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The Requirement for a Modern and Relevant Russian Strategic Nuclear Capability

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ABSTRACT

The issues surrounding the strategic nuclear capability of the Russian Federation are critically examined. This review is conducted by exploring seven distinct themes relating to the Russian Federation's requirement for a modern and relevant strategic nuclear capability.

The seven areas that are examined include, historical Russian security concerns, the application of deterrence theory vis-à-vis strategic nuclear weapons, the Russian view on the proliferation of nuclear weapons, a review of the impact of the Anti-Ballistic Missile Treaty, the continuing degradation of the Russian Federation's conventional armed forces, the ramifications of the Revolution in Military Affairs on the Russian Federation's strategic nuclear policy and the stated doctrine of the Russian Federation on strategic nuclear requirements.

The Russian Federation continues to be a nation that believes that it has a significant role to play in the world. A review of the seven themes illustrates that Russia is presently challenged to ensure that her foreign policy remains viable and that her sovereignty can be guaranteed. A credible and relevant strategic nuclear force is the only capability that will allow the Russian Federation the security that it requires and the ability to exercise influence within the international community.

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"*Russian policy is a riddle, wrapped in a mystery, inside an enigma."*[1]

Winston Churchill

INTRODUCTION

Despite the end of the Cold War, Russia continues to possess a vast arsenal of strategic nuclear weapons. Contemporary logic would hold that the end of the Cold War should have heralded a new era in international affairs marked by a warming of relations between Russia and the United States. This new détente would then lead to a corresponding reduction and the utopian elimination of strategic nuclear weapons as envisioned in the Non-Proliferation Treaty of 1970.[2] However, this has not been the case. The enigma of Russian nuclear policy is shrouded in the complexities of Russian national power, deterrence, global proliferation of weapons of mass destruction and the lack of a credible conventional armed forces. All evidence indicates that the Russian Federation intends on retaining its strategic nuclear capability and will continue to have a requirement for a modern and relevant strategic nuclear force for the foreseeable future.

This paper will examine the requirement for Russia to maintain a modern and relevant strategic nuclear capability. To comprehend the present Russian strategic nuclear rationale it will be necessary to consider the history of nuclear doctrine and policy from the genesis of the nuclear weapons program in the Union of Soviet Socialist

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[1]George Kamoff-Nicolsky, *Soviet Military Doctrine and Strategy: The Evolution of Nuclear Doctrine* (Ottawa: Department of National Defence, 1988), 13.

[2]David Krieger and Devin Chaffee, "Facing the Failure of the Nuclear Nonproliferation Treaty Regime," *The Humanist,* Vol 63, Iss 5 (September 2003), 7.

Republics (USSR) through to the present day Russian Federation. In addition to these considerations, to understand Russian national power one must also reflect on the history of conflict in Russia and the Russian national preoccupation regarding foreign aggression. The analysis of Russian strategic nuclear policy and the requirement for a modern and relevant strategic nuclear capability will address seven main themes, national security, deterrence theory, proliferation and non-proliferation, the significance of the anti-ballistic missile (ABM) debate, conventional armed forces capability, the Revolution in Military Affairs and Russian doctrine.

The first area to be reflected on will be the broad consideration of historical Russian security concerns. Russian history is a history of conflict and Russian foreign and defence policy has centered on national security issues. In 1945, these security concerns were fundamentally altered as a result of the introduction of nuclear weapons to modern warfare. Russia had to adapt and entered the nuclear age developing an indigenous nuclear program to counter that of the United States. The presence of nuclear weapons and the potential for their use also manifested itself in a new set of security concerns.

The second consideration will be how the introduction of nuclear weapons changed Russian national security perceptions. Russian security in the nuclear age has been founded on two principles, deterrence and non-proliferation. Deterrence theory has been the premise for maintaining the nuclear peace between Russia and the United States. Deterrence theory has roots in conventional military philosophy and this theory has

evolved and been incorporated into strategic nuclear theory and doctrine. From the earliest periods of the nuclear age, all nuclear nation states understood the inherent danger and destructive power of nuclear weapons. Russia fully comprehended that nuclear deterrence would be one of the cornerstones of national security and a way of ensuring her sovereignty for the foreseeable future.

The third area to be considered will be proliferation and non-proliferation strategies. The Russian leadership has fully endorsed the regime to limit the non-proliferation of nuclear weapons. The Russian proliferation agenda has evolved on two parallel but linked tracks.. The first has been to limit the proliferation of nuclear weapons beyond the core group of nation states that acquired nuclear weapons after the Second World War. This commitment led to the Russian endorsement of the Non-Proliferation Treaty (NPT). The second strategy has been to attempt to limit the size of the nuclear arsenals of the United States and Russia. This effort is highlighted by a series of codified arms control agreements between the two nations. The Russian understanding of proliferation and non-proliferation has immediate impacts on Russian strategic nuclear weapons policies.

The fourth consideration will be the impact of the ABM debate on Russian strategic nuclear weapons policy. The ABM treaty was developed as a nuclear stability treaty and the United States recently withdrew from the treaty. There has been a wide variance of opinion on Russian reaction to the United States withdrawal from the treaty. This section of the paper will explore the impact of the United States withdrawal from the

treaty vis-à-vis Russian strategic nuclear weapons. The Unites States withdrawal from the treaty reinforces Russian requirements for a strategic nuclear arsenal capable of deterring United States nuclear forces and if necessary defeating an anti-ballistic missile shield.

The fifth area to be addressed will be the evolution of Russian military capabilities. Russia has historically depended on a robust conventional force to ensure her sovereignty. The conventional force of the Russian armed forced have been drastically reduced as a result of budget cuts and a dependence on a non-sustainable conscript force. This section of the paper will chronicle the deterioration of Russian conventional military capabilities and the present state and forecast for these forces. It will be established that Russia is now left in a situation where it has been forced to rely on strategic nuclear forces to provide the security and protect the sovereignty of the Russian nation.

The sixth point of discussion will centre on the Revolution in Military Affairs (RMA). The RMA had an immediate impact on the Russian consideration of strategic nuclear capabilities. The origins of the RMA will be reviewed and participation in the present RMA will be considered. The RMA is well understood by the Russians; however, the capabilities of the RMA may not be fully available to the Russian Federation. This review of the RMA will demonstrate that Russia will not be able to fully leverage the capabilities of the RMA. As a result, Russia will continue to the security that strategic nuclear weapons will provide.

Finally, Russian doctrine will be examined in detail. To understand the way in which a nation will provide strategic direction and conduct war, it is essential to review doctrine. Russian doctrine from the advent of the nuclear weapons to the present day will be evaluated. In the context of the Russian Federation, the National Security Concept and Military Doctrine will be examined. These key documents reaffirm the Russian commitment to maintaining a modern and relevant strategic nuclear capability as a part of both national and military strategy.

RUSSIAN SECURITY

The Russian predilection to be concerned with the state of national security is not a function of the recent past. Russian security concerns are the genesis of history and the product of mistrust and suspicion of nations on the periphery and immediate frontiers of Russia. The historical security threat on the Russian periphery has forged a strong requirement for a viable Russian armed forces. In fact, there is a direct correlation between the past survival of the Russian state and the size and power of the Russian armed forces.[3]

Russian history is one characterized by invasions and imperialism. From its earliest period, the Russian nation state has been under immediate pressure from hostile neighbors intent on subjugating Russia and absorbing it into adjacent empires. There is a predisposition in the Russian psyche that considers the Russian national experience in the

[3]Colin S. Gray, *Nuclear Strategy and National Style* (Landham, MD.: Hamilton Press, 1986), 72.

context of "invasion, defeat and occupation".[4] The calculus of this history goes back to the dawn of the Russian state and continues to the present day.

This preoccupation with the immediate threat to national security can be illustrated through example. In the earliest days of the fledgling Russian empire, Kievan Rus succumbed to the invasion of the Mongols.[5] The Mongol invasion of 1223 was particularly brutal resulting in terrible carnage and destruction. This invasion is immortalized in the "ravage of Riazan" in which the city or Riazan was sacked and its occupants were slaughtered.[6] In the epitaph of history, this was only one of the first conquests of Russia. Also well remembered in the Russian lexicon is the invasion of Napoleon Bonaparte and his grand army in the nineteenth century. The Russians have termed the invasion of 1812 by Napoleon as "The War of Liberation".[7] Napoleon was stalled at the gates of Moscow and the French armies succumbed and perished during the long retreat of that bitter winter. What is well remembered from this invasion was that the French were able to advance to Moscow and through a campaign of attrition and scorched earth almost defeated the Russians except for the resolve of Czar Alexander and

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[4]George Kamoff-Nicolsky, *Soviet Military Doctrine and Strategy: The Evolution of Nuclear Doctrine* (Ottawa: Department of National Defence, 1988), X.

[5]David MacKenzie and Micheal W. Curran, *A History of Russia, the Soviet Union, and Beyond* (Albany, NY: West/Wadsworth, 1999), 34.

[6]Nicholas V. Riasanovsky, *A History of Russia*. (New York: Oxford University Press, 1977), 73.

[7]Robert V. Daniels, *Russia: The Roots of Confrontation* (Cambridge: The Harvard University Press, 1985), 59.

the bitter Russian winter.[8] The most recent conflict and probably the one with the most lasting memories is the Great Patriotic War, the term the Russians apply to the German invasion of Russia during the Second World War. This war was an all-encompassing national struggle between the two nations. The result of the Great Patriotic War was an almost incomprehensible level of devastation from Russia's European borders to the Ural Mountains and steppes to the south. It is estimated that Russia lost over twenty-seven million citizens during the war.[9] The destruction of infrastructure was equally overwhelming and accounts put it at almost thirty percent of the USSR's total national wealth.[10] The newest threat to Russian national security is the asymmetric threat. Russia has been fighting an insurrection in Chechnya, one of its republics, since December 1994.[11] Fighting has transitioned from Chechnya to Russia and manifested itself in random terrorist attacks against the Russian populace. Like the United States, Russia must be concerned about the potential of rogue

ethnic groups.[12] Empire has its dangers and there is continuous concern in Moscow that the diversity of the Russian people will lead to future national security problems. Also of profound significance for Russia were the break-up of the USSR in 1991 and the dissolution of the Warsaw Pact. The collapse of the Warsaw Pact presents immediate security challenges. Russia has historically depended on surrounding herself with proxy states that would act as a buffer and absorb the immediate impact of attack and allow Russia both time and space to react to these threats. For the first time in almost three centuries, Russia is without "buffer states".[13] Russia has long relied on these states to act as a barrier from foreign aggression and the loss of these states has resulted in a perception of decreased security by the Russian government.

