Website, 17 November 2015, <http://syria.mil/news/more.htm?id=12066124@egNews>; Ready for War: Russia's Stealthy Kh-101 Cruise Missile Debuts in Syria, The National Interest, 19 November 2015, <http://nationalinterest.org/blog/the-buzz/ready-war-russias-stealthy-kh-101-cruise-missile-debuts-14387>; J. Binnie, ISKANDER TEL Spotted in Syria, IHS Jane's Defence Weekly, 6 April 2016, p. 4. Vladimir Kozin made the direct connection between the expeditionary employment in Syria of these weapons systems and their potential role in strategic scenarios including pre-emptive or retaliatory strikes with nuclear or conventional warheads in V. Kozin, Operation Hmeymim: Strategic Implications of Russia's Cruise Missiles' Launch, Targeting Terrorists in Syria, *Global Research*, 13 October 2015, <http://www.globalresearch.ca/operation-hmeymim-strategic-implications-of-russias-cruise-missiles-launch-targeting-terrorists-in-syria/5481864>.

¹⁶⁵ Remarks by President Putin at the All-Russian Youth Forum, 29 August 2014, <http://news.kremlin.ru/news/46507>.

nadir. They also recognised the associated political constraints and security risks as untenable in the long-term.

Russia's ongoing military reform and modernisation are intended to address this problem and to make the Armed Forces a more usable policy instrument. By most measures, this effort is succeeding. Russia now fields increasingly capable full-spectrum forces that can be brought to bear for strategic political effect. Nuclear weapons have not been side-lined by increasingly capable conventional forces. Instead, they have been integrated in conceptual and practical terms. The roles assigned to Russia's nuclear weapons in deterrence, de-escalation and warfighting place them at the centre of the geopolitical competition that President Putin has re-opened in Europe.¹⁶⁶

This highlights a fundamental difference from the strategic bind that Russia was in throughout the 1990s and into the 2000s. During that period, it was forced by the weakness of its conventional forces, in *absolute* terms, to rely on nuclear weapons to deter aggression. For lack of a suitable military instrument, Moscow was forced to accept developments on its periphery that it could not address militarily. Now the nature of Russia's reliance on its nuclear capabilities has changed. Russia has re-built its conventional capabilities and can shape events militarily on its periphery, and to some distance beyond, when political solutions are insufficient.¹⁶⁷ Rather than being almost entirely dependent on its nuclear capabilities, Moscow is now able to exploit them to offset the *relative* weakness of its conventional forces as it pursues its revanchist and irredentist agenda. This has implications at both the strategic and operational levels.¹⁶⁸ For one, it implies that Russia envisions employing nuclear weapons in some scenarios as a means to defend positions gained by *successful*, rapid conventional operations rather than as a way to "escalate out of failed conventional aggression."¹⁶⁹

At the geopolitical level, President Putin has established a "new normal" in the international security environment in which nuclear weapons have a greatly increased profile in connection to potential conflict. He has done this by several means, including

¹⁶⁶ For an overview of several aspects of Russian nuclear deterrence policy with more emphasis on the view that Russia continues to be dependent on nuclear weapons due to conventional weakness, see Elbridge Colby, *Russia's Evolving Nuclear Doctrine and Its Implications*, Note No. 01/2016, 12 January 2016, *Fondation pour la Recherche Stratégique*.

¹⁶⁷ For a concise and thorough outline of the extent of Russia's military reform and conventional forces modernization, see Gustav Gressel, *Russia's Quiet Military Revolution, and What it Means for Europe*, European Council on Foreign Relations, ECFR 143, October 2015. See also the useful and periodically updated Jakob Hedenskog and Carolina Vendil Pallin, *Russian Military Capability in a Ten-Year Perspective – 2013*, FOI, December 2013. For conceptual aspects of Russia's military reform assessed in the context of the operations to seize Crimea, see Kristin Ven Bruusgaard, *Crimea and Russia's Strategic Overhaul*, Parameters 44(3), Autumn 2014, pp. 81-90.

¹⁶⁸ The combination of Russia's efforts to modernize its nuclear capabilities and to develop a capacity for intervention in its conventional forces is also noted in the French Ministry of Defence *Livre Blanc: défense et sécurité nationale 2013*, p. 36.

¹⁶⁹ "Our nuclear deterrent is the ultimate protection against a nuclear attack on the United States, and through extended deterrence, it also serves to reassure our allies of their security against regional aggression. It also supports our ability to project power by *communicating to potential nuclear-armed adversaries that they cannot escalate their way out of failed conventional aggression.*" Statement of Robert Scher, Assistant Secretary of Defense for Strategy, Plans, and Capabilities Before the House Armed Services Subcommittee on Strategic Forces, 15 April 2015, p. 1, <http://docs.house.gov/meetings/AS/AS29/20150415/103008/HHRG-114-AS29-Wstate-ScherR-20150415.pdf>.

a steady drumbeat of political messaging, the resumption of high-profile LRA bomber flights outside Russian territory, and military exercises that prominently feature nuclear and nuclear-capable forces. The effect has been to return nuclear deterrence to the forefront of security discourse, which suggests heightened perceptions of the threat of military conflict and of the increased risks associated with potential conflicts – a deliberate overturning of what Herman Kahn called “nuclear incredulity”.¹⁷⁰ In doing so, President Putin has bucked the widespread perception in the West that nuclear weapons “have lost much of their utility as tools of geopolitical influence.”¹⁷¹

This is due almost entirely to the confrontational framework in which Russia depicts its relations with the West, and the nuclear-related strategic messaging and provocative force posturing in the context of recent Russian acts of aggression. Although Russia has invested in modernisation, its nuclear triad in terms of structure is otherwise largely as it was during 1991-2007, when the West had a relaxed attitude toward Russian nuclear capabilities. The number of strategic warheads and delivery vehicles actually declined during that period. What has changed for the worse, and attracted the attention of the West, is policy and strategy, the concepts for deterrence and weapons employment, and force posture – and how the political leadership exercises and frames them. As one example of this deterrence messaging, the Russian Ambassador to Denmark caused a furore when he said that Russia would begin targeting Denmark if it contributed to NATO missile defence.¹⁷² In reality, the Ambassador’s remarks were a statement of fact that changed nothing. President Medvedev caused alarm with similar threats regarding NATO missile defence plans in 2011.¹⁷³ As a competitive nation that is strategically suspicious of the US, NATO and the Allies, Russia would in any case have plans for targeting key Allied facilities in the event of conflict. Stating it publicly is both intentionally provocative and another element in Russia’s strategic messaging campaign for deterrence and intimidation purposes. One could view the secret document called “The Basis of State Policy on Nuclear Deterrence to 2020” in the same light. Its approval by the Security Council was announced at the same time as the approval and public release of the 2010 iteration of the Russian Military Doctrine.¹⁷⁴ The document has been the centre of much speculation ever since as to its contents, which may have been the aim behind announcing the approval of a *secret* document in the first place. Just as the Russian General Staff would in any case have targeting plans for Danish military facilities, it would *of course* have secret, detailed guidance and plans on the employment of nuclear weapons.

¹⁷⁰ Herman Kahn, *On Escalation: Metaphors and Scenarios*, New York, Praeger, 1965, p. 43. “...at some point, the ‘nuclear incredulity’ that all of us share may be sharply decreased, if not eliminated. The popular sense of security ends or is shaken, and the ‘unreal’ and ‘hypothetical’ nuclear stockpiles may suddenly be perceived as real threats. This change will not come all at once, and may not be extreme, but it may occur to a large enough degree that a percentage of the population and a majority of decision-makers seriously envisage the possibility of nuclear war actually occurring.” Significantly, Kahn envisaged this occurring in conditions of intense crisis, after “dramatic military confrontations” had already taken place.

¹⁷¹ Bobo Lo, *Russia and the New World Disorder*, Chatham House, London, 2015, p. 75.

¹⁷² *Russia Threatens to Aim Nuclear Missiles at Denmark Ships If It joins NATO Shield*, Reuters, 22 March 2015, <http://www.reuters.com/article/us-denmark-russia-idUSKBN0MI0ML20150322>.

¹⁷³ *Zayavlenie Prezidenta v Svyazi s Situatsiei, Kotoraya Slozhlilas’ Vokrug Sistemy PRO Stran NATO v Evrope*, 23 November 2011, <http://kremlin.ru/events/president/news/13637>.

¹⁷⁴ *Utverzhdena Voennaya Doktrina Rossiiskoi Federatsii*, Kremlin Website, 5 February 2010, <http://kremlin.ru/events/president/news/6799>.

The range of participants in Russia's strategic messaging campaign is noteworthy. A survey of just the various "messengers" mentioned in this paper shows they include: the President, Foreign Minister, Minister of Defence, Chief of the General Staff, Ambassadors, participants in "unofficial" bilateral fora, various retired generals, and security experts and academics. President Putin summed up the thinking behind Russia's constant nuclear messaging as follows:

Some would like to move Russia into a corner somewhere so that it does not meddle and does not hinder [their efforts] to dominate the globe. They still fear our nuclear capability, for this reason it is in the field of vision, attention, and because of this it is so irritating. Then we have our own opinion, we conduct an independent foreign policy and, I hope, will carry it out in the future.¹⁷⁵

Russia has deliberately made the political leadership of NATO nations aware that any crisis or conflict with Russia will have from the outset a nuclear dimension. As a result, after more than twenty years of viewing Russia's nuclear weapons as essentially an arms control and disarmament issue, Western leaders now also view them as a potential threat and a factor in deterrence calculations. If those who believe that Russia views itself as already in conflict with the West are correct, this reshaping of potential adversaries' perceptions of risks and threats is a significant achievement. It potentially enhances Russia's freedom of action, constrains adversaries as the geopolitical competition proceeds, prevents or circumscribes conflict, and deters potential retaliation as Russia pursues its aims.