DETERRENCE

The defeat of Nazi Germany in May 1945 ended six years of total war in Europe. However, the risk to the USSR's national security had not terminated but only transitioned to another level. Once it had become clear that Germany and Japan would ultimately be defeated, the allies began to concentrate on the post war world. In the consideration of this post war world, a change occurred. The USSR insisted on retaining the liberated eastern block states as proxy nations subordinate to Soviet hegemony. The Soviet extension of its sphere of influence in eastern Europe and the unresolved status of

[12]Gray, *Nuclear Strategy and National Style* …, 72.

[13]John Erickson, "We Have Plenty to Defend Ourselves With: Russian Rhetoric, Russian Realism," in *The Russian Military into the Twenty-First Century*, ed. Stephen J. Cimbala (London: Frank Cass Publishers, 2001), 4.

post war Germany erupted in dispute at the Potsdam Conference in March 1945 resulting in the beginnings of the Cold War.[14] Marxist doctrine, based on the struggle between socialism and capitalism, dictated that a clash between east and west was inevitable.[15] The USSR had transitioned from an ally to an adversary of the west. In August 1945, the United States utilized newly developed atomic bombs to attack the Japanese cities of Hiroshima and Nagasaki.[16] The result of these nuclear attacks was the capitulation and unconditional surrender of the Japanese empire. It became immediately apparent to the USSR that the acquisition of nuclear weapons was required to match this new United States military capability. Through an aggressive research program and nuclear espionage, the USSR acquired the nuclear technology to produce an atomic bomb.[17] In August 1949, the USSR detonated its first atomic bomb, the RDS-1.[18] The strategy of nuclear deterrence was established.

Deterrence is not a principle exclusive to the nuclear age; however, it is one of the defining factors in modern strategic defence. To fully understand the importance of deterrence in the nuclear context and to Russian national security it is necessary to

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[14]MacKenzie, A History of Russia, the Soviet Union, and Beyond …, 537.

[15]Jack F. Matlock, "The End of the Cold War," *Harvard International Review*, Vol 23, Iss 3, (Fall 2001), 84.

[16]Paret, *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* …,638.

[17]Robert H. Ferrell, "Truman and the Bomb: A Documentary History," *Truman Presidential Museum and Library*, http://www.trumanlibrary.org/whistlestop/study_collections/bomb/large/ferrell_book/ferrell_book_chap10.htm, accessed 19 Apr 04.

[18]Oleg Bukharin, Timur Kadyshev, Eugene Mianikov, Pavel Podvig, Igor Sutyagin, Maxim Tarasenko and Boris Zhelevov, *Russian Strategic Nuclear Forces* (Cambridge: The MIT Press, 2001), 2.

provide a brief synopsis of deterrence theory. Deterrence theory has been in practice since the beginning of armed conflict. Sun Tzu provided a description of deterrence in warfare, "To win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without fighting is the acme of skill."[19] In its most basic form, deterrence is defined as, "comprehending the risks, weighing the potential costs and benefits, judges the potential costs to be greater than the benefits, and therefore decides against the unwanted behavior."[20] This theory has been universally applied in the determination of the risks and consequences of attacking an adversary. In conventional armed conflicts, adversaries determine if their opponent has sufficient military capability to make the risk of attack unacceptable based on the potential consequences. In this cost benefit analysis, it must be determined if the risk is greater than the advantage that might be accrued from armed conflict.

The premise of deterrence theory is that nation states are rational and will examine risk in the context of adversarial relations with another state. There have been a number of studies conducted in this field and the most comprehensive studies (conducted from 1959-1961) by Brodie, Kahn, Schelling and Snyder categorized the majority of nations as "unitary rational actors".[21] The premise of this study was that most nation states behave rationally. In rational choice models, nations will choose options that are in

[19] Keith B. Payne, *Deterrence in the Second Nuclear Age* (Kentucky: The University Press of Kentucky, 1996), 1.

[20] Ibid, 3.

[21] Paul C. Stern, Robert Axelrod, Robert Jervis, and Roy Radner, *Perspectives on Deterrence* (Oxford: Oxford University Press, 1989), 5.

their best interests.[22] Their study concluded that rational states will analyze the risks involved in taking actions against another state and will not act if the risks outweigh the benefits that might be derived from conflict.[23]

It is not enough simply to have a deterrence capability. The capability to inflict harm on an aggressor may not be sufficient in the cost benefit analysis to avert attack by an adversary. The theory of deterrence is also predicated on capability.[24] Essentially, an aggressor must be convinced that a nation will retaliate in kind and that the nation will retaliate even if there is nothing to be gained in this retaliation. Thomas Schelling categorized the threat of retaliation as an "obligation".[25] In Schelling's description of retaliation, an adversary understands that the offended party will be obligated to retaliate and this obligation will result in a higher level of credibility. In the penultimate level of deterrence, there is the concept of "mutual deterrence."[26] The foundation of mutual deterrence is based on the premise that two opposing nations have an equal capability to cause considerable damage to one another.[27] It is within the context of mutual deterrence

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[22]Frank P. Harvey, *The Future's Back: Nuclear Rivalry, Deterrence Theory, and Crisis Stability After the Cold War* (Montreal: McGill-Queen's University Press, 1997), 7.

[23]Stern, *Perspectives on Deterrence …*, 5-6.

[24]Roger Hilsman, *From Nuclear Military Strategy to a World Without War: A History and a Proposal* (Westport, CT: Praeger Press, 1999), 51.

[25]Thomas Schelling, *The Strategy of Conflict (*Cambridge: Harvard University Press, 1980), 123-124.

[26]Lewis A. Dunn, "Rethinking Deterrence: A New Logic to Meet Twenty-First Century Challenges," in *Deterrence and Nuclear Proliferation in the Twenty-First Century,* ed. Stephen J. Cimbala (Westport, CT: Praeger Publishers, 2001), 25.

[27]Ibid, 25.

that the Cold War and the arms race arose and the resulting foundation of almost 60 years of Russian and United States military strategy.

The USSR applied deterrence theory in its rapid acceptance of the formidable capability of the United States nuclear bombs that had been used to such success against Japan. In a period of four years, the USSR had recognized the military advantages associated with nuclear weapons and acted. A robust research and development program led to the explosion of its own atomic bomb in 1949.

Colin Gray has expressed that deterrence became the "master leitmotiv" in the nuclear age.[28] Deterrence would become the defining factor of the relationship between the USSR and the United States and with the decline of the USSR, the Russian Federation. Nuclear weapons presented a serious problem for both Russia and the United States. These new weapons possessed incredible power and the potential to devastate an entire city with one weapon. In sufficient quantities, nuclear weapons gave nations the capability to threaten cultures and nations. As the noted United States strategist Bernard Brodie stated: "Thus far the chief purpose of a military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have no other useful purpose."[29] The potential of nuclear weapons had been recognized and the requirement to deter their use ensconced in political and military strategy.

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[28]Gray, *Nuclear Strategy and National Style* …, 97.

[29]Lawrence Freedman, *The Evolution of Nuclear Strategy* (Hong Kong: The International Institute of Strategic Studies, 1981), 44.

In the strategic assessment of the nuclear age and the application of nuclear deterrence, new premises had to be developed by the USSR and the United States. The first premise was based on mutual deterrence. The premise of mutual deterrence was derived from previously accepted deterrence theory. In the nuclear context, this premise affirmed that the essential purpose of nuclear weapons was not to realize battlefield effects but rather to deter an aggressor from using its nuclear weapons.[30] The consideration of whether a nuclear war could be won was hypothesized by both Russia and the United States. This will be amplified on later in the paper. Further consideration of nuclear deterrence theorized that if an opponent was to strike first, it should be assumed that the adversary would retaliate in kind with a "second strike" and that it should be expected that this second strike would inflict unacceptable damage.[31] The terms first strike and second strike were first discussed in 1959 and one analyst likened the importance of these terms in strategic studies to "the laws of gravity … to physics".[32] The concepts of first and second strike remain a current part of strategic deterrence theory.

The advent of nuclear deterrence led to a general understanding that the behavior of an adversary would become predictable. This level of predictability was based on the

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[30]Daniel Goure, "Nuclear Deterrence, Then and Now," *Policy Review*, Iss 116, (December 2002), 46, http://www.policyreview.org/dec02/goure_print.html, accessed 19 Dec 03.

[31]Peter Scoblic, "Alive and Kicking: The Greatly Exaggerated Death of Nuclear Deterrence," *Ethics & International Affairs*, Vol 15, Iss 1, (2001), 72, http://proquest.umi.com, accessed 28 Jan 03.

[32]Andrew Richter, *Avoiding Armageddon: Canadian Military Strategy and Nuclear Weapons, 1950-1963* (Vancouver: UBC Press, 2002), 74.

expectation that the use of nuclear weapons was untenable and the results catastrophic.[33] In a world of rational actors the result of a nuclear conflict would be untenable and therefore, nuclear deterrence would become a foundation for stability. It was the presence of weapons of mass destruction and the unacceptable consequences of their use that allowed nuclear deterrence to become the essence of the nuclear age. As the British theorist Sir Michael Quinnland articulated, "(Nuclear) weapons deter by the possibility of their use, and by no other route."[34]

The Cold War adversaries, the USSR and United States demonstrated an astute understanding of the principles of deterrence and its new application to nuclear weapons. As previously stated the ideological differences between the USSR and the west could not be transcended by diplomacy alone. By 1946, these differences had settled into a simmering and potentially explosive hostility. Winston Churchill described the new Soviet dominion as one where an "Iron Curtain"[35] had descended and a bitter geopolitical rivalry had commenced. It is worthwhile at this point to discuss the USSR and Russian Federation perception of deterrence. This examination of USSR and Russian Federation deterrence policy will chronicle the early period of nuclear deterrence, the arms race, Soviet/United States parity, arms reduction and an assessment of Russian Federation views on future deterrence.

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[33]Payne, *Deterrence in the Second Nuclear Age* …, 15.

[34]Roger Barnett, "What Deters? Strength, Not Weakness," *Naval War College Review*, Vol 54, Iss 2, (Spring 2001), 26, http://www.nwc.navy.mil/press/Review/2001/Spring/art2-sp1.htm, accessed 19 Dec 03.

[35] Klaus Larres, *Churchill's Cold War: The Power of Personal Diplomacy* (New Haven: The Yale University Press, 2002), 140-141.

The USSR entered the world of nuclear deterrence at a disadvantage. The United States was several years ahead in weapons production and technological development of nuclear weapons. The most significant event of the early nuclear period is probably the Cuban Missile Crisis. The United States had deployed intermediate range ballistic missiles (IRBM) into Europe and as a counter, the USSR deployed SS-4 and SS-5 IRBM to Cuba.[36] The resulting deployment of Soviet IRBMs led to a very difficult standoff between the two powers. Protracted and very tense negotiations resulted in the eventual withdrawal of the Soviet IRBMs. The deployment of the Soviet IRBMs to Cuba was based on nuclear deterrence strategy. The missiles were deployed to counter the United States IRBM deployments in Europe.[37] The Soviet leader, Khrushchev had made a grave miscalculation. He "believed that United States and capitalism were on the retreat and would acquiesce when hard pressure over missiles (in Cuba) was brought to bear.[38] The resulting missile withdrawal from Cuba was ultimately to cost Khrushchev his career.[39] The Soviets learned a significant lesson in the events of the Cuban Missile Crisis. At the time of the crisis, the United States had an advantage in the number of strategic weapons it possessed. The nuclear standoff had illustrated the importance of the United States superiority in nuclear weapons and the requirement for the USSR to catch up.