Due to this aspect of Russia's Phase Zero preparation of the *geopolitical* battlefield, nuclear capabilities overshadow Russia's full-spectrum efforts to overturn post-Cold War arrangements.¹⁷⁶ The nuclear shadow increases the perceived risk in the adversary's mind of counteractions to Russia's political or military provocations. The potential deterrent effect would provide more time and space for manoeuvre to Russia and support its effort to achieve its aims while avoiding direct military conflict. Russia has twice leveraged its nuclear capabilities in regional crises - in Georgia and Ukraine.¹⁷⁷ Furthermore, Ukraine is the first post-Cold War instance of Russia's

¹⁷⁵ V. Putin, *Stenogramma Programmy "Razgovor s Vladimirom Putinym – Prodolzhenie,"* Rossiiskaya Gazeta RG.RU, 15 December 2011, <http://www.rg.ru/printable/2011/12/15/stenogramma.html>.

¹⁷⁶ US Joint Publication 5-0 (JP 5-0), Joint Operational Planning, Washington D.C., US Government Printing Office, 2011, pp. III-38 – III-44 describes phasing in operations and campaigns. The first, Phase Zero, outlines interagency activities performed to dissuade or deter potential adversaries by shaping perceptions and influencing the behavior of adversaries and partners. Discussions of "gray zone" and hybrid operations are related. See also Hal Brands, *Paradoxes of the Gray Zone*, Foreign Policy Research Institute E-Notes, fpri.org/article/2016/02/paradoxes-gray-zone/; Antulio J. Echevarria II, How Should We Think About "Gray-Zone" Wars? in Bettina Renz and Hanna Smith, *Russia and Hybrid Warfare – Going Beyond the Label*, Aleksanteri Papers 1/2016, pp. 33-39; Tyrone L. Groh and Richard J. Bailey Jr., Fighting More Fires with Less Water: Phase Zero and Modified Operational Design, *Joint Forces Quarterly*, No. 77, 2nd Quarter 2015, pp. 101-108; M. Mazarr, *Mastering the Gray Zone: Understanding a Changing Era of Conflict*, Carlisle Barracks, US Army War College Press, December 2015; and Larry Kay, *Managing the Gray Zone is a Gray Matter Challenge*, *Small Wars Journal*, 27 July 2016, <http://smallwarsjournal.com/jrnl/art/managing-the-gray-zone-is-a-gray-matter-challenge>.

¹⁷⁷ On Georgia, see remarks by Frank Miller, Air Force Association, National Defense Industrial Association and Reserve Officers Association Capitol Hill Forum, 22 May 2015. "And in fact, the Russians did go to a nuclear alert in 2008 over Georgia when a U.S. cruiser went into the Black Sea and the Russians made a hyper-leap of imagination and decided it might be carrying nuclear-tipped cruise missiles, which had been retired in 1992. But okay, they went to nuclear alert anyway."

exploitation of nuclear weapons to redraw borders and to hold territory gained by aggression.

Regional crises are the most plausible future scenarios in which Russia's exploitation of its integrated full-spectrum military capabilities would include leveraging nuclear capabilities and the attendant risk of escalation to actual use of nuclear weapons. The potential scenario most often cited since the start of the Ukraine conflict is the Baltic region "fait accompli" of a conventional blitzkrieg with the territory captured subsequently retained through nuclear threats.¹⁷⁸ This might be one of the practical effects of Russia's reliance on nuclear weapons, as an element of its renewed military capability, to uphold its great power status and address security concerns on its periphery. The implications of this prospect reflect both aspects of the integration of nuclear and conventional capabilities noted by Michel Fortmann and Stéfanie Von Hlatky. From the Russian perspective, it creates an "instrumental nuclear force" usable to achieve limited aims. From the perspective of concerned observers in other nations, the integration of nuclear and conventional capabilities "imperils the tradition of non-use."¹⁷⁹

Russia's evolving approach to nuclear weapons as a geopolitical instrument integrates their warfighting capability into Russia's full-spectrum arsenal for psychological effect during conflict short of war and for containment and escalation control during armed conflict.

Russia's nuclear weapons and deterrence. Vipin Narang has identified "three analytically distinct and identifiable nuclear postures: a *catalytic* strategy that attempts to catalyse superpower intervention on the state's behalf; an *assured retaliation* strategy that threatens certain nuclear retaliation in the event the state suffers a nuclear attack; and an *asymmetric escalation* strategy that threatens the first use of nuclear weapons against conventional attacks."¹⁸⁰ It is clear that Russia's evolving nuclear posture is a distinct fourth variation that is an amalgam of assured retaliation strategy and asymmetric escalation strategy. As noted above, Russia's declaratory policy is to "use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it." Russia has also declared that it is prepared to use nuclear weapons in response to "the use of conventional weapons when the very existence of the state is threatened." Finally, the Military Doctrine 2014 indicates that Russian nuclear weapons have a role in regional stability, which implies their potential use in some regional scenarios. The relevant military writings outlined above indicate that conventional precision weapons and nuclear weapons are seen as a dyad for control and de-escalation of regional conflicts, including through potential first use of nuclear weapons.

¹⁷⁸ See for example Kathleen H. Hicks, Heather A. Conley, *Evaluating Future US Army Force Posture in Europe Phase I Report*, Center for strategic & International Studies, February 2016; David A. Shlapak, Michael W. Johnson, *Reinforcing Deterrence on NATO's Eastern Flank - Wargaming the Defense of the Baltics*, RAND, Arroyo Center, 2016; Edward Lucas, *The Coming Storm – Baltic Sea Security Report*, June 2015, Center for European Policy Analysis; and Johnson, *Russia's Approach to Conflict*, pp. 8-11.

¹⁷⁹ Fortmann and Von Hlatky, *The Revolution in Military Affairs*, pp. 313-314.

¹⁸⁰ Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict*, Princeton, Princeton University Press, 2014, pp. 4-5.

In aggregate, these elements of Russia's nuclear strategy suggest that the need identified by Vipin Narang for "theories and analysis distinct from the Cold War scholarship that dominates our present understanding of nuclear strategy and deterrence" applies to Russia as much as to the regional powers that were the focus of his study.¹⁸¹ The fact that Russia now acts as a regional challenger, including as regards its nuclear posture, reinforces Narang's point. Here it is worth noting the apparent, but not unintentional, contradiction between Russia's calls for strategic stability vis-à-vis the US while cultivating and exploiting instability in regions on its periphery. This is relevant to considerations of deterrence in Euro-Atlantic security because, on examination, some elements of Russia's ideal strategic stability model translate to a freer hand for Moscow in its neighbourhood. For example, the Russians are using the call for strategic stability as a political cudgel against US missile defence efforts while themselves undermining strategic stability and pursuing their own ambitious air and missile defence efforts. These considerations are among the signposts pointing to the increased criticality of the regional level of strategic deterrence.

The regional instability and raised profile of nuclear weapons resulting from President Putin's policies have given rise to increased concern and focus as to Russia's threshold for use of nuclear weapons. In light of Russia's evolving concept of strategic deterrence and its integration of nuclear and conventional weapons at the regional level, its threshold for use of *military force* should be considered first, and in conjunction with the nuclear threshold. This significantly complicates the problem because, as part of its Phase Zero shaping operations, Russia has deliberately created a "new normal" of unpredictability and instability in Europe, blurring and obscuring thresholds for the use of military force. The conflict in Ukraine demonstrated one threshold for escalation – Russia quickly resorted to military force once it perceived that Ukraine was on the verge of being "lost" to the West via closer cooperation with the European Union. Addressing the nation during the ceremony for the signing of the "Treaty on the Accession of the Republic of Crimea to Russia" implementing the illegal annexation of Crimea, President Putin said, "everything has its limits. In the case of Ukraine, our western partners crossed the line, acted rudely, irresponsibly, and unprofessionally."¹⁸² Two years later, he reemphasised the same message, possibly with reference to Ukraine or perhaps his decision in September 2015 to send an expeditionary force to Syria, saying, "we will not let them cross the red line with us. We demonstrated this not so long ago."¹⁸³

Where else on Russia's periphery could its leaders perceive and react to a similar threat, and under what conditions? Comments by President Putin and other Russian leaders in the aftermath of Russia's aggression against Ukraine further obscure Moscow's thresholds for use of military force. Are they tied to Russian ethnic minorities, holders of newly-minted Russian passports, former Imperial or Soviet territorial holdings, the varying boundaries of "Novorossiia", the choices of neighbouring sovereign states about political, economic and security alignments, or something else? This is the setting for an examination of Russia's potential thresholds for use of nuclear weapons.

¹⁸¹ Ibidem, p. 300.

¹⁸² V. Putin, Obrashchenie Prezidenta Rossiiskoi Federatsii, Official Site of the President of Russia, 18 March 2014, <http://news.kremlin.ru/news>.

¹⁸³ V. Putin, Forum Obshcherossiiskogo Narodnogo Fronta "Forum Deistvii. Regiony.", 25 April 2016, <http://kremlin.ru/events/president/news/51786>.

As noted above, some *aspects* of Russia's thresholds for use of nuclear weapons are outlined in the Military Doctrine. The most explicit indication of nuclear thresholds is provided in the statement in which Russia reserves its right to use nuclear weapons "in response to the use of nuclear and other types of weapons of mass destruction" as well as in response to "the use of conventional weapons when the very existence of the state is threatened." Some commentators have interpreted this as being a high threshold and one that sets the bar higher than in the earlier 2010 iteration of the Military Doctrine. This appears not to be the case in the context of other Russian elaborations of current deterrence concepts and observable aspects of Russia's nuclear deterrence posture.

First, the phrase "when the very existence of the state is threatened" is explicitly tied to the use of conventional weapons. The notion of a threat to the existence of the state should not be conflated with the preceding phrase about use of nuclear weapons in response to a nuclear attack. This alignment reveals three potential thresholds for Russian use of nuclear weapons. First, *any* nuclear attack on Russia or an ally, without qualification as to the size of the attack, a single weapon or many, or its yield or effects, threatening the existence of the state or not – is one aspect of a potential threshold. Second, any conventional attack perceived according to unknown metrics by the President as threatening the existence of the state is a potential threshold. Third, to return to a point made above, an attack using weapons of mass destruction, a category whose definition is evolving in Russian deterrence thinking, is another potential threshold – again on the basis of unknown metrics. Finally, the linkage drawn between nuclear capabilities and regional stability in the Military Doctrine, along with the related Russian military analyses outlined above, suggests other thresholds for nuclear use in regional conflict scenarios. Russian and foreign experts have asserted that non-nuclear deterrence using conventional long-range precision weapons can have the beneficial effect of raising the nuclear threshold when two nuclear powers are engaged in conflict.¹⁸⁴ This may be the case, but it seems doubtful. Looked at from another perspective, it may indirectly lower the threshold for use of nuclear weapons or, more directly, increase the likelihood of conflict that ultimately leads to use of nuclear weapons if it reduces the constraint felt by one or the other adversary about engaging in conflict in the first place. As noted above, President Putin has acknowledged the constraining effect of having only nuclear options for regional contingencies and the greater freedom of action provided by conventional long-range precision weapons. Conversely, he has said "a state with such [nonnuclear precision] weapons at its disposal seriously increases its offensive potential."¹⁸⁵ The notion that use of conventional precision weapons for non-nuclear deterrence can both raise the nuclear threshold and ease the path to direct conflict between nuclear-armed states seems contradictory and dangerous.

It is also worth assessing the meaning of the phrase "when the very existence of the state is threatened" in order to understand its implications as an element of a potential nuclear threshold. The phrase could indicate a high threshold for nuclear response to a conventional attack if it were interpreted to mean a threat to the continued existence of

¹⁸⁴ S. M. Minasyan, *Razvitiie Teorii Konventsional'nogo Sderzhivaniya v Sovremennoi Politicheskoi Nauke, Vestnik Tomskogo Gosudarstvennogo Universiteta*, No. 370, 2013, p. 117.

¹⁸⁵ V. Putin, *Soveshchanie o Vypolnenii Gosprogrammy Vooruzheniya na 2011-2020 Gody*, President of Russia Official Website, 19 June 2013, <http://news.kremlin.ru/news/18368/print>. He was referring to US nonnuclear precision weapons, but went on to argue for continued efforts to deploy more in the Russian Armed Forces.

Russia as a nation. However, standard usage in Russia's strategic documents, including the Military Doctrine and the National Security Strategy, draws clear distinctions between the state (*gosudarstvo*) and society (*obshchestvo*) as separate objects to be preserved and protected. This points toward a narrower interpretation of the phrase "when the very existence of the state is threatened" and to a lower threshold than that commonly assumed in the West. This appears to be the accepted interpretation in the Russian military. In their examination of unacceptable damage and related criteria for deterrence, V. M. Burenok and Yu. A. Pechatnov indicate that Arthur M. Katz's delineation of four levels of the functioning of a country "were and remain relevant in national (author: *Russian*) military-strategic thought."¹⁸⁶ This is significant as Katz draws a line on unacceptable damage between survival of central government control and disorganised biological survival without a central government.¹⁸⁷

Russian military assessments of the threat presented by US high-tech stand-off methods for warfare as observed in Iraq, Kosovo, Libya, and Syria are also relevant on this point. These assessments have focused concern on the potential use of conventional long-range precision weapons to disrupt command and control and other vital capabilities in order to disorganize and cripple *states*. These high-tech offensive capabilities are now conflated with the potential use of the "technologies of colour revolutions" as the most dangerous and likely external threat to the survival of the Russian state (*gosudarstvo*). The declaration of intent to respond with nuclear weapons to a conventional threat to the survival of the state is a counter to this perceived threat, which plausibly threatens only government control, not survival of the nation as a whole.¹⁸⁸ The demarcation of the "use of conventional weapons when the very existence of the state is threatened" as an element of a possible threshold for the use of nuclear weapons is a direct rejoinder to the perceived threat of a "mass air-space missile attack" by an aerospace adversary.

On the subject of thresholds for use of nuclear weapons as it relates to government control (C2), the threat perceptions outlined in the Military Doctrine 2014 provide

¹⁸⁶ V. M. Burenok and Yu. A. Pechatnov, O Kriterial'nykh Osnovakh Yadernogo Sderzhivaniya, *Vooruzhenie I Ekonomika*, No. 1 (22), 2013, pp. 23-25.

¹⁸⁷ Arthur M. Katz, *Life After Nuclear War*, Cambridge, Ballinger Publishing Company, 1982, pp. 5-11. Katz proposes that four "levels of survival define the range of possible outcomes from nuclear war. In decreasing order of damage, they are: 1. *Biological Survival of Individuals*. Individuals or groups of individuals survive, but not necessarily within the organized political, social, and economic structure of a modern society. 2. *Regional Survival of Political Structures*. Some subnational political units survive as viable entities but without a functioning central government. 3. *Survival of a Central Government*. Some form of viable, central control over all pre-attack national territory survives, but the effectiveness of this control may vary over an extremely wide range, depending on the specific nature and pattern of the attack(s). The ability to act independently on world affairs may also be restricted or eliminated. 4. *Survival Intact of Basic Societal Structure*. Damage to the nation is characterized as relatively limited socially, politically, and economically. It remains viable, and while weakened, potentially capable of international independence. This last concept forms the basis of the notion of limited or controlled nuclear war." He adds, "The first two levels of survival, although often found in public discussion, make little sense in terms of the normal expectations of an organized society. Simple biological survival of some members of the species or survival at a subnational level could not be an acceptable outcome for a nation as a whole and still less for its government."

¹⁸⁸ See Sergey Sokut, Malaya Triada Pentagona, *Nezavisimoe Voennoe Obozrenie*, No. 14, 16 April 1999, p. 6; Chief of the Main Operational Directorate of the General Staff Zarudnitskii, 2014 Moscow International Security Conference, 23 May 2014, Ministerstvo Oborony Rossiiskoi Federatsii: Podrobnee, http://function.mil.ru/news_page/country/more.htm?id=11929774@egNews&print=true; Chief of the General Staff V. Gerasimov, Tsennost' Nauki v Predvidenii, *Voenna-Promyshlennyi Kur'er*, 27 February 2013, <http://VPK-news.ru/issues/14626/>.

additional useful context. It lists as a *fundamental* threat “interference in the work of the system of state and military control of the Russian Federation, destruction of the functioning of the strategic nuclear forces, missile attack warning system, space surveillance, nuclear warhead storage sites, atomic energy sites, atomic, chemical and pharmaceutical and medical manufacturing and other dangerous sites.” The emphasis on governmental and military command and control, in tandem with the specific attention to command and control of the strategic offensive/defensive enterprise, is telling and draws implications between disruption of any of those capabilities, whether by nuclear, conventional or other means, and potential nuclear thresholds.

This relates to another element of potential thresholds for nuclear weapons use, Russia's security and extended deterrence guarantees. The Military Doctrine mentions three, one general and two specific. First, Russia reserves the right to use nuclear weapons in response to the use of nuclear weapons or other weapons of mass destruction against its allies.¹⁸⁹ This extended nuclear deterrence guarantee to non-specific allies appears designed to give Moscow maximum flexibility. It likely covers the Union State (which by treaty comprises Russia and Belarus) and CSTO members while being open to interpretation to apply to any nation Moscow found it expedient to extend the guarantee to under given circumstances.

Second and more specifically, the Military Doctrine elsewhere indicates that Russia “will regard an armed attack on a participating member of the Union State or any act with the use of armed force against it as an act of aggression against the Union State and will take responsive measures.” Belarus is the only other member of the Union State and the extended deterrence guarantee that Russia grants it is particularly interesting in light of the provisions of the Treaty on the Creation of the Union State. Under its provisions, all citizens of its member states (Russia and Belarus) are citizens of the Union State. Also, the territory of the two sovereign member states comprises the territory of the Union State. The Union State Treaty commits Belarus and Russia to a joint defence policy, coordinated development of military forces, joint use of military infrastructure and other measures to ensure the defence capability of the Union State.¹⁹⁰ These provisions appear to place Belarus in a class of its own in connection to possible Russian thresholds for employment of nuclear weapons.

Third, Russia will consider aggression against any member of the Collective Security Treaty Organisation as aggression against all members and “in this case will take measures in accordance with the Collective Security Treaty.”¹⁹¹ In addition to these political underpinnings to its security and extended deterrence guarantees, Russia is creating a collective air defence space and integrated air defence systems with these allies – a physical link to the critical C2 element of Russia's potential nuclear

¹⁸⁹ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 27.

¹⁹⁰ *Dogovor o Sozdanii Soyuznogo Gosudarstva*, Articles 7, 14 and 18, <http://soyuz.by/about/docs/dogovor5/>.

¹⁹¹ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 25. The relevant provisions of the Collective Security Treaty are found in Article 4 and are: “In case of aggression (armed attack which threatens the security, stability, territorial integrity and sovereignty) against any of the member states, all other member states will, at the request of the member state, will immediately provide necessary assistance, including military assistance, as well as provide support at their disposal in exercise of the right to collective defense in accordance with Article 51 of the UN Charter.” *Dogovor o Kollektivnoi Bezopasnosti*, Article 4, http://www.odkb-csto.org/documents/detail.php?ELEMENT_ID=126.

thresholds. Belarus may rank particularly high in this category given its geographic location on a critical axis of defence, its related importance to Russia in terms of serving as a physical buffer zone including for air defence, and its high degree of military integration with Russia.