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[36]Bukharin, Kadyshev, Mianikov, Podvig, Sutyagin, Tarasenko and Zhelevov, *Russian Strategic Nuclear Forces …*, 5.

[37]Steven J Zaloga, *The Kremlin's Nuclear Sword: The Rise and Fall of Russia's Strategic Nuclear Forces, 1945-2000* (Washington: Smithsonian Institution Press, 2002), 99-100.

[38]Riasanovsky, *A History of Russia …* , 618.

[39]Ibid, 618.

The period between the Cuban Missile Crisis and the mid-1970s can be characterized as a drive for parity. The USSR had learned the lesson of its Cuban adventure and the requirement to have a credible nuclear deterrent. The new Soviet leader, Brezhnev was to assert considerable political and economic effort in fielding nuclear weapons systems that would allow both qualitative and quantitative parity with the United States.[40] This drive for parity became an arms race. Both nations pursued a nuclear modernization process throughout the 1960-1970 time frame. The Soviet missile program was highlighted by the development of intercontinental ballistic missiles (ICBM) that would be able to strike anywhere within the United States. The new ICBMs were also solid fuel weapons with a capability to launch heavy and multiple independent reentry vehicles (MIRV).[41] Solid fuel allowed the ICBMs to be in the silos at all times and not require fueling prior to launch. The MIRV capability allowed for multiple targets to be designated for each ICBM.

A new nuclear deterrent strategy was developed in conjunction with the build-up and modernization of the Soviet and United States strategic forces. Robert McNamara, the Secretary of Defence in the Kennedy administration, postulated that significant nuclear forces could threaten the total destruction of both nations, essentially holding them as nuclear hostage.[42] This principle was described as Assured Destruction. The

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[40]Zaloga, *The Kremlin's Nuclear Sword: The Rise and Fall of Russia's Strategic Nuclear Forces, 1945-2000…* , 101.

[41]Bukharin, Kadyshev, Mianikov, Podvig, Sutyagin, Tarasenko and Zhelevov, *Russian Strategic Nuclear Forces …*, 6-7.

[42]Peter Grier, "In the Shadow of MAD," *Air Force Magazine Online,* Vol. 84, No. 11 (November 2001), http://www.afa.org/magazine/nov2001/1101mad.asp, accessed 20 Apr 04.

two nations now possessed significant nuclear arsenals and these arsenals had the capability to destroy either nation in an attack.[43] Assured Destruction has also been termed as Mutual Assured Destruction (MAD).[44], with the acronym MAD sometimes being described as illustrative of the madness of the arms race. The principle of Assured Destruction provided a limited guarantee that one nations nuclear arsenal could not hold the others hostage to nuclear blackmail. From the Soviet perspective, Assured Destruction also allowed that the "offence would be able to maintain advantage over the defence."[45] By achieving quantitative and qualitative parity with the United States, the Soviets were now able to hold the deterrent threat of nuclear retaliation ensuring their immediate sovereignty and security.

By the end of 1969, it became apparent to the USSR and United States that the size of their respective nuclear arsenals had become untenable. Stability between the east and west blocs was ensured by the presence of these large nuclear arsenals. However, the bombers, ICBMs and Submarine Launched Ballistic Missiles (SLBM) also had the capability to have devastating effects if they were used in conflict.[46] In November 1969,

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[43]Barnett, "What Deters? Strength, Not Weakness,"..., 26.

[44]Kamoff-Nicolsky, *Soviet Military Doctrine and Strategy: The Evolution of Nuclear Doctrine* …, XIV.

[45]Freedman, *The Evolution of Nuclear Strategy* …, 259.

[46]Bukharin, Kadyshev, Mianikov, Podvig, Sutyagin, Tarasenko and Zhelevov, *Russian Strategic Nuclear Forces* …, 8.

the Unites States and the USSR began negotiating their first treaty, the Strategic Arms Limitation Treaty (SALT), to limit their nuclear capabilities.[47]

The recognition that the nuclear capabilities of the USSR and the United States had become unmanageable was not the signal to disarm but rather to better control the number of weapons possessed by each state. The philosophy of managed reductions allowed deterrence to remain as a staple of strategic strategy. The strategy of nuclear deterrence has survived as an axiom of Soviet and now Russian policy. The present Russian dependence on deterrence has sometimes been termed the "Continuity Theory".[48] In its most simple terms, the continuity theory holds that as long as a threat persists, this threat must be honoured and a reciprocal deterrent capability must be exercised.[49] In the context of the present Russian and Unites States relationship, the Russian Federation must maintain a credible nuclear deterrent. As long as the United States continues to maintain a credible nuclear capability, the Russian Federation will be obligated to maintain its own militarily sufficient and credible nuclear deterrent.

In the aftermath of the Cold War, there was a warming of relations between the United States and the Russian Federation. However, the concept of deterrence is still valid in Russian thinking. Not only must the continuing presence of a credible United States threat be considered but additional threats must also be recognized. Russia must

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[47]Anonymous, "U.S.-Soviet/Russia Nuclear Arms Control," *Arms Control Today*, Vol 32, Iss 5, (June 2002), 12, http://proquest.umi.com, accessed 25 Jan 04.

[48]Frank P. Harvey, "The Future of Strategic Stability and Nuclear Deterrence," *International Journal*, Vol 58, Iss 2, (Spring 2003), http://proquest.umi.com, accessed 29 Dec 03.

[49]Ibid.

consider its immediate neighbor, China. The Chinese nuclear capability has increased substantially and the Chinese nuclear threat requires continued Russian nuclear deterrence capability.[50] China has developed a formidable strategic nuclear capability that must be honoured by Russia.[51] Russia must also reflect on new and emerging threats in its requirement to maintain a credible deterrent. The Joint Statement of Future Negotiations, an agreement between the Russian Federation and the United States, provides a telling indication of Russian perceptions on deterrence.[52] The language of the Joint Statement of Future Negotiations, indicates that Russia does not desire a capability to wage and win nuclear conflict but does require a nuclear weapons capability to provide a sufficient and credible deterrent.[53]

The Russian preoccupation with deterrence is based on a long history of invasion and tragedy visited upon Russian governments and populations. The Great Patriotic War is still etched upon the minds of the Russian population and its leadership. With the advent of nuclear weapons, there has been a corresponding metamorphosis in deterrence theory. Nuclear deterrence theory was initially based on a principle of Assured Destruction and has now transitioned to a state based on Continuity Theory. The Russian Federation has not abandoned the theory of nuclear deterrence. Russia will continue to

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[50]Burkhard Schmitt, *Nuclear Weapons: A New Great Debate* (Paris: Institute of Security Studies, 2001), 106.

[51]The Military Balance 2003-2004, published by the International Institute of Strategic Studies, indicates that China possesses as many as 30 ICBMs, 110 IRBMs and one SSBN. It is probable that a portion of these weapons are targeted against the Russian Federation.

[52]Nikolai Sokov, *Russian Strategic Modernization* (Lanham, MD.: Rowman and Littlefield Publishers, 2000), 20.

[53]Ibid, 20-21.

require credible and sufficient strategic nuclear weapons capability if it is to maintain a deterrence capability against other nuclear weapons states. The Cold War has ended; however, "the world remains a dangerous place"[54], and nuclear deterrence theory is alive and well.

PROLIFERATION

As was expressed in the previous chapter on deterrence, the ultimate political and military goal is to deter an aggressor without resorting to combat. The nuclear age and nuclear deterrence resulted in a standoff between the two major powers and an understanding of the risks and dangers associated with nuclear weapons. It was inevitable that other nations would join the nuclear weapons club attracted by what they believed nuclear weapons could provide to their national security. In recognition of the dangers of proliferation, it was agreed to establish an accord limiting the proliferation of these weapons of mass destruction (WMD). From a Soviet and later Russian perspective, the control and elimination of nuclear weapons is the only way that they could reduce or eliminate their own inventory of nuclear weapons. Without an assurance limiting the spread of nuclear weapons, the theories prescribed in deterrence would be the only moderator of Soviet and Russian security.

This chapter will describe the attempts to limit the proliferation of nuclear weapons and the present status of this effort. The section will describe the Non-

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[54]Goure, "Nuclear Deterrence, Then and Now," *Policy Review* …, 49.

Proliferation Treaty (NPT) and the articles contained in the treaty. An examination of the success of the NPT will also be considered. As an ancillary to the NPT an analysis of the nuclear arms control regime will be addressed. Finally, a review of Russian reactions to the NPT and how this effects the Russian requirement for a nuclear capability will be discussed.

The start of negotiation to establish a non-proliferation accord began in 1968 and the NPT was signed and came into effect in 1970.[55] The underlying premise of the NPT was to limit the proliferation of nuclear weapons. At the time of the signing of the NPT, the number of nations possessing nuclear weapons had increased and these nations now included the United States, the USSR, China, the United Kingdom and France. There was general concern that the proliferation of nuclear weapons would continue and that other nations "would aspire to this capability."[56] The NPT is a codified treaty; a treaty that has legal conditions and is considered binding under law. It holds members responsible to fulfill the obligations of the treaty. Nuclear weapons and non-nuclear weapons states have promised to ascribe to the conditions of the treaty. These conditions are designed to ensure the non-proliferation of nuclear weapons and the ultimate disarmament of nuclear weapons states resulting in a "nuclear weapons free world."[57] The NPT has become the most important arms control treaty. There are presently 187 states that have signed the NPT and the only states that are presently not members are

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[55]Jozef Goldblat, *Twenty Years of the Non-Proliferation Treaty: Implementation and Prospects* (Oslo: International Peace Research Institute, 1990), 8.

[56]Burkard Schmitt, *Nuclear Weapons: A New Great Debate* (Paris: Institute of Security Studies, 2001), 47.

[57]Leonard Weiss, "Nuclear-Weapons States and the Grand Bargain," *Arms Control Today*, Vol 33, Iss 10, (Dec 2003), 21, http://www.armscontrol.org/act/2003_12/Weiss.asp?print, accessed 29 Jan 04.

Israel, India, Pakistan and North Korea.[58] It is not coincidental that all four of these nations have pursued the acquisition of nuclear weapons, now possess these weapons and have at times threatened the long nuclear peace.

There are ten articles that form the foundation of the NPT. The most important articles and those directly effecting nuclear proliferation are articles I, II, III,VI and X. The language of the treaty breaks treaty members into two categories, nuclear weapons states and non-weapons states. Nuclear weapons states are deemed to be those that have produced and detonated a "nuclear device prior to January 1, 1967."[59] Therefore, nuclear weapons states are considered to be the United States, Russia, France, the United Kingdom and China. The other members are considered non-weapons states. The first article of the NPT is deemed the cornerstone of the treaty and essentially dictates "nuclear weapons states pledge not to transfer nuclear explosive devices or the means to produce them to non-weapons states."[60] This article is important in that it recognizes that nuclear weapons states are the only states with nuclear weapons technologies and without their explicit agreement to transfer technologies, the proliferation of nuclear weapons would be eliminated at the source.[61]

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[58]Robert Sherman, "Nuclear Non-Proliferation Treaty," *The Federation of American Scientists*, http://www.fas.org/nuke/control/npt/index.html, accessed 02 Dec 03. The Federation of American Scientists reports 187 members of the NPT in 2003.

[59]Ronald J. Bee, *Nuclear Proliferation: The Post Cold War Challenge* (New York: Foreign Policy Association, Inc., 1995), 21.

[60]Ibid, 21.

[61]Weiss, "Nuclear-Weapons States and the Grand Bargain"…, 22.

Articles II and III of the NPT are concerned with the transfer of nuclear weapons and weapons technologies to non-nuclear weapons states and how the safeguarding of nuclear technology will be ensured. Specifically, Article II is a pledge by non-nuclear weapons states that nations will not attempt to acquire nuclear weapons or nuclear weapons technologies from nuclear weapons states and that nations will not attempt to develop nuclear weapons of their own volition.[62] The treaty does not prohibit non-nuclear states from acquiring nuclear technology for peaceful purposes. Examples of this would be nuclear medicine and nuclear power generation. In fact, nuclear technologies have been widely exported for nuclear power generation. However, Article III of the treaty provides some provisos for the safeguarding of peaceful nuclear technologies. In general terms, each member of the NPT will accept the requirement to develop safeguards that will guarantee that peaceful nuclear capabilities are not used to develop weapons and that the International Atomic Energy Agency (IAEA) will be allowed to inspect member states facilities to ensure their compliance.[63]

Article VI has been considered the "linchpin of the treaty."[64] This article dictates that the nuclear weapons states act in "good faith" to pursue arms control agreements with the objective of an end of the nuclear arms race[65] Article VI also discusses arms

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[62]Goldblat, *Twenty Years of the Non-Proliferation Treaty: Implementation and Prospects*… , 66.

[63]Ibid, 66-67.

[64]The Acronym Consortium, *Indefinite Extension of the Non-Proliferation Treaty: Risks and Reckonings* (New York: The Acronym Consortium, 1995), 38.

[65]Weiss, "Nuclear-Weapons States and the Grand Bargain"…, 24.

control and facilitation of disarmament through arms control agreements and protocols.[66] Article VI does not provide a great amount of detail concerning timings for an eventual goal of complete nuclear disarmament. However, proponents of the NPT argue that it is the guidance provided in Article VI that has limited the vertical proliferation of nuclear weapons within the nuclear weapons states and has reinforced an agenda for arms control protocols such as the Anti-Ballistic Missile (ABM) Treaty.[67]

Article X of the NPT allows members of the treaty to withdraw under certain circumstances. This provision allows for a treaty member to withdraw on three months notice.[68] It further amplifies that members may withdraw if "extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country."[69] In essence, if a nation subject to the treaty believes that its sovereignty or national security is threatened by remaining a party to the treaty, that nation may withdraw. North Korea is the only nation that has elected to exercise its prerogative and withdraw from the NPT.

The arms control agreements between the United States and Russian government have been negotiated in parallel to the NPT. These agreements have included the Strategic Arms Limitation Treaty (SALT), the ABM Treaty, the Strategic Arms

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[66]Jack Mendelsohn, "The Nuclear-Weapon States and Article VI of the NPT," *Arms Control Today*, Vol 25, Iss 2, (March 1995), 12.

[67]Mendelsohn, "The Nuclear-Weapon States and Article VI of the NPT,"…, 11-12.

[68]Bee, *Nuclear Proliferation: The Post Cold War Challenge* …, 21.

[69]Goldblat, *Twenty Years of the Non-Proliferation Treaty: Implementation and Prospects*… , 68.

Reduction Treaty (START) and the most recent agreement, the Strategic Offensive Reduction Treaty (SORT).

Negotiations on the SALT treaty began in November 1969 and the treaty was signed and came into force in May 1972.[70] As an adjunct to the SALT treaty, the ABM Treaty was also negotiated. The SALT treaty was negotiated in an atmosphere of nuclear parity with both the United States and USSR possessing large arsenals of ICBM, SLBM and strategic bombers and neither having a significant qualitative or quantitative superiority. Specifically, the SALT treaty limited the size of both the ICBM and Submarine Launched Ballistic Missile (SLBM) forces of the respective nations.[71] The ABM treaty was designed to prevent the creation of a defensive shield that could be used to defeat either ICBM or SLBM.[72] These two treaties were significant in that they were the first serious attempts to limit the vertical proliferation of nuclear weapons by the superpowers.

Two START treaties have been negotiated between the USSR and United States. Negotiations on START I commenced in the 1980s but the treaty was not signed until July 1991.[73] The START I treaty was important because it built on the concept of reducing the nuclear arsenals as outlined in SALT and it was the first codified treaty

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[70]Anonymous, "U.S.-Soviet/Russia Nuclear Arms Control," *Arms Control Today*, Vol 32, Iss 5, (June 2002), 12.

[71]Anonymous, "U.S.-Soviet/Russia Nuclear Arms Control,"…, 12.

[72]Scoblic, "Alive and Kicking: The Greatly Exaggerated Death of Nuclear Deterrence," …, 72.

[73]Anonymous, "U.S.-Soviet/Russia Nuclear Arms Control,"…, 12.

prescribing limits on the number of warheads each nation could possess.[74] The START I treaty required both the United States and the USSR to reduce their numbers of deployed warheads on ICBM and SLBM to a maximum of 6,000 warheads by December 2001. Both the United States and Russia were able to meet the timeline of the treaty and the reduction to the authorized number of warheads.[75] President George Bush and President Boris Yeltsin indicated their willingness to pursue a follow-on to the START I treaty, START II, in June 1992.[76] The negotiations called for further reductions the numbers of warheads allowed in START I from 6,000 to 3,500 and the elimination of Multiple Independent Reentry Vehicles (MIRV).[77] The START II treaty like its predecessors SALT and START I was based on the premise of continuing nuclear parity between the two nations. Unfortunately, START II has never come into effect. The treaty has been tied to ongoing negotiations over the ABM treaty status and the Russian Federation withdrew from START II as a result of the United States position on the ABM treaty.[78]

The most recent arms control agreement is the SORT treaty. This treaty is in the spirit of the other codified agreements and calls for even further cuts to strategic arsenals. The agreement was signed in May 2003 and is designed to reduce the number of

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[74]Zaloga, *The Kremlin's Nuclear Sword: The Rise and Fall of Russia's Strategic Nuclear Forces, 1945-2000* …, 222.

[75]Norris, "Russian Nuclear Forces, 2002," *Bulletin of the Atomic Scientists*, Vol 58, Iss 4, (Jul/Aug 2002), 71.

[76]Anonymous, "U.S.-Soviet/Russia Nuclear Arms Control,"…, 12.

[77]Stephen J. Cimbala, *The Past and Future of Nuclear Deterrence* (Westport, CT: Praeger Publishers, 1998), 63.

[78]Wade Boese, "Russia Declares Itself No Longer Bound By START II," *Arms Control Today*, Vol 32, Iss 6, (Jul/Aug 2002), 16.

"deployed strategic nuclear warheads by nearly two thirds over a ten-year period."[79] The reductions will take the United States and Russia from the 6,000 warhead ceiling achieved in START I to a new and significantly reduced ceiling of 2,200 warheads each by December 2012.[80]

The NPT and the arms control regimes agreed upon by the nuclear weapons and non-weapons states are not the panacea that leads to a nuclear free world. There has been evidence that non-proliferation has not been the success envisioned by treaty signatories. The proliferation of nuclear weapons has occurred, albeit a limited proliferation. There has also been a change in the rhetoric of the United States and its professed statements regarding the NPT, the Comprehensive Test Ban Treaty (CTBT) and the "good faith" reductions in their strategic arsenal. These changes are significant and will have an impact on the Russian assessment to maintain their own strategic nuclear weapons at a credible level.

The NPT has not been able to eliminate or even reduce the proliferation of nuclear weapons. Since the inception of the NPT, North Korea, South Africa, Israel, India, and Pakistan have admitted to either working on a nuclear weapons program or have already developed nuclear weapons.[81] The most recent indications of proliferation have been the admission by Iran that it has been conducting clandestine nuclear research that could lead

[79]Christine Kucia, "Senate Endorses Nuclear Reductions Treaty; Duma Delays," *Arms Control Today*, Vol 33, Iss 3, (Apr 2003), 30, http://www.armscontrol.org/act/2003_04/sortratification_apr03.asp?print, accessed 15 Jan 04.

[80] Wade Boese, "The Jury is Still Out," *Arms Control Today*, Vol 32, Iss 5, (June 2002), 5.

[81]Cimbala, *Deterrence and Nuclear Proliferation in the Twenty-First Century …, 104.*

to a nuclear weapons program in that country.[82] The controversy surrounding the Iranian admission has been further compounded by revelations that a senior Pakistani nuclear scientist may have been selling nuclear secrets and technology for a profit to North Korea, Iran and Libya.[83]

The ongoing nuclear debate concerning North Korea is a perfect example of the fragility of the NPT.[84] It has been well documented that North Korea, although a signatory to the NPT has also violated the terms of the treaty and has acquired nuclear technology, potentially developed weapons and also proliferated the knowledge that they have developed. The crisis concerning North Korea was evident as early as 1994, when there were indications that nuclear fuel was being reprocessed and refined into weapons grade nuclear material.[85] The concern over the North Korean nuclear program has been further exacerbated by the North Korean invocation of Article X of the NPT, which ultimately led to their withdrawal from the treaty in 2002.[86] Further North Korean developments have included the construction of medium and long range missiles with the

[82]Paul Kerr, "Iran Slapped For Clandestine Nuclear Activities," *Arms Control Today*, Vol 33, Iss 10, (December 2003), 31.

[83]Trudy Rubin, "Nuclear 'Supermarket' Another Concern for US," *Pakistan-Facts*, http://www.pakistan-facts.com/, accessed 9 Feb 04.

[84]James E. Goodby, "Nuclear Talks Will Test Six Nations in Bejing," *The Brookings Institute*, http://www.brookings.edu/views/op-ed/goodby/20040224.htm, accessed 19 Apr 2004. The six nations talks were started to bring a diplomatic solution to the ongoing nuclear crisis in North Korea. To date these talks have had limited success. The main issue has been verification of North Korean nuclear capabilities.