As is evident from the foregoing discussion, the concept of unacceptable damage is important in terms both of the threatened level of damage calculated to deter a notional adversary and of the level of damage, and other considerations, that could trigger a Russian decision to employ nuclear weapons. Here again, it appears that the trend is toward lower, or at least more obscured, thresholds. As one example, three experts of the Scientific Research and Testing Centre of the Central Scientific Research Institute of the Air-Space Defence Forces have outlined the current difficulty in identifying and setting the level of damage inflicted by conventional precision weapons that Russia might absorb before considering a nuclear response, i.e. Russia's own level of unacceptable damage.

The three experts, O. Yu. Aksenov, Yu. N. Tret'yakov, and E. N. Filin, assert that "at the current time a substantiated decision by the highest levels of command for infliction of a nuclear missile strike only on the basis of the fact of aggression by conventional strike means is practically impossible."¹⁹² They suggest that, in addition to use of nuclear weapons by the adversary, other criteria for a decision to employ nuclear weapons could include:

- the certain discovery of direct preparations by the adversary for nuclear weapon employment;
- use of conventional weapons against strategically important targets;
- the threat of a mass strike by precision weapons;
- and the degradation of Russia's defence capacity to critical (unacceptable) levels during the non-nuclear phase of a conflict.

The three assert that under conditions of the likely adversary's (NATO's) superiority in non-nuclear precision weapons the evaluation of Russia's level of unacceptable damage is becoming the most important factor of its strategic deterrence. They propose a new system for monitoring and reporting damage levels to national authorities in order to facilitate a timely decision on nuclear weapon employment, based on "modified McNamara criteria" of population losses of 10-20 percent, loss of military-economic potential of 15-20 percent, and disruption of the functioning of the organs of state and military control.¹⁹³

These figures are only conjectural. As Burenok and Pechatnov have observed, objective figures for levels of unacceptable damage remain a subject of research and the figures that might support political decisions on employment of nuclear weapons are discussed

¹⁹² O. Yu. Aksenov, Yu. N. Tret'yakov, E. N. Filin, *Osnovnye Printsipy Sozdaniya Sistemy Otsenki Tekushchego I Prognoznogo Ushcherba Vazhneishim Ob'ektam Sistemy Strategicheskogo Sderzhivaniya, Voennaya Mysl'*, No. 6, June, 2015, pp. 68-74.

¹⁹³ *Ibidem* pp. 69-71. On the "McNamara criteria" themselves, see Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough? Shaping the Defense Program 1961-1969*, New York, Harper, 1971, p. 175.

“behind closed doors.”¹⁹⁴ They also note the absence of a definition of unacceptable damage in current US official documents.¹⁹⁵ Additionally, Aksenov, Tret'yakov and Filin leave the key question of the *level* of disruption of C2 unquantified. In conflict, the operability of national C2 could be expected to be degraded gradually over various stages of conflict. The question is not of whether C2 capability would be “on” or “off.” Only extreme and implausible circumstances could lead to a complete shutdown of C2 capability. The incremental level of degradation that would constitute unacceptable damage is key. The Russian experts' observation that the potential for pre-emptive employment of nuclear weapons could arise usefully points out an additional element of uncertainty with regard to thresholds for nuclear escalation.

Finally, as noted above in connection with Russian research on levels of unacceptable damage necessary to deter potential adversaries, the theoretical level of unacceptable damage has changed in quantitative and qualitative terms and the number of warheads required to achieve it has also declined due to research done over the last thirty years. This raises the likelihood that similar findings have been reached in relation to the level of unacceptable damage at which Russia might employ nuclear weapons. This is another factor to be taken into consideration with regard to potential Russian thresholds for the employment of nuclear weapons and the potential that they may be lower now than in the past.

As a last point on potential thresholds, it is important to distinguish between action policy – how nuclear weapons would actually be employed – and the rhetoric of declaratory policy.¹⁹⁶ Russia, like other nuclear weapons states, conceals much of the former while employing the latter for political effect. Actual decisions to employ nuclear weapons would be based on the secret action policy and subject to the perceptions and psychology of political-military leaders under maximum stress.

The outlines of potential Russian thresholds for employment of nuclear weapons are more evident in light of these factors. However, they remain blurred and ambiguous, particularly in the context of Russia's concepts for strategic deterrence at inter-connected regional and global levels relying on a mix of conventional and nuclear weapons. Taking this into account, and in the context of Russia's revanchist and irredentist policies, a potentially destabilizing tension between reliance on nuclear weapons for deterrence and the potential exploitation of nuclear weapons for compellence becomes evident.

This occurs in the context, noted above, of President Putin's deliberate erosion of “nuclear incredulity.” The measures by which he has done so include amplified and frequent nuclear deterrence rhetoric, linkage of the modernisation of Russia's strategic deterrence forces to the defence choices of specific nations, high-profile increases to the readiness of strategic deterrence forces, provocative or immoderate exercises and operations by strategic deterrence forces including during crises and heightened tensions. In aggregate, these deliberate and coherent measures, along with other efforts to increase government and military preparedness for crisis and conflict, have shifted

¹⁹⁴ V. M. Burenok and Yu. A. Pechatnov, O Kriterial'nykh Osnovakh Yadernogo Sderzhivaniya, *Vooruzhenie I Ekonomika*, No. 1 (22), 2013, p. 28.

¹⁹⁵ Ibidem, p. 29.

¹⁹⁶ Desmond Ball, *Targeting For Strategic Deterrence*, London, Adelphi Papers No. 185, 1983, p. 1.

Russia's deterrence posture from one of general deterrence toward immediate deterrence.¹⁹⁷

This important change in the security environment has implications for day-to-day regional stability because of the way that President Putin instrumentalizes nuclear weapons. The operational elements of Russia's strategic deterrence posture make possible his brinkmanship and manipulation of risk for advantage because they lend credibility to his threats and warnings.¹⁹⁸ Risk is necessarily part of influencing an adversary's behaviour. It has been noted that Russia's current strategy relies on manipulation of risk to achieve aims while avoiding conflict. In this context, risk aversion could place defenders at a disadvantage against a risk-taking aggressor if they do not recognise and examine the dynamics of risk and credible deterrence.¹⁹⁹ The important aspect of this for those potentially subject to Russian coercion or aggression is that the nuclear and non-nuclear weapons deployed by Russia for deterrent effects in peacetime are also conceived and postured for potential employment in crisis and conflict in a variety of roles. As the above outline of Russian concepts shows, these roles would include de-escalation, intra-war deterrence, punishment, denial, coercion, compellence, and war termination.

The foregoing arguments are not intended to characterise the role and place of nuclear weapons *solely* as tools for aggression. The primary role of nuclear weapons, and now of their non-nuclear counterparts, is to deter aggression against Russia.²⁰⁰ However, as integrated operational elements in Russia's full-spectrum capabilities, that is far from their sole purpose as demonstrated during and after the operations to seize Crimea. Additionally, according to the Russian concept of deterrence, the credibility of the nuclear component of strategic deterrence rests on its warfighting capability. Finally, Russia's political and military leadership can perceive as defensive, in a strategic sense, military actions perceived as aggression by outside observers. From Moscow's point of view, Russia's military operations against Georgia and Ukraine were both strategic deterrence (defensive) operations.²⁰¹ This all evinces an evolution in Russian political-

¹⁹⁷ See Kenneth Watman, Dean Wilkening, *US Regional Deterrence Strategies*, Santa Monica, Arroyo Center Project Air Force, RAND, 1995. "General deterrence refers to an interaction between rival states in which one state deters aggressive moves by another simply by maintaining the capability to retaliate, even though overt retaliatory threats are not made... Immediate deterrence, on the other hand, refers to situations in which the threat to use military force has been made explicitly, usually accompanied by visible military preparations, and the defender actively and visibly engages in attempts to dissuade the opponent from carrying out the attack by threatening some form of reprisal. In fact, a continuum of deterrence situations actually exists between general and immediate deterrence, depending on the degree of hostile intent on the part of the putative attacker and the level of visible military activity associated with the attacker's and defender's threats." Also, T. V. Paul, Patrick M. Morgan and James J. Wirtz, eds., *Complex Deterrence: Strategy in the Global Age*, Chicago, University of Chicago Press, 2009, p. 24 and pp. 10-11.

¹⁹⁸ The resonance of the Russian approach with Thomas Schelling's concept of manipulation of risk has been widely noted. Thomas C. Schelling, *Arms and Influence*, New Haven, Yale University Press, 2008, p. 166.

¹⁹⁹ Thérèse Delpech, *Nuclear Deterrence in the 21st Century: Lessons from the Cold War for a New Era of Strategic Piracy*, Santa Monica, RAND, 2012, p. 28.

²⁰⁰ *Voennaya Doktrina Rossiiskoi Federatsii 2014*, paragraph 20. "The inadmissibility of nuclear military conflict, like any other military conflict, is fixed in the basis of Russia's military policy."

²⁰¹ On Georgia specifically, three Russian military experts have said, "From this point of view, the war in South Ossetia can be viewed as an act of strategic deterrence, demonstrating the will of modern Russia to forceful correction of irrational strategic decisions taken by adventurist politicians." A. A. Protasov, S. V. Kreidin, C. Yu. Egorov, *Sistemy Upravleniya Voiskami*, p. 8.

military thinking away from the 1980s view of the non-utility of nuclear war,²⁰² through the 1992 adoption by necessity of potential nuclear employment for regional deterrence purposes, to today's renewed political-military consensus on the utility of nuclear weapons in a shared deterrence and warfighting role with advanced conventional weapons.

Brad Roberts proposes the useful construct of a red theory of victory as a tool for assessment of the "thinking done by potential US adversaries about how to manage the risks of escalation against a militarily superior foe and otherwise secure their interests when in conflict or confrontation with the United States."²⁰³ All evidence points to Russia's primary theory of victory being to achieve its strategic aims while avoiding direct military conflict with NATO, relying on a "whole of government" approach that exploits, but preferably need not resort to military force. This corresponds to the first three stages of the development of conflict depicted in figure 1.

²⁰² In retrospect, the Soviet military seems not to have been entirely convinced of this position, as shown by the operational planning that was carried out during this period despite the political posturing on the non-utility of nuclear weapons. See, for example, J. Hines, *Soviet Intentions 1965-1985, Vol. I An Analytical Comparison of US-Soviet Assessments during the Cold War and Vol. II Soviet Post-Cold War Testimonial Evidence*, McLean, Virginia BDM, 1995, pp.27-53. See also Stephen Meyer's related remarks above on the rescinded no first use pledge.

²⁰³ Brad Roberts, *The Case for US Nuclear Weapons in the 21st Century*, Stanford, Stanford Security Studies, 2016, pp. 1-10 and 106-140. The quotation may be found on page 5.

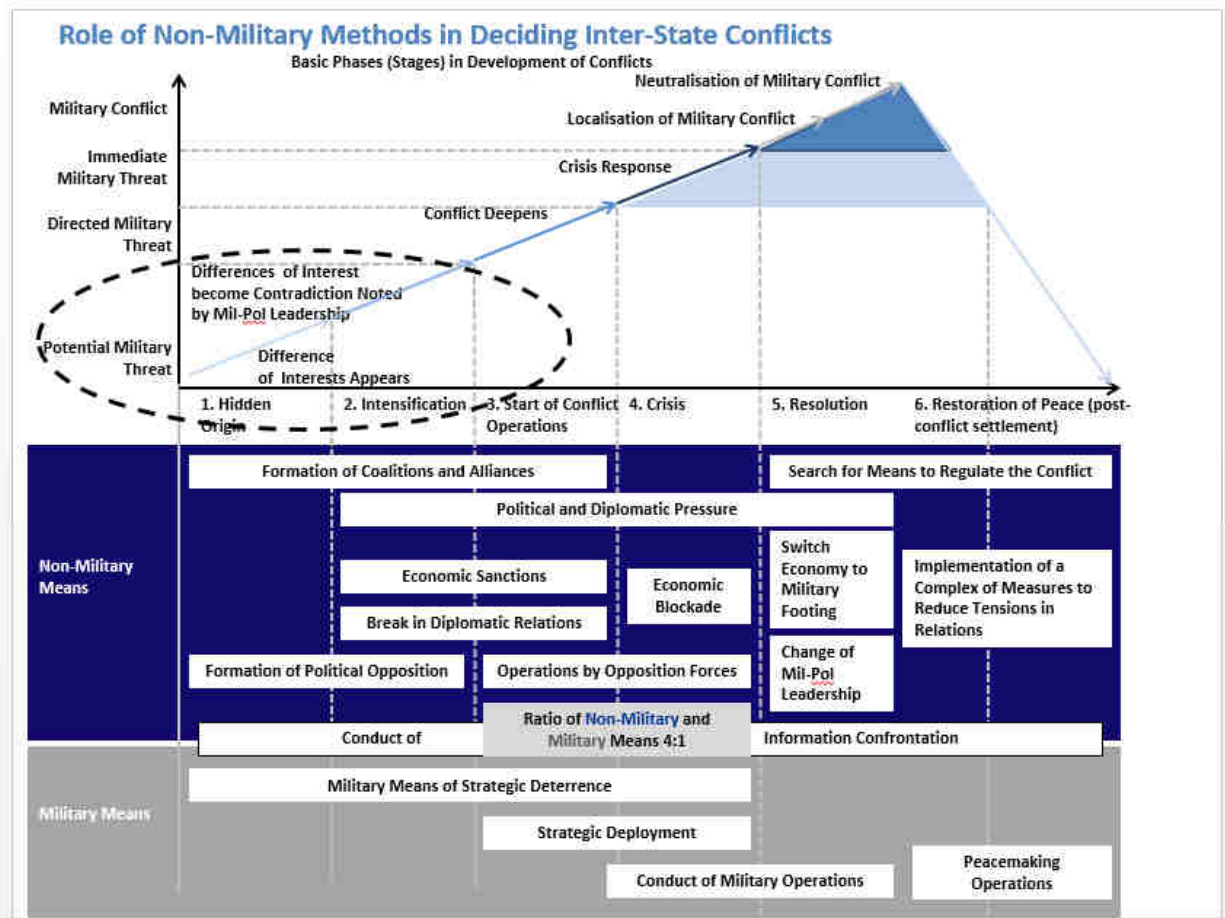


Figure 1 Russia's Primary Theory of Victory: Leveraging Strategic Deterrence to Achieve Aims Without Direct Military Conflict.²⁰⁴

It is heavily dependent on strategic deterrence, including the implicit threat presented by non-nuclear and nuclear weapons, for maximum effect and ultimate success. However, the conflicts in Georgia and Ukraine also show that Russia will resort to military force if it perceives an imminent threat to its vital interests or an opportunity that can be exploited “if the associated political and military risk is assessed as acceptable or manageable.”²⁰⁵ This is the context for the extensive conceptual thinking and related systems analysis and operational modelling outlined above. That work aims to develop the underpinnings for a second theory of victory in the event that deterrence fails and direct military conflict ensues, including the employment of Russia’s strategic deterrence weapons set. These parallel efforts enable Russia to pursue victory in peacetime through non-military and military coercion, including brinkmanship and

²⁰⁴ This chart is a translation by the author of a chart depicted in V. Gerasimov, *Tsennost’ Nauki v Predvidenii, Voенno-Promyshlennyi Kur’er*, 27 February 2013, <http://VPK-news.ru/issues/14626> and presented in Johnson, *Russia’s Approach to Conflict*, p. 7. This report of General Gerasimov’s presentation to the Russian Academy of Military Science in January 2013 described then-current Russian thinking on the character of modern war and was subsequently reflected in the Russian Military Doctrine 2014.

²⁰⁵ Johnson, *Russia’s Approach to Conflict*, p. 11.

blackmail, or in war using “options for diverse and continuous nuclear operations at the sub-strategic level that are truly unique.”²⁰⁶ This supports the hypothesis that Russia’s nuclear posture is an amalgam of the assured retaliation and symmetric escalation strategies proposed by Narang. One Russian military expert put it more starkly, saying “at the present time the Russian Federation uses a concept based on the ideas of Mutual Assured Destruction and limited nuclear war.”²⁰⁷

The aim of leveraging nuclear weapons at the level of political conflict and threatening to employ or actually employing them in regional conflict for de-escalation is the same – to test NATO’s resolve, strain and break alliance cohesion, undermine US extended deterrence guarantees, and discourage non-allied nations from cooperation with NATO. Comments by President Putin on his intention to “target” nations that seek their security in NATO membership or in partnership with NATO or that host elements of NATO Ballistic Missile Defence (BMD) are telling on this point. Commenting on these issues during a joint press conference with the President of Finland, President Putin said that:

“Finland’s very best security guarantee is its neutral status. Because, as soon as some kind of threat from a neighbouring state arises, Russia must react with reciprocal means and orient its defence policy – by these means to neutralize the possible threat in its direction. If someone places some of our territory under threat, it means that we should by reciprocal means target our armed forces, modern strike means, on the territory from which we are threatened.”²⁰⁸

Russia’s nuclear weapons and warfighting

*In certain circumstances, I do not exclude the possibility that local and regional conflicts could develop into large-scale war, including with the use of nuclear weapons.*²⁰⁹

General Nikolai Makarov
Chief of the General Staff of the Russian
Armed Forces, 2008-2012

In line with its belief that credible deterrence derives from warfighting capabilities, Russia thoroughly analyses, plans, structures, and postures its forces for the ultimate contingency – employment of nuclear weapons. This section examines Russia’s second theory of victory – achieving its aims through employment of nuclear weapons for de-escalation and containment of a regional conflict. It examines the potential deployment and employment of the main elements of Russia’s non-nuclear and nuclear strategic

²⁰⁶ See Roberts, *The Case for US Nuclear Weapons*, pp. 4-6 and 51-104, on regional nuclear challengers and pp. 106-140 on the problem of Russia’s nuclear deterrence policies. The passage quoted may be found on page 135.

²⁰⁷ Yu. A. Pechatnov, *Analiz Otechestvennykh i Zarubezhnykh Podkhodov k Formirovaniyu Kontseptsii i Mekhanizma Sderzhivaniya ot Razvyazyvaniya VoЕННОi Agressii, Vooruzhenie i Ekonomika*, Vol. 3, No. 11, 2010, pp. 11-17.