[85]Bee, *Nuclear Proliferation: The Post Cold War Challenge* …, 6.

[86]David Krieger and Devin Chaffee, "Facing the Failure of the Nuclear Nonproliferation Treaty Regime," *The Humanist,* Vol 63, Iss 5, (September 2003), 7.

threat of being able to deliver nuclear payloads to Japan and even the continental United States.[87]

The problems described with the NPT are one of the pieces of evidence that will lead Russia to maintain a credible strategic nuclear weapons capability.[88] Russia cannot eliminate its arsenal while non-weapons states acquire nuclear capabilities. It is also well understood that some non-weapons states believe that they will have greater credibility as small and middle powers if they acquire nuclear weapons. This argument is founded on the position that nuclear weapons have utility as they have deterred aggression between Russia and the United States throughout the Cold War.[89] This has translated to a premise that if nuclear weapons have been a successful tool in managing the national security of the United Stayso welfor o(trhe natiads t“(det,en)Tj0.0004 Tc -0.0004 Tw 12 0 0 12 937715.78999 Tme css

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states that might acquire nuclear capabilities and attempt to coerce Russia with these capabilities.[91] The continuing evidence of nuclear weapons proliferation has threatened the stability of the NPT and has fueled debate over the viability of the treaty and if the treaty can truly contain the proliferation of nuclear weapons to non-weapons states. It is within this dialogue that Russia has also considered the potential that nuclear weapons will be proliferated and that the proliferation would be acceptable in the dynamics of a nuclear "multi-polarity" in which Russia and the United States are considered the greater of equals in a nuclear world.[92]

Another Russian concern is the *Good Faith* requirement as articulated in Article VI of the NPT which espouses that all five nuclear weapons states will take positive steps towards nuclear disarmament. The United States has recently stated that it no longer "supports the practical steps" that would lead to the final elimination of nuclear weapons.[93] The United States has also demonstrated more aggressive rhetoric on its nuclear weapons policy and how nuclear weapons are an integral part of national security. The penultimate expression of the importance of nuclear weapons to United States national security are those expressed within the United States National Security Strategy of 2002 in which the "United States reserves the right to respond with

[91]Burkard Schmitt, *Nuclear Weapons: A New Great Debate* (Paris: Institute of Security Studies, 2001), 121.

[92]Ibid, 123.

[93]Krieger and Chaffee, "Facing the Failure of the Nuclear Nonproliferation Treaty Regime," … , 7.

overwhelming force-including through resort to all of our options (nuclear)-to the use of WMD against the United States."[94]

One of the most compelling indications that Russia has realized the threat of proliferation and the unlikely short to medium term nuclear disarmament prospects is the SORT treaty. SORT may potentially be the "last in the series of traditional arms control treaties."[95] SORT will lead to a decrease in overall numbers of nuclear warheads by approximately two thirds; however, SORT is also widely expected to be the last codified arms control agreement between Russia and the United States. Further agreements are not envisioned by Russia as, based on its national security strategy, it has reached the "optimal level" for its strategic nuclear arsenal.[96]

The history of non-proliferation and the NPT have adequately demonstrated that proliferation is inevitable and Russia must be prepared to maintain a credible nuclear deterrent against emerging non-weapons states seeking nuclear weapons. It is also becoming transparent that the *Good Faith* agreement, which would lead to the disarmament of weapons states, is not in the foreseeable future. It is within this context that Russia must continue to maintain their nuclear capabilities.

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[94]George W. Bush, "National Security Strategy of the United States", *The White House*, (September 2002), http://www.whitehouse.gov/nsc/nss.html, accessed 20 August 2003.

[95]Nikolia Sokov, "The Russian Nuclear Arms Control Agenda After SORT," *Arms Control Today*, Vol 33, Iss 3, (Apr 2003), 7, http://www.armscontrol.org/act/2003_04/sokov_apr03.asp?print

[96]Ibid, 7.

THE ANTI-BALISTIC MISSILE TREATY (ABM)

There has been much debate over the ABM Treaty and the ramifications of changing the language of the ABM Treaty or abrogation of the treaty by the United States. The debate has centred on the Russian Federation's reaction to United States overtures to field a limited ballistic missile defence (BMD) system. It has been postulated that if the United States fielded a BMD system, it might have a direct impact on the Russian Federation's capability to provide effective deterrence. Further, it has been hypothesized that the fielding of a BMD system might provoke a new arms race, led by the Russian Federation.[97] This creation of a BMD system would be a "significant retreat" on the issue of arms control and nuclear disarmament and ultimately force the Russian Federation to increase their strategic nuclear forces to counter this new threat.[98]

The United States initiative to field a BMD system does have ramifications for the relationship between the United States and the Russian Federation. It also has an immediate impact on the Russian Federation's requirement to retain a credible nuclear deterrent capability. However, the fielding of a BMD system does not provide the impetus for a new arms race or "reduced cooperation in threat reduction" between the two nations.[99] In an analysis of the debate over the ABM treaty and the ramifications on United States/Russian Federation relations, this chapter will explore the history and

[97]Lloyd Axworthy, *Navigating a New World: Canada's Global Future* (Toronto: Alfred A. Knopf Canada, 2003), 98-99.

[98]Ibid, 99.

[99]Andrew C Kuchins, "Explaining Mr. Putin: Russia's New Nuclear Diplomacy," *Arms Control Today*, Vol 32, Iss 8, (October 2002), 4.

rationale for the ABM treaty, the present status of the treaty, the threat posed by the fielding of a BMD system to the Russian Federation and the expected reaction to the fielding of a BMD system. Finally, it will be demonstrated that changes to the ABM treaty do not constitute increased risk to the Russian Federation but do emphasize the requirement for a proportionate and credible nuclear capability to provide deterrence.

The ABM treaty was an adjunct to the SALT treaty negotiations begun in 1969 and signed in 1972.[100] The requirement for an ABM treaty arose out of the contemplation to develop and field an anti-ballistic missile defence in both the United States and USSR. In the USSR, consideration of an anti-ballistic missile defence was articulated as early as the late 1950's when President Khrushchev ordered work to commence in creating an anti-ballistic missile system to counter the perceived United States ICBM threat.[101] By the 1960's, the USSR had deployed a very limited anti-ballistic missile system, the A-35, to provide a point defence around the Moscow perimeter.[102] The United States fielded a similar system to defend their ICBM facilities in North Dakota. However, it became apparent that the technology of that period was impractical.[103] The systems developed could not defeat ICBM and in fact, the development of the anti-ballistic missile defences was actually contributing to vertical proliferation in the United States and the USSR. As a result, the ABM treaty was codified as a means of reducing vertical proliferation. The USSR considered the ABM

[100]Anonymous, "U.S.-Soviet/Russia Nuclear Arms Control," …,12,

[101]Zaloga, *The Kremlin's Nuclear Sword: The Rise and Fall of Russia's Strategic Nuclear Forces, 1945-2000* …,98.

[102]Ibid, 145.

[103]Ibid, 98-99.

treaty a pillar, in the Russian language "Besopasnost" (the absence of threat), for arms control and one of the keys to guaranteeing nuclear stability.[104]

The ABM treaty has been under considerable pressure for a protracted period of time. The first indications of potential changes to the ABM treaty came as early as 1991 during the presidency of Ronald Reagan and the consideration of a deployment of anti-ballistic missiles under the Strategic Defence Initiative (SDI).[105] This program was eventually cancelled, as it was not technically feasible at that point in time. However, United States pressure on the ABM treaty has continued. By May 1999, the United States Congress had passed a bill that outlined legislation to permit the construction and deployment of a BMD system in the continental United States.[106]

The Russian Federation has not remained mute on the issue of changing or abrogating the ABM treaty. Russia's most recent president, Vladimir Putin has consistently expressed his concerns over changes to the ABM treaty. In fact, he has on several occasions warned against the abrogation of the treaty and voiced his position that Russia was ready "for the retention and strengthening" of the ABM treaty.[107] Irrespective of the Russian position on the ABM treaty, the United States officially providing the

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[104]Burkard Schmitt, *Nuclear Weapons: A New Great Debate* (Paris: Institute of Security Studies, 2001), 107.

[105]Robert A Levine, "Deterrence and the ABM," *World Policy Journal*, Vol 18, Iss 3, (Fall 2001), 23.

[106]Bukharin, et al, *Russian Strategic Nuclear Forces …*, 573.

[107]Anonymous, "Statement of Russian President Putin on Strategic Reductions and Preservation of the ABM Treaty," *Arms Control Today*, Vol 30, Iss 10, (December 2000), 30.

required six months notice and withdrew from the treaty in June 2002.[108] The abrogation of the ABM treaty gave the United States the latitude that it required to move ahead with their anti-ballistic missile program and proceed with testing, proof of concept and further considerations for deployment.

Analysis of potential Russian reaction to the United States withdrawal from the ABM treaty has varied and covered the gamut of the political spectrum. Some analysts believed that Russian reaction would be benign while others expected a worse case scenario, a second arms race and a widening void in United States and Russian Federation relations.[109] In actuality, Russian reaction to the United States withdrawal from the ABM treaty has been relatively unremwam(analysts)Tj0.00019 Tc -0.0004 Tw 84 0 0 52312 .3048

The argument that the Russian Federation would be forced to commence an arms race to counter withdrawal from the ABM treaty is fallacious.[111] United States withdrawal from the ABM treaty does impact on Russian nuclear strategy but does not force the Russian Federation to consider increasing their stockpile to counter a United States anti-ballistic missile system. The first Russian consideration in providing a counter to a BMD system would be cost. As has been previously stated, the Russian defence budget and the Russian economy could not support an increase in defence spending to counter the BMD system. President Vladimir Putin's immediate concern w i t l l b e

nuclear weapons or 1,500-both numbers are equally too high" and would overwhelm and defeat the United States BMD system.[114]

The critical aspect of the Russian Federation's acquiescence on the ABM treaty withdrawal is the understanding that a credible nuclear weapons capability will be required to ensure deterrence capability. Based on the axiom of deterrence theory, from a Russian perspective, their nuclear capability will have to be plausible enough that the United States believes Russia could defeat the BMD system. Russia is presently considering the "deployment of multiple warheads on its new land-based missiles" as a potential counter to the BMD system.[115] This type of rationale would allow for "improving the quality" of strategic nuclear forces, allowing the capability to defeat a BMD system and continuing guaranteeing Russian security interests.[116]

The United States withdrawal from the ABM treaty and intent to deploy a BMD system will not form the foundation for a renewal of the arms race. The Russian government realized that there was nothing further to be gained by investing "political capital" in attempting to halt the withdrawal from the treaty.[117] However, to ensure its sovereignty and national security the Russian Federation must acknowledge this change in the strategic nuclear balance. Deterrence has always been based on the premise that

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[114]Pavel Podvig, "Missile Defence: For Russia, Little Loss, Little Gain," *Bulletin of the Atomic Scientist*, Vol 57, Iss 6, (November/December 2001), 24.