²⁰⁸ See V. Putin, *Sovmestnaya Press-Konferentsia s Prezidentom Finlyandii Sauli Niiniste*, 16 June 2015, Kremlin Website, <http://kremlin.ru/events/president/transcripts/49714> and Putin Poobeshchal Natselit’ Udarnye Sredstva na Ugrozhayushchie Rossii Strany, 17 June 2015, <http://lenta.ru/news/2015/06/16/putin/>

²⁰⁹ Genshtab Gotovitsya k Voine, *Kommersant*, 18 November 2011, <http://kommersant.ru/doc/1818296>. General Vladimir Dvorkin makes that fair point that many observers quoted General Makarov out of context and that the then Chief of the General Staff was “thinking globally” about potential use of nuclear weapons anywhere in the world. Nevertheless, General Makarov’s point applies equally to potential regional conflicts involving Russia. See V. Dvorkin, O “Zabludshikh Ovtsakh I Pastiryakh, *Nezavisimoe Voennoe Obozrenie*, 11 April 2014, http://nvo.ng.ru/concepts/2014-04-11/10_stability.

deterrence weapons set in the context of an escalating regional crisis. This section is not intended to propose a template for Russian strategic deterrence operations, to describe an escalation ladder for regional conflict with Russia, or propose a political-military scenario in which the potential for nuclear weapon employment could arise.²¹⁰ It is intended to piece together a notional illustration of the employment of Russian non-nuclear and nuclear weapons in a regional conflict and related considerations. It presents a mosaic and not a snapshot. Its lines are therefore indistinct and pieces are missing. In this regard, it is important to recall David Yost's admonition that both sides should cultivate humility about their level of understanding of "the internal political dynamics of their adversaries and their military and nuclear strategies."²¹¹ This illustration should nevertheless help to ground further discussion and analysis of nuclear weapons in Russia's approach to conflict in a more tangible framework. The illustration builds upon the "basic stages (phases) in development of conflicts" of figure 1. It is depicted in the chart at figure 2 with a focus on the latter three stages, where military conflict and potentially the employment of non-nuclear and nuclear weapons for containment and de-escalation of a regional conflict would occur.

The illustration draws upon authoritative Russian statements and military writings, patterns of exercise and operational activity, and known capabilities, cited above. The picture that emerges from overlaying those elements is of a concept of controlled escalation for deterrence and de-escalation purposes that, in practice, could quickly evolve to nuclear warfighting. The evident strategic intent is to leverage Russia's non-nuclear and nuclear strategic deterrence capabilities to deter US or NATO involvement in a local or regional conflict in order to allow Russia's conventional forces to operate against limited local resistance. Should deterrence fail, the non-nuclear and nuclear strategic deterrence weapons set, and their integration with conventional capabilities, are oriented toward providing as many military options as possible in order to enable maximum freedom of action for Russia's political-military leadership. This translates into a military concept for gradually escalating employment of conventional long-range precision weapons and nuclear weapons calibrated to compel an adversary to desist from further conflict at successive stages or off-ramps from escalation. Two key principles for the operation of the concept appear to be the ability for rapid escalation of force readiness paired with the capability for gradual, calibrated employment. The first is enabled by force posture, training and exercises. The second is enabled by a broad array of available weapons capabilities and responsive, flexible and survivable command and control.

The point of departure for this illustration is the latter stage of the pre-conflict phase, when deterrence signalling is used in a crisis (including a local conflict) to prevent escalation toward direct military conflict between Russia and an outside adversary or coalition. This is depicted at point 1 in figure 2.

²¹⁰ For one possible political-military scenario, see Jacob Cohn, Russia, in Andrew F. Krepinevich and Jacob Cohn, *Rethinking Armageddon: Scenario Planning in the Second Nuclear Age*, Center for Strategic and Budgetary Assessments, 2016, pp. 43-64.

²¹¹ David Yost, *Strategic Stability in the Cold War: Lessons for Continuing Challenges*, IFRI Security Studies Center Proliferation Papers, Winter 2011, p. 38.

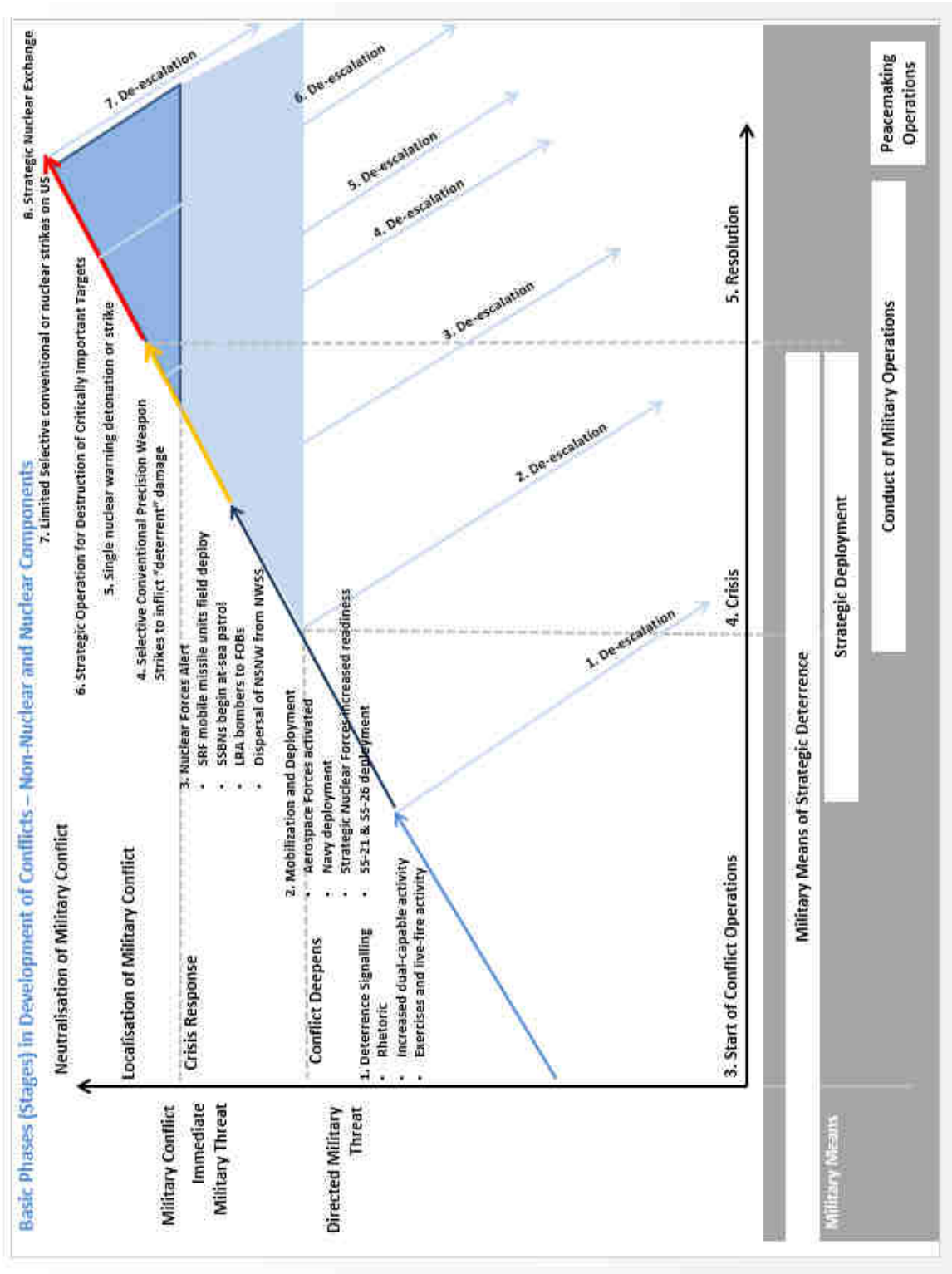


Figure 2 Russia's Secondary Theory of Victory - Employment of Non-Nuclear and Nuclear Weapons for Conflict Containment and De-Escalation.

For comparison, this is the point at which the Ukraine conflict was contained, with activity never escalating beyond the various elements of deterrence signalling. The impact of Russia's nuclear-related signalling will be forever debated, but it was an element of Russia's approach to the Ukraine conflict.

Beyond the first point, subsequent stages move into preparation for conflict. A broader mobilization of forces in addition to those already engaged in the immediate crisis takes place and, while the crisis and potential conflict remain regional, strategic offensive and defensive capabilities (readiness levels of the strategic nuclear forces and the aerospace forces, including early warning systems and integrated air and missile defence systems) begin to come into play in line with the principle of rapid escalation of forces readiness. Illustrative activities are depicted in Points 1 and 2 of figure 2. These activities could take place sequentially or simultaneously, with the speed of implementation and the extent to which they are intentionally displayed for deterrence signalling dependent on the nature of the crisis and the pace of events.

This stage is relevant to President Putin's remarks in March 2015 that he had considered and been prepared to put Russia's strategic nuclear forces in a state of combat readiness during the seizure of Crimea. In a similar hypothetical situation in which the Russian leadership gauges potential US and NATO reactions and decides that increased readiness including for deterrence signalling was necessary, a decision for the strategic nuclear forces to go to increased readiness would result in some combination and sequencing of the notional activities depicted at points 2 and 3 in figure 2. The March 2015 snap exercise of the Arctic Joint Operational Command/Northern Fleet that quickly evolved into a strategic command post and nation-wide forces exercise is illustrative of this stage of escalation and the related activities. Russia's strategic (intercontinental) ballistic missiles are maintained on day-to-day combat duty without targets. It may be at this stage that they would receive their mission orders and targeting data.²¹² In parallel with preparatory activity related to pre-nuclear and nuclear options, conventional forces would mobilize and deploy at this stage. Implementation of these steps would be intended to pressure an adversary to take the last off-ramps before a crisis enters the military conflict stage, including the potential employment of conventional long-range precision weapons for pre-nuclear strikes. Containment and de-escalation of a crisis or conflict at this stage would represent the best-case outcome of Russia's secondary theory of victory in which strategic weapons are poised for employment but not used.

²¹² 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: National Report of the Russian Federation, NPT/Conf.2015/48, 21 May 2015, p. 4. "Intercontinental ballistic missiles are on combat duty with zero missions, which means that they are not targeted." Non-targeting of ICBMs is not verifiable, as Secretary of Defense Cheney noted in 1992: "From a conceptual standpoint it's easy to say we no longer are targeting the other side. From the standpoint of knowing that has in fact happened, it's almost impossible. There's no way to independently verify that a missile in a silo is or is not aimed at Washington." US Secretary of Defense Cheney, Press Conference, 30 January 1992, http://www.dod.mil/pubs/foi/Reading_Room/NCB/09-F-0134_Background_Quotations.pdf. Targeting of non-targeted missiles can be also be quickly accomplished with computerized command and control systems. On this specific question, former Chief of the Main Staff of the Strategic Rocket Forces General-Colonel Viktor Esin has said that retargeting can be accomplished "sufficiently quickly" and that "if there is a targeting plan for a specific missile it can be transmitted and the missile is ready to fly to its assigned target." Igor Plugatarev, Uday po Byvshim "Brat'yam", *Nezavisimoe Voennoe Obozrenie*, 28 February 2008, http://nvo.ng.ru/wars/2008-02-29/1_strikes.html.

In line with concepts outlined by Russian systems analysts and apparently played out in exercises, the next distinct development (at point 5 in figure 2) would be employment of conventional long-range precision weapons in order to inflict “deterrent levels” of damage. This opens the pre-nuclear phase of the conflict. The related literature mentions single or grouped strikes on vital targets for deterrence or for compulsion for conflict localization and termination. The Russian intent appears to be to exploit fully the precision and selective targeting capability of conventional long-range weapons in order to inflict tailored levels of damage. This implies the possibility that Russia would exercise some constraint at this stage of the conflict in terms of target selection. For example, since Russia views employment of conventional weapons for the destruction of strategic (nuclear) weapons as a possible trigger for escalation to nuclear employment, initial conventional precision (pre-nuclear) strikes might not target elements of NATO’s shared nuclear capability or components of the independent nuclear forces of the US, France, and the United Kingdom. Instead, selective strikes might focus on targets such as key nodes of civil or military C2, energy infrastructure, logistics hubs, and ammunition and equipment depots in order to achieve operational effects and the required level of “deterrent damage” calculated by Russian systems analysts. The aim would be to compel the adversary to halt resistance and agree to negotiate a settlement to Russia’s advantage. Failing that, the target list would likely expand and the conflict eventually move into the next stage and a tipping point, depicted at points 5 and 6 in figure 2.

This illustration is not intended as a game theory exercise or to play out an action-reaction scenario so many factors that would come into play in actual conflict are ignored. However, it is worth noting that the notional pre-nuclear and nuclear activities described here would play out in parallel with escalating conventional military activities and possibly initial engagements. Intense political activity would also be underway, which might slow or halt the escalation of an actual crisis. The course and pace of those events would influence the decision-making of the political leadership and have bearing upon courses of action selected by the political and military authorities to achieve assigned tasks. Decisions by the adversary on where and how to respond militarily, and combat damage and losses absorbed by Russia will also come into play. As one concrete practical example, the rate of expenditure of the limited stock of long-range precision weapons and the effects achieved during the pre-nuclear phase will also be of concern. As noted earlier, because the theatre delivery systems are both conventional and nuclear-capable their expenditure will need to be monitored against anticipated future requirements for delivery of nuclear weapons. Shortages against estimated future requirements could create pressure for earlier employment of nuclear weapons. This is the context for the latter stages of the conflict, depicted at points 5, 6, and 7 in figure 2. Containment and de-escalation of a regional conflict through employment of conventional precision weapons (in parallel with other military and non-military levers not discussed in this paper) would be the second best outcome for Russia’s secondary theory of victory. Subsequent stages represent progressive failure of the secondary theory of victory and gradual, potentially rapid, transition from strategic deterrence to nuclear warfighting.

If selective conventional precision strikes do not achieve containment and de-escalation, the conflict enters a zone between the pre-nuclear and nuclear phase where sequencing and timing are less clear. Authoritative Russian military writing indicates there is scope for a single nuclear detonation or strike in order to demonstrate resolve

and compel the adversary to back down. It is unclear whether such a detonation or strike would be a stand-alone event, punctuating the pre-nuclear phase of the conflict, or if it would come as part of an earlier, primarily conventional phase of the Strategic Operation for Destruction of Critically Important Targets (SODCIT).

There are two arguments for a stand-alone event. First, the stand-alone approach to punctuate the pre-nuclear phase would provide an additional gradation and therefore fit better in an ideal Russian model of a carefully calibrated regional containment and de-escalation campaign. This is the notional variant depicted at point 5 in figure 2. As a stand-alone event, the single warning shot could itself be better calibrated to achieve the desired effect under the given circumstances. A range of options could be chosen, from a detonation at a remote location over land or sea or a high-altitude detonation for electro-magnetic pulse (EMP) effects and then on up a scale of increasing destruction and operational effect.

As noted above, capabilities developments, the RS-26 RUBEZH in particular, and authoritative military writings suggest a role for long-range and intercontinental ballistic missiles in delivery of conventional weapons or nuclear weapons of varying yield for infliction of deterrent damage. These or other ICBM systems could fill a theatre role or, particularly at later stages, be used for selective strikes against key overseas or homeland-based US military facilities. The stage at which this category of system might first be employed remains unclear but the early selective conventional strike or delivery of the first nuclear warning shot are possibilities. It should be recalled, as noted above, that ICBMs are among the weapon system options in the latter stages of the regional deterrence and combat illustration.²¹³

As a brief excursus related to this point, the role of single or limited ballistic missile strikes in Russia's regional deterrence strategy appears to be a more credible basis for Moscow's objections to the European segment of US missile defence than the ones stated publicly so far. Russian officials have based their objections on the assertion that US/NATO Ballistic Missile Defence (BMD) could undermine Russia's strategic deterrent capability by enabling interception of ICBMs bound for the continental United States. Many US experts and even some Russian experts regard this as implausible for technical reasons. The possibility that one actual Russian concern might be that BMD could constrain or eliminate some options and gradations at the regional level of Moscow's strategic deterrence strategy appears not to have been explored yet.²¹⁴

The potential shift in the dynamics and pace of the conflict after the first employment of a nuclear weapon would be an argument for integration of the first demonstrative

²¹³ For example, General Esin has suggested that ICBMs could be used in regional contingencies involving Ukraine. Interestingly, this was well before the 2014 seizure of Crimea and was in the context of the months prior to NATO's 2008 Budapest Summit when a potential invitation to membership was being debated. Igor Plugatarev, Udry po Byvshim "Brat'yam", *Nezavisimoe Voennoe Obozrenie*, 28 February 2008, http://nvo.ng.ru/wars/2008-02-29/1_strikes.html. A role for ICBMs with conventional warheads is also suggested in V. V. Sukhorutchenko, A. B. Zel'vin, V. A. Sobolevskii, Napravleniya Issledovaniya Boevykh Vozmozhnostei Vysokotochnogo Oruzhiya Bol'shoi Dal'nosti v Obychnom Snaryazhenii, *Voennaya Mysl'*, No. 8, August 2009, p. 33. See also, V. I. Levshin, A. V. Nedelin, M. E. Sosnovskii, O Primenenii Yadernogo Oruzhiya dlya Deeskalatsii Voennykh Deistvii, *Voennaya Mysl'*, No. 3 (5-6), 1999, 34-37.

²¹⁴ On the lack of clarity on actual aims and concerns that undermined negotiations on possible NATO-Russia missile defence cooperation, see Roberto Zadra, *NATO, Russia and Missile Defence*, *Survival*, Vol 56, No. 4, August-September 2014, pp. 51-61.

nuclear strike in the early phase of a SODCIT operation. An ongoing SODCIT operation could be quickly expanded to pre-empt and suppress a potential adversary reaction to the nuclear first use. Under the first option of a stand-alone event, if the desired effect is not achieved, Russian expert writing and exercise profiles suggest that commencement of the SODCIT operation could be the next stage of the conflict. Russia could also opt to forego a single warning shot altogether.

At this stage, depicted at point 6 in figure 2, the conflict enters its nuclear phase with full employment of the regional dyad for destruction of targets assessed as critical to strategic success and to the security of the homeland. Some elements of the targeting strategy of the SODCIT operation likely include destruction of nuclear weapons, nuclear delivery platforms and related command and control nodes; integrated air and missile defence elements; tactical aviation, airfields and naval bases; land units, ammunition and weapons depots; C3I, power, energy and logistics nodes; military-industrial objectives, political-administrative centres, and transportation nodes.²¹⁵ Depending on the remaining resources and capabilities and the stage of the conflict, the operation might extend at this point into the North Atlantic Ocean to impede sea lines of communication and ensure defence of the assured retaliatory strike capability resident in the SSBNs of the Northern Fleet in their “Northern Strategic Bastion.”²¹⁶

The referenced Russian military writings and the observed activities of Russian long-range bombers and general-purpose attack submarines suggest that limited selective conventional or nuclear strikes on key US homeland targets delivered by air or sea-launched cruise missiles or by ballistic missiles could be part of the strategic deterrence strategy. Implementation of this strategy could be attempted as a demonstration of resolve or in order to disrupt and impede mobilization and deployment of US (and Canadian) reinforcing elements to Europe. Because of the escalatory nature of such a move and its potential implications, it is placed at point 7 on figure 2 as the last calibrated step in the Russian regional deterrence strategy. This would appear to be the last potential escalation step in a regional deterrence strategy before the commencement of general war and the first strategic nuclear exchange. This would be the worst-case scenario for failure of Russia's secondary theory of victory.

This brief overview depicting the various elements of Russia's strategic deterrence strategy illuminates several points. First, Russia's preferred course of achieving its

²¹⁵ In addition to the recent Russian military writings already cited, from which notional targeting strategy can be extracted, Stephen M. Meyer's work on Soviet theatre nuclear forces during the early 1980s remains valuable. Stephen M. Meyer, *Soviet Theatre Nuclear Forces Part 1: Development of Doctrine and Objectives and Part 2: Capabilities and Implications, Adelphi Papers 187 and 188*, 1983, International Institute for Strategic Studies.