[115]Ibid, 25.

[116]Nikolai Sokov, "Disarmament Diplomacy," *The Acronym Institute for Disarmament*, Iss 50, (September 2000), 6, http://www.acronym.org.uk/50newold.htm, accessed 1 Mar 04.

[117]Shoumikhin, "Evolving Russian Perspectives on Missile Defense: The Emerging Accommodation," …, 311.

"the offence would be able to maintain the advantage over the defence."[118] The Russian Federation will be obligated to ensure that their SNF have sufficient capability to ensure that the offence will continue to hold the advantage over the defence.

CONVENTIONAL FORCES

"If one takes a look at today's situation … many of our (conventional) units conduct no drills, no combat training. If pilots do not fly, if sailors almost never put to sea, is everything all right in terms of the status of the armed forces."[119] President Vladimir Putin made these statements in 2002 and they provide an insight into the grave problems facing the Russian armed forces and particularly the conventional forces. The decay of Russian conventional force capability has not been abrupt but commenced with the fall of the USSR. The gradual reduction in conventional force capabilities can be demonstrated through an analysis of the Russian defence budget, conscription shortfalls, reduced readiness of conventional forces, and a lack of reform within the military. The decline in Russian conventional forces culminated with the Russian military operations in Chechnya where true conventional force capabilities were demonstrated and illustrated the overall weakness of the Russian military. In contrast to the rapid decline in conventional force capabilities, the Russian government has had to rely on their strategic nuclear force capabilities to guarantee Russian sovereignty and superpower status. As Mikhail Khodarenok noted, "Russia can take part in a nuclear apocalypse on equal terms,

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[118]Freedman, *The Evolution of Nuclear Strategy* …, 259.

[119]Frank Umbach, *Future Military Reform: Russia's Nuclear & Conventional Forces* (London: Defence Academy of the United Kingdom, 2002), 2.

but the Russian Army is not prepared for a modern war with the use of conventional weapons."[120] This is the litany of the 21st century Russian conventional forces and that will place greater demand on the strategic nuclear forces in terms of meeting Russian national security interests.

The transition from the USSR to the Russian Federation had a significant impact on military defence expenditures. It became apparent in the wake of the collapse of the USSR that the national economy was unsupportable and significant economic changes would have to be implemented. The move to a more open society under Glasnost allowed for a more accurate scrutiny of the Russian economy and indications of the health of the economy.

To illustrate the decline in Russian defence expenditures an analysis was conducted on the percentage of gross domestic product (GDP) devoted to defence. This analysis was conducted over the period 1988-2000. The year 1988 was chosen as the first year for review as it reflected the economy of the USSR and defence spending at the epoch of Soviet power. The study continued through 2002 when it became apparent that Russian defence expenditures as a percentage of GDP had become relatively steady. The table below reflects USSR and Russian Federation defence expenditures over the period 1988-2000. [121]

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[120]Umbach, *Future Military Reform: Russia's Nuclear & Conventional Forces …*, 25.

[121]The defence expenditure data was compiled from the Stockholm International Peace Research Institute (SIPRI) publication from issues dating between 1989-2001. The data reflects "real dollar" values accounting for inflation and monetary volatility. The SIPR represents on of the most respected and objective publications related to military and defence issues.

What is immediately evident in a review of this table at Figure 1 is the relative decline in defence spending as a percentage of GDP. At the height of the Cold War, the USSR was spending almost 16% of her GDP on defence. There was a small but noticeable decline of 3.5% in 1990 with the fall of the Soviet government. The decline in GDP became more pronounced in following years commencing with a dramatic decline of almost 7% between 1990 and 1992. This declined continued on a steady spiral down until 2000 when it reached 2.6% GDP.

USSR / Russia Defence Expenditures

Year	Defence % GDP
1988	15.8 %
1990	12.3 %
1992	5.5 %
1994	5.8 %
1996	3.7 %
1998	3.1 %
2000	2.6 %
2002	2.6 %

Figure 1

The impacts of this dramatic decrease in defence spending were traumatic and had repercussions on all levels of the Russian Federation's armed forces. The Russian Federation had inherited the military of the USSR but did not have the budget to sustain or support it.[122] Systematic to this decline was the inability to pay for the number of soldiers in uniform. Further, Russia was not able to field the same level of forces and equipment. Declining defence expenditure would also have an impact on research and development, critical to the fielding of a modern military force.[123]

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[122]Umbach, Future Military Reform: Russia's Nuclear & Conventional Forces …, 8.

[123]Stephen Meyer, "The Devolution of Russian Military Power," *Current History*, (October 1995), 323.

The heart of the Russian military is its personnel. The Russian military is a conscript military with the majority of its personnel conscripted into service for a fixed period of time, usually 1-2 years depending on the branch of service. The staggering budget cuts previously discussed had an immediate impact on the personnel manning levels of the Russian military and particularly the conscript force. In a review of the data compiled in Figure 2, it is apparent that the personnel dynamics of the Russian military have changed significantly since 1990.[124] In 1990, the Russian military had over 4,000,000 personnel under arms. The rapid decline in personnel had reached a level of less than 1,000,000 personnel by 2000.

Russia/USSR – Military Personnel	
1990	4,258,000
1995	1,714,000
2000	977,100

Figure 2.

Problems with the conscript system had become rampant by the mid 1990s. The Russian military was having problems filling the required quota of conscripts. The draft was only providing between 50-70 percent of the required personnel to meet military manning establishments.[125] The lack of conscripts meant that there were insufficient personnel to fill the primary manning establishment in the branches of the Russian services. As a result, these positions were not manned or in worse case scenarios, warrant officers and officers filled the enlisted conscript positions.[126] There were

[124]The data compiled at Figure 2 is an analysis of data from The Military Balance between the years 1990-2000. The Military Balance is published by The International Institute For Strategic Studies and is highly regarded for the accurate and objective data it provides.

[125]Meyer, "The Devolution of Russian Military Power," …, 323.

[126]Benjamin S. Lambeth, "Russia's Wounded Military," *Foreign Affairs*, Vol 74, Iss 2, (March 1995), 87.

reported cases of officers doing guard duties, the most basic of military tasks, because there were insufficient enlisted conscripts to fulfill this purpose.[127] The consequences of an insufficient conscript pool have resulted in under manning, particularly in the conventional forces. This chronic low level of personnel manning means that military units will be unable to provide the personnel to conduct their primary missions. Within the conscript and regular force, military personnel are also experiencing the hardships that result from insufficient funding. There are continuing reports that soldiers are not being paid as a result of funding shortfalls and that health problems have become endemic as a result of a lack of adequate health care and the already poor health of conscripts that have been accepted into the military.[128]

The Russian Federation Strategic Nuclear Forces (SNF) have not been immune from force cuts and like the conventional forces has reduced in size. However, the SNF cuts have not been as drastic as those to the conventional forces. Figure 3 illustrates manning levels for the SNF.[129] SNF manning started to decline in 1991 and took a dramatic cut of almost 100,000 personnel by 1994. However, by 1995, SNF manning had reached a steady state and has not changed appreciably since. An explanation of the leveling in

Strategic Nuclear Force Personnel

1990	287,000
1994	194,000
1995	149,000
2000	149,000

Figure 3

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[127]Ibid, 87.

[128]Dmitri V Trenin, "Military Reform: Can It Get Off the Ground," *Demokratizatsiya*, Vol 9, Iss 2, (Spring 2001), 312.

[129] The data compiled at Figure 3 is an analysis of data from The Military Balance between the years 1990-2000. The Military Balance is published by The International Institute For Strategic Studies and is highly regarded for the accurate and objective data it provides.

SNF manning can be attributed to the continued requirement for strategic nuclear forces in the Russian Federation. The manning level in the conventional forces now makes the Russian Federation unable to effectively man conventional force units. The "size of the under funded Russian military has in itself become a threat to Russian national security."[130] To offset this weakness, the Russian Federation has been forced to maintain SNF manning levels to ensure a credible strategic nuclear capability and offer a credible deterrent; thus providing security to the Russian Federation.

The impact of budget cuts and cuts in the manning of the conventional forces have not been the only indications and warnings of critical weaknesses in the Russian Federation conventional forces. Of serious consequence, the readiness levels of the conventional forces have also been equally affected. The effects of budgetary restraint, the availability of personnel and also the state of equipment impact the readiness levels for units. Also, equipment must be replaced as it becomes obsolete or units become ineffective. The lower readiness levels of the conventional forces have not been isolated to any one service but have had a relatively equal impact on all three of the services.

There have been several profound examples that effectively demonstrate some of the problems pertaining to readiness in the Russian Federation's conventional forces. In 2002, the army had an effective strength of approximately 321,000 personnel.[131] Despite

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[130]Celeste Wallander, "Coming Into Focus: Understanding Russia's Security Interests," *Harvard International Review*, Vol 19, Iss 1, (Winter 1996), 16.

[131]The International Institute of Strategic Studies, *The Military Balance: 2001-2002,* (London: Oxford University Press, 2002), 122.

the relative size of the army, it is now reduced to being able to field only three divisions and four brigades.[132] To put this in context, the Russian Federation army has an authorized order of battle of five tank divisions and 18 motor rifle divisions.[133] In simple terms this means that 22 divisions have now reached a state where they can no longer be considered at a readiness state that will maintain their level of combat effectiveness. The decline in army capability has led to a situation where commentators on Russian Federation military capabilities have stated, "even if all available forces were mobilized, Russia could now only deal with one regional conflict and probably not well.[134]

Equally concerning are the number of exercises that conventional forces are conducting. A measure of combat readiness and combat effectiveness is how units train. In the axiom of modern armies one trains the way you expect to fight. Without proper training, units will neither be prepared to deploy nor capable of conducting operations once deployed. Indications of combat readiness have materialized over the last decade in Russia. The indications are that units, even front line and supposed high readiness units are not prepared or capable of fulfilling their missions. There have been statements that between 1988 and 1995 that no divisional level exercises have taken place.[135] In an address by Vladimir Putin in 2000 he confirmed that training continues to be a problem and that many units still do not exercise or conduct drills.[136] Without the basic

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[132]Trenin, "Military Reform: Can It Get Off the Ground," … , 312.

[133]The International Institute of Strategic Studies, *The Military Balance: 2001-2002 …,*122.

[134]Umbach, *Future Military Reform: Russia's Nuclear & Conventional Forces* …, 6.

[135]Meyer, "The Devolution of Russian Military Power," …, 324.

[136]Umbach, *Future Military Reform: Russia's Nuclear & Conventional Forces …*, 2.

requirement of exercising military skills and particularly at the divisional level, it is impractical to consider Russian Federation army units as combat capable.