²¹⁶ A. A. Kokoshin, V. A. Veselov, A. V. Liss, *O Kontseptsii Severnogo Strategicheskogo Bastiona*, 8 December 2015, <http://viperson.ru/articles/o-kontseptsii-severnogo-strategicheskogo-bastiona>. “One of the most important elements of the decisions taken by the Security Council on the policy of nuclear deterrence in the summer of 1998 was the acceptance of the concept of a “Northern Strategic Bastion”, which B. N. Yeltsin declared during an exercise of the Northern Fleet on 21 August 1998. In accordance with this concept the Northern Fleet was ordered to provide for strategic nuclear deterrence and, along with that, to present free naval strength in support of Russian interests in the world ocean...The concept of the northern strategic bastion gives an impression of how the development of the Russian naval deterrent forces will proceed at the start of the 21st Century, with the realization of one of the basic doctrinal formulas of the new concept of military development/organization – the union of nuclear deterrence with strategic mobility of integrated varied forces and means. The new concept considers that a reliable system of nuclear deterrence is not only the SSBNs but also their reliable defence, the means providing for their combat stability.”

strategic aims while avoiding direct military conflict is heavily reliant on the credibility of its hard power option. However, actual recourse to the hard power option (the secondary theory of victory) is fraught with risk and carries a high potential for miscalculation and rapid escalation. Russian leaders, however strongly inclined they might be to risk taking within the framework of the preferred option, would have strong incentives to stay below the threshold for escalation into employment of pre-nuclear and nuclear weapons in a regional deterrence scenario. The risk centres on the still unanswered question of the actual controllability of escalation and the related question of who, if anyone, controls it.²¹⁷ Second, despite the attendant risks, Russia has postured its forces to be able to execute its strategic deterrence strategy, and the literature shows heavy intellectual investment in developing the concepts and modelling their implementation under various scenarios. The threats and brinkmanship of Russia's primary theory of victory are backed up by the means to implement the secondary theory of victory. In the extreme event of limited nuclear war, Russia would not be improvising.²¹⁸

Conclusion

The side that stops thinking is already losing, even if its operational capabilities are vastly superior to those of its adversary.²¹⁹

Thérèse Delpech

This paper has tried to lay out the place and role of nuclear weapons in Russia's approach to conflict and to describe the many elements of this problem in ways relevant to those grappling with how to adapt NATO's concepts, forces and force posture to the new and foreseeable status quo. In many respects, the picture that emerges from this investigation belies the widespread image of a militarily weakened Russia forced to cling to nuclear weapons for its security. In fact, it depicts a militarily strengthened Russia with nuclear weapons complementing increasingly capable conventional forces that constitute a flexible and useful military tool for Russia's political leadership.

Faced with the task of maximizing the military effectiveness and political-military utility of armed forces that remain, in absolute terms, numerically inferior to Russia's potential adversaries, Russian military theorists, analysts and planners have adopted an approach calculated to make the most of all available means, including nuclear weapons. Their innovations, while adopting some elements of Western thinking and

²¹⁷ Kerry M. Kartchner and Michael Gersen, *Escalation to Limited Nuclear War in the 21st Century*, in Jeffrey A. Larsen and Kerry M. Kartchner, eds., *On Limited Nuclear War in the 21st Century*, Stanford, Stanford Security Studies, 2014, pp. 147-150. Contrary to the emerging Russian view of the controllability of nuclear escalation, US Deputy Secretary of Defense Robert Work has said of Russian nuclear strategy, "Anyone who thinks they can control escalation through the use of nuclear weapons is literally playing with fire." Statement of Deputy Secretary of Defense Robert Work Before the House Committee on Armed Services, 25 June 2015, p. 4, <http://docs.house.gov/meetings/AS/AS00/20150625/103669/HHRG-114-AS00-Wstate-WinnefeldJrUSNJ-20150625.pdf>.

²¹⁸ On this point, see Jeffrey A. Larsen, *Limited War and the Advent of Nuclear Weapons*, in Jeffrey A. Larsen and Kerry M. Kartchner, eds., *On Limited Nuclear War in the 21st Century*, Stanford, Stanford Security Studies, 2014, pp. 17-19, and the related examination of this question, to which Larsen points, in Henry Kissinger, *Nuclear Weapons and Foreign Policy*, New York, Harper and Brothers, 1957, pp. 131-202.

²¹⁹ Thérèse Delpech, *Nuclear Deterrence in the 21st Century*, p. 17.

technology application, have also run counter to them in some respects, particularly in reasserting the centrality of nuclear weapons and in their operational integration with conventional capabilities. The Russian rationale, which aims to de-escalate and contain conflicts at the lowest possible level, appears on close examination to instead create or ease pathways to escalation and potential employment of nuclear weapons. This is due, in part, to Russia's concept of combined non-nuclear and nuclear deterrence relying upon a mix of conventional long-range precision weapons and nuclear weapons at the high end of regional conflicts, which simultaneously expands Russia's military options in regional scenarios and potentially introduces nuclear weapons into them.

On the other hand, Russia's intellectual and financial investment in developing concepts and capabilities appears to be on course to enable the controlled, calibrated application of weapons in support of strategic deterrence in regional conflicts. The role and place of these capabilities as an enabler for Russia's non-military approaches at the low end of the conflict spectrum and up through progressively higher phases of conflict could be used to exploit gaps in a potential adversary's capabilities and impose choices between significant escalation and capitulation. This creates important challenges and risks for NATO and, in particular, for US extended deterrence in the context of Russia's revanchist and irredentist policies.

In light of Russia's adoption of an adversarial posture against NATO, along with other rising security challenges close to NATO's borders, it has become necessary for the Alliance to revive its strategic culture, a task undertaken in successive steps at the Wales and Warsaw Summits. Previously, more than two decades of comparative peace and stability in Europe allowed Allies the luxury of focusing on the management of external crises with potential impacts on collective security. Nearer to home, it let Allies focus on efforts to "promote stability based on common democratic values and respect for human rights and the rule of law throughout Europe."²²⁰ In line with these strong trends, NATO reduced and reoriented its general purpose forces and radically reduced its reliance on nuclear weapons and the number of weapons, shifting them to a "fundamentally political" role.²²¹

Changed circumstances have imposed a need for adaptation. The measures adopted at the Warsaw Summit to strengthen NATO's deterrence and defence posture provide the right mix of elements to address these challenges. Effective governance combined with credible and effective deterrence and defence, including immunity to nuclear blackmail, is the recipe for addressing Russia's full-spectrum approach to conflict. The measures adopted at the Wales and Warsaw NATO summits, including commitments to increase defence spending, increase force readiness, enhance forward presence, define a strategy for countering hybrid warfare, and re-affirmation of the fundamental purpose of NATO's nuclear capability meet these requirements. Sustained effort along all the lines set out at Warsaw, including enabling their coherent application, and ensuring the ability to frustrate Russian aggression at any carefully calibrated level of threat or violence will be essential.

At Warsaw, NATO Heads of State and Government reaffirmed their view that "the circumstances in which NATO might have to use nuclear weapons are extremely

²²⁰ Europe's New Security Environment in NATO Handbook 2001, p. 35.

²²¹ Ibidem, NATO's Nuclear Forces in the New Security Environment, p. 53.

remote.” Yet the evolving security environment is such that they also felt it necessary to recall that, “if the fundamental security of any of its members were to be threatened however, NATO has the capabilities and resolve to impose costs on an adversary that would be unacceptable and far outweigh the benefits that an adversary could hope to achieve.”²²² This is a significant contrast with the conclusions drawn 25 years ago when Allies saw strong *positive* trends in the security environment and first took a public view on the “remoteness” of the circumstances for the potential use of nuclear weapons.²²³ President Putin’s successful effort to increase the salience of nuclear weapons in international politics has been a strong motivating element in that incremental adjustment to how NATO assesses the role of nuclear weapons in Alliance security.²²⁴ President Putin’s statements on nuclear deterrence and his deep personal involvement in strategic and operational aspects of nuclear weapon deployment and employment suggest that he more readily envisions a range of circumstances in which nuclear weapons might be used. The Russian military establishment has been busy thinking through and preparing for such an eventuality. NATO needs to be at least equally well prepared in order to prevent such an eventuality and to make the circumstances for the use of nuclear weapons as remote as they once were.

²²² Warsaw Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Warsaw 8-9 July 2016, 9 July 2016, http://www.nato.int/cps/en/natohq/official_texts_133169.htm.

²²³ “The Allies concerned consider that, with the radical changes in the security situation, including conventional force levels in Europe maintained in relative balance and increased reaction times, NATO’s ability to defuse a crisis through diplomatic and other means or, should it be necessary, to mount a successful conventional defence will significantly improve. The circumstances in which any use of nuclear weapons might have to be contemplated by them are even more remote.” From The Alliance’s Strategic Concept 1991 in *The Transformation of an Alliance – The Decisions of NATO’s Heads of State and Government London 1990 - Rome 1991*, Brussels, NATO Office of Information and Press, 1992.

²²⁴ It is important to note that Russia’s assertiveness and strategic deterrence messaging has not been exclusively focused on Europe and has a global dimensions. Fred Weir, Why Are Russian Bombers Buzzing Japanese Airspace? *The Christian Science Monitor*, 18 November 2013, <http://www.csmonitor.com/World/Europe/2013/1118/Why-are-Russian-bombers-buzzing-Japanese-airspace>; Ekipazhi Dal’nei Aviatsii Uspeshno Vypolnili Zadachi Vozdushnogo Patrulirovaniya Nad Tikhim Okeanom, Ministry of Defence of the Russian Federation Website, 18 November 2013, http://function.mil.ru/news_page/country/more.htm?id=11868868.