The readiness levels of the other services are equally unsatisfactory in respect to their capability to conduct operations. In an air force example, Russian fighter pilots are only logging 10-20 hours of flight time per year.[137] To put this in perspective, the standard for a NATO or Canadian fighter pilot is between 160-200 hours per year. In layman's terms, a pilot who is only flying 10-20 hours is receiving the basic amount of flight time to be able to perform only the most rudimentary of flying skills. This level of flight time would be insufficient to conduct complex tasks and a pilot would certainly not be able to be proficient in the use of complex weapons systems on modern aircraft. In the Canadian air force, a pilot with 10-20 hours of flight time would not be able to maintain their qualifications to fly in an aircraft and proficiency to fly would be questionable if not dangerous.[138]

In the calculus of readiness the state of equipment in the Russian Federation conventional forces must also be considered. Compounding low manning levels and lack of training, the conventional forces are also utilizing equipment that is unsatisfactory to conduct combat operations or obsolete.[139] Prior to the collapse of the USSR, the military

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[137]Ibid, 6.

[138]Major M.G.A. Hogan, interview with author, 26 Feb 04. Major Hogan is an experienced Canadian Forces pilot with 5000 hours of flight time and a qualified flight safety officer and instrument check pilot.

[139]Trenin, "Military Reform: Can It Get Off the Ground," … , 312.

industrial complex was producing new equipment that allowed the Russian armed forces to meet the challenges of modern combat. An example of this production was aircraft deliveries. Combat aircraft production prior to 1990 was 450 aircraft per year but by 1995, production had dropped to only 25 aircraft per year.[140] This level of production was not even sufficient enough to meet the annual attrition of aircraft in training accidents.[141]

A review of the status of the Russian Federation's military inventory is instructive and provides a visual description of the declining state of equipment within the conventional forces.[142] This review analyzes the decline in main battle tanks, fighter aircraft and naval destroyers. In all three of these cases, the Russian Federation has seen a steady decline in the number of tanks, fighters and destroyers. These numbers are a significant and a graphic representation of dwindling combat capability within the conventional forces.

Russian Federation Military Inventory

	Tanks	Fighters	Destroyers
1992	53,350	1,695	52
1994	25,000	2370	29
1996	19,000	425	24
1998	15,500	415	19
2000	15,500	No Data	17

Figure 4

[140]Lambeth, "Russia's Wounded Military,"…, 87.

[141]Ibid, 87.

[142] The data compiled at Figure 4 is an analysis of data from The Military Balance between the years 1990-2000. The Military Balance is published by The International Institute For Strategic Studies and is highly regarded for the accurate and objective data it provides.

The proof of the inadequacy of Russian Federation conventional forces is the combat operations in Chechnya. It has been widely accepted that the performance of the military in Chechnya is reflective of their overall quality. The military forces deployed to Chechnya have not deployed with their full complement of personnel, have not been adequately trained prior to deployment and the leadership of the deployed units has been marginal.[143] The ineffectiveness of the military in Chechnya has allowed a less capable adversary to hinder Russian success and turn Chechnya into a protracted campaign. The most recent campaign in Chechnya has seen very high combat losses for Russian Federation forces. In 2000, over 2500 Russian soldiers were killed and 8000 wounded in combat operations.[144]

Many analysts inside and outside Russia have commented that the only way of improving conventional force capability will be to reform the military in the Russian Federation. Various attempts have been made to reform the military but most have only focused on the conscript system with a view to reducing the size of the conscript armed forces.[145] However, even the change from a conscript force to a professional volunteer force appears unlikely. President Vladimir Putin has "reaffirmed" the principle of a conscript army and this will remain unchanged for the near term.[146]

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[143]Walter Rarchomenko, "The State of Russia's Armed Forces," *Parameters*, Vol 29, Iss 4, (Winter 1999/2000), 100.

[144]Trenin, "Military Reform: Can It Get Off the Ground,"… , 312.

[145]Ibid,"… , 313.

[146]Ibid, 313.

Russian Federation conventional forces are no longer adequate to protect the sovereignty and affect the national security requirements interests of the nation. The military budget of the Russian Federation is inadequate to properly equip and man the conventional forces. The readiness standards of the military has also fallen dramatically and personnel level within the professional and conscript force have dropped to 25% of pre-1990 levels. The war in Chechnya is reflective of what the degradation in capability has meant to the Russian Federation. The military has suffered serious losses in credibility and casualties fighting against a non-professional guerilla force.

The loss of conventional force capabilities has translated to a greater reliance on strategic nuclear forces to guarantee the Russian Federation's sovereignty. The emphasis on nuclear forces will act as a "compensation for the country's conventional weakness".[147] There is acceptance in Russia that their conventional forces are no longer able to adequately guarantee the interests of the Russian Federation. With this realization, the government understands that the priority must be to ensure the "potent and dangerous arm of Russian defence" is maintained.[148]

In an effort to maintain that potent and dangerous arm, the Russian Federation has been conducting upgrades to the strategic nuclear forces. These upgrades are not dramatic; however, they will ensure that strategic nuclear forces remain relevant. Unlike, the conventional forces, strategic nuclear force upgrades will keep the Russian Federation

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[147]Cimbala, *The Russian Military into the Twenty-First Century* …, 33.

[148]Meyer, "The Devolution of Russian Military Power," …, 323.

nuclear capability viable. These upgrades have included the introduction of a new ICBM, the Topol-M in 2000, continued work on a new SLBM for the navy and air force development of a new stealth cruise missile, Kh 101 and modernization of the proven Kh 55 cruise missile for the BEAR H and BLACKJACK strategic bombers.[149] In addition, President Putin indicated in 2003 that the SS-19 ICBM would be taken out of storage and introduced into the strategic nuclear inventory.[150] As late as October 2003, the Russian Federation Minister of Defence has reaffirmed the importance of the SNF and indicated that upgrades to the force would continue and are designed to make the force capable for at least the next 30 years.[151]

THE REVOLUTION IN MILITARY AFFAIRS (RMA)

The present RMA has changed the character of modern warfare. The RMA is typically viewed through the lens of the campaigns in Operations Desert Storm, Allied Force and Iraqi Freedom. These campaigns highlighted new innovations built on revolutionary technologies.[152] The latest RMA has been the domain of the United States. The United States has become the dominant power in a unipolar world and is the only nation with the wealth necessary to pursue the RMA, fully utilizing the latest advances

[149]Zaloga, *The Kremlin's Nuclear Sword …, 223-224.*

[150]Christine Kucia, "Russia Mulls Altered Nuclear Doctrine," *Arms Control Today*, Vol 33, Iss 9, (November 2003), 35.

[151]Ibid, 34.

[152]Ahmed S Hashim, "The Revolution in Military Affairs Outside the West," *Journal of International Affairs*, Vol 51, Iss 2, (Spring 1999), 432, http://proquest.umi.com, accessed 1 Mar 04.

and technologies.[153] The RMA has not gone unnoticed in the USSR and later the Russian Federation. The Russians have carefully observed the technological advances of the RMA and the contribution the RMA provided to the successes in recent conflicts.

Russian observers have written extensively on the RMA. To understand the impact of the RMA on the Russian Federation it is important to review the origins of the RMA, the advantages inherent in the present RMA, a review of nations that are capable of leveraging the RMA and how Russia may be able to use and protect itself from the capabilities posed by the RMA. Finally, an analysis of the RMA and the relationship to strategic nuclear weapons will be considered. In the Russian context, strategic nuclear forces may be one of the only methods of defending against the capabilities posed by this most recent RMA.

To understand the impact of the RMA, it is useful to explore exactly what the RMA is and how it has evolved. Sean Maloney and Scott Robertson have termed the RMA as the "change in the nature of warfare brought on by the innovative application of new technologies combined with dramatic changes in doctrine, operational and organizational concepts that fundamentally alters the character and conduct of military operations." [154] The RMA is an evolutionary process and advocates of the RMA have observed several revolutions in the history of warfare. The Toffler's have argued that there have been three RMAs and all three have been based on "the way we make

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[153]Ibid, 431.

[154]Sean Maloney and Scott Robertson, "The Revolution in Military affairs: Possible Implications for Canada," *International Journal*, (Summer 1999), 445.

wealth."[155] Andrew Krepinevich believes that at least ten RMAs have occurred since the fourteenth century.[156] The RMA we are presently experiencing has been ongoing for at least three decades and is based on the rapid advances in information technologies.[157]

The RMA is usually considered to be synonymous with technology and generally perceived to be the result of technological advancements. However, the key to the RMA is not the technology but how it is used and revolutionizes warfare. The most significant changes brought about by technology are the changes in military culture. This change in culture will lead to profound changes in doctrine and organizational structures. Andrew Krepinevich describes the RMA as having four fundamental stages, "technological change, systems development, operational innovation, and organizational adaptation."[158] Technology is the facilitator that leads to these changes. The changes can be very rapid and in some cases so rapid that they are at a "magnitude that military people still do not completely grasp."[159] Rapid technological change in the United States has driven the RMA. The RMA has permeated through almost all levels of the United States military. The RMA has manifested itself in changes in culture, doctrine, organizations and

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[155]Elinor Sloan, *The Revolution in Military Affairs* (Montreal: McGill University Press, 2002), 19.

[156]Andrew Krepinevich, "Cavalry to Computer: The Pattern of Military Revolution," *The National Interest*, (Fall 1994), 31.

[157]Sloan, *The Revolution in Military Affairs …, 19.*

[158]Krepinevich, "Cavalry to Computer: The Pattern of Military Revolution," …, 30.

[159]Eliot A. Cohen, "A Revolution in Warfare," *Foreign Affairs*, Vol 75, No 2, (March/April 1996), 54.

philosophies on the employment of military force. This is the true impact of the RMA when it is fully embraced by a nation.

The present RMA has been ongoing since the Vietnam War. The RMA has resulted in significant innovations such as the concepts of information operations, precision targeting, effects based operations and the development of the concept of intelligence, surveillance and reconnaissance (ISR).[160] One of the most serious issues with the RMA is that not all nations have the capability to participate in this revolution. Very few nations have the capability to leverage the advantages that the RMA can offer. This is largely a function of the disparity in wealth and economic resources devoted to military forces outside the United States. As a result, the United States is significantly ahead of its allies and is the only nation truly capable of achieving all the benefits that can be accrued from the RMA.[161]

Russia has been very cognizant of the advances made by the United States as a result of the RMA. As early as the late 1970s, Marshal Ogorkov, Chief of the General Staff, began to reflect on the beginnings of a RMA, based on advancements in nuclear weapons and the capabilities of a new generation of high precision conventional munitions being developed in the United States.[162] The Russians were concerned that the RMA would eventually lead to a qualitative conventional forces advantage for the United

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[160]Michael O'Hanlon, "Beware the RMA'nia!," *The Brookings Institute*, (September 1998), http://www.brookings.edu/dybdocroot/views/articles/ohanlon/1998ndu.htm, accessed 27 Feb 04.

[161]Hashim, "The Revolution in Military Affairs Outside the West," …, 434-437.

[162]Jacob W Kipp, "Confronting the RMA in Russia," *Military Review*, Vol 77, Iss 3, (May-June 1997), 50, http://www-cgsc.army.mil/milrev/english/mayjun97/kipp.htm, accessed 22 Feb 04.

States and they would have no counter to these new capabilities. Russian military writers reflected on how the RMA would make the quality of weapons much more important than the quantity of weapons.[163] Further, the Russians had discovered one of the keys to the new RMA and its primary advantage, the capability to "deliver non-nuclear strikes throughout an opponent's entire territory, destroying an opponent's key political, economic, and military targets."[164]

The qualitative advantages posed by the RMA had resulted in United States superiority in conventional weapons and the ability to launch precision strikes with the effects of nuclear weapons. The use of other information technologies based on the RMA, such as information operations, also posed risks to the Russians. It was recognized that the tools of information operations such as psychological operations, electronic warfare, physical destruction and network attack, could be used effectively against C2, economic targets and potentially cripple a nation.[165] With the collapse of the USSR another factor also became evident. The newly formed Russian Federation did not have the economic capability to sustain a large Russian military and did not have the resources to invest the necessary capital to match the RMA evolving in the United States. Like the rest of the world, Russia was left behind by the RMA and had lost the capability to maintain conventional deterrent to counter the United States.

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[163]Andrew Krepinevich, *The Military Technical Revolution: A Preliminary Assessment* (Washn

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In the case of the Russian Federation, the RMA has actually reinforced the requirement for strategic nuclear weapons. This is primarily because Russia lacks the resources, the capability and most importantly the political will to pursue the RMA.[166] However, what Russia does possess and what presents a significant counter to the RMA are strategic nuclear forces. These forces are already in being and pose no significant new cost to the Russian Federation in either resources or capabilities. This recognition that strategic nuclear weapons could act as a deterrent to the RMA was expressed in the Military Doctrine in 1993 when Russia declared the right to exercise the first use of nuclear weapons to deter "high technology" weapons.[167] Russia had also observed the coalition successes in Operations Desert Storm and Allied Force. In the example of Operation Allied Force in Kosovo, Russia recognized the dominance of information warfare and precision munitions and its impact on the achievement of coalition victory. Russia understood that it "could not deter this type of campaign alone with its conventional forces" and would have to rely on its strategic nuclear forces to ensure an effective deterrent capability.[168]

The Russian Federation is fully aware that it does not have the capability to participate in the RMA. This has resulted in a qualitative and technological difference in capability between Russia and the United States. In reality, this puts Russia in much the same position as most nations in the world. Russia has reflected on the capabilities

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[166]Hashim, "The Revolution in Military Affairs Outside the West," …, 435.

[167]Cimbala, *The Russian Military into the Twenty-First Century …, 45.*

[168]Sokov, "Disarmament Diplomacy," …, 3.

inherent in the RMA and has viewed the successes of coalition campaigns. These campaigns have allowed United States led coalitions to overwhelm their adversaries and achieve rapid and decisive victories over their opponents. Russia has recognized that it presently only has one capability that will allow it to counter the advantages posed in the RMA and at no immediate cost. This capability is strategic nuclear weapons. Strategic nuclear weapons are an excessive response to the information led RMA; however, they do offer a deterrent and one that even the United States must honour in its national security considerations.

DOCTRINE

"Doctrine is a statement of officially sanctioned beliefs and war fighting principles that describe and guide the proper use of … forces in military operations."[169] To gain a greater appreciation and better comprehend the beliefs of the Russian Federation vis-à-vis strategic nuclear weapons, it is useful to conduct an examination of the military and political doctrine of their nation. To do so one must look to the historical and present doctrine of the USSR and Russian Federation. The doctrine of the USSR and later the Russian Federation has been well articulated in two primary sources, the Military Doctrine and the National Security Concept. The National Security Concept is the overarching document and provides the political guidance concerning the national security of Russia. The Military Doctrine is a subordinate document to the National

[169]United States Air Force, *Air Force Basic Doctrine* (Washington, D.C.: 1977), 1.

Security Concept and provides the military guidance in the execution of national security strategy.

The doctrine of the USSR and Russian Federation has always placed great emphasis on strategic nuclear capabilities. If one is to truly understand the nature of nuclear weapons within Russian policy, the doctrine must be carefully examined. The doctrine pertaining to strategic nuclear weapons has evolved over time; however, one thing has remained constant and that is the importance of strategic nuclear weapons in both military and political strategy. This section of the paper will explore the evolution of military doctrine and the employment of strategic nuclear forces. In particular, a careful exploration of the National Security Concept and the Military Doctrine since 1993 will be conducted. This review will confirm the importance of strategic nuclear forces in the genesis of the Russian Federation's national security policies and provide the clarity that the Russian Federation must maintain a credible strategic nuclear capability.

In the Soviet era, nuclear weapons were a critical component of both political policy and operational art. There was a coherent nuclear policy as early as 1960 and a Soviet understanding of the dangers and potential benefits of nuclear weapons in national policy and war fighting.[170] The earliest consideration of nuclear weapons by the Politburo was that they could be used as a "minimum deterrence" to prevent war between

[170]Kamoff-Nicolsky, *Soviet Military Doctrine and Strategy: The Evolution of Nuclear Doctrine* … XIV.

the USSR and the United States.[171] There was also an understanding of the utility of nuclear weapons in combat operations. Early doctrine considered the use of preemption as a tool in surprise and creating initiative in offensive operations.[172] However, throughout the 1960s and 1970s there was a debate within the USSR as to whether a war was winnable using nuclear weapons. One school argued that nuclear weapons could be used in war fighting and war winning and should be considered a part of offensive operations.[173] However, by 1967, the view of nuclear weapons as a tool of national security policy had changed. The USSR now believed that nuclear war must be prevented and that it was not an "acceptable continuation of policy by any means."[174]

The understanding that nuclear weapons were not an acceptable weapon in achieving success on the battlefield transcended the transition in leaders through the fall of the USSR and the beginnings of the Russian Federation. One of the preeminent Russian military thinkers of his time, General Ogarkov wrote in Voyenneya Strategiya (Military Doctrine) that "only a person, who has lost reason" could support the use of nuclear weapons as the use of these weapons would result in the destruction of all humanity.[175] From this perspective, it becomes imperative that nuclear weapons use must

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[171]Alfred Monks, *Soviet Military Doctrine: 1960 to the Present* (New York: Irvington Publishers, Inc., 1984), 43.

[172]Ibid, 46.

[173]Leon Goure, Foy Kohler and Mose Harvey, *The Role of Nuclear Forces in Current Soviet Strategy* (Miami: University of Miami, 1974), 8.

[174]Beckman, et al, *The Nuclear Predicament: Nuclear Weapons in the Cold War and Beyond …, 137*.

[175]Kamoff-Nicolsky, *Soviet Military Doctrine and Strategy: The Evolution of Nuclear Doctrine* … 44.

be deterred and the USSR embarked on a program of mutual deterrence and later assured destruction in a quest to ensure the national security of the USSR.

The National Security Concept documents are the keystone documents in the Russian Federation on the subject of national security. The National Security Concept documents were insightful from the perspective of the importance of strategic nuclear policy. The average observer would conclude that since the fall of the USSR, the requirement for strategic nuclear weapons should have diminished. However, the National Security Concept of 1997 did not reflect this belief. The key change in the document in 1997 was the consideration of first use of nuclear weapons in conflict. This language "revoked" Brezhnez's 1982 first use pledge.[176] This was a significant change and the document stated first use could be authorized "in cases of a threat to the existence to the Russian Federation".[177] The 1997 document also categorized the threat to the Russian Federation coming from the immediate peripheries of the Federation or an internal threat.[178] President Vladimir Putin was the architect of the follow-on National Security Concept of 2000. This security policy document provided a subtle shift in what were perceived to be the threats to the Russian Federation. Specifically highlighted was "the establishment of a unipolar structure of the world with the economic and power domination of the United States."[179] Also of significance, the policy on the use of

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[176]Richard Pipes, "Is Russia Still an Enemy," *Foreign Affairs*, Vol 76, Iss 5, (September/October 1997), 70.

[177]Anonymous, "Russia's Military Doctrine," *Arms Control Today*, Vol 30, Iss 4, (May 2000), 29, http://www.armscontrol.org/act/2000_05/dc3ma00.asp, accessed 1 Mar 04.

[178]Umbach, Future Military Reform: Russia's Nuclear & Conventional Forces …, 3.

nuclear weapons was also changed. The change further loosened the strategic nuclear policy and stated that nuclear weapons could now be used to defend umbrella states including allies of the Russian Federation in the Commonwealth of Independent States.[180] These changes in strategic nuclear policy were a significant departure from previous documents and reaffirmed the importance of strategic nuclear weapons to the Russian Federation. The documents also provided an interesting insight into how the Russian Federation perceived a unipolar world and the requirement to have a strategic nuclear force capable of providing deterrence and maintaining national security.

The language of the subordinate Military Doctrine of 1993 and 2000 are equally compelling in their affirmation of a strong strategic nuclear requirement. Like the National Security Concept, the Military Doctrine of 1993 abandoned the no first use clause and implied the requirement for "deterrent capability to forestall nuclear or conventional attack" from the west.[181] This commentary strongly reinforces the principle of nuclear deterrent in the Russian Federation's lexicon and implies that to deter, a credible capability must exist. One Russian analyst Alexei Arbatov described this as the capability to "maintain the structure and state of strategic nuclear forces at a level that

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[179]Federation of American Scientists, "Russia/Soviet Doctrine," http://www.fas.org/nuke/guide/russia/doctrine/intro.htm, accessed 15 Dec 03.

[180]Phillipp C Bleek, "Putin Signs New Military Doctrine, Fleshing Out Security Concept," *Arms Control Today*, Vol 30, Iss 4, (May 2000), 42, http://www.armscontrol.org/act/2000_05/ru2ma00.asp, accessed 27 Feb 04.

[181]Cimbala, *The Russian Military into the Twenty-First Century* …, 9.

will assure inflicting the designated damage on an aggressor under any circumstances."[182] In 2000, a new Military Doctrine was released. In this document, the use of strategic nuclear weapons was again considered at length. The document stated that nuclear weapons could be used "in response to large scale aggressions utilizing conventional weapons in situations critical to the national security of the Russian Federation."[183] This was significant in that it recognized that strategic nuclear weapons could be used to respond to the aggressive use of conventional force. This verbiage implies the understanding that the Russian Federation's conventional forces could not match NATO or United States conventional capability. It also acknowledged that the capabilities of precision weapons could be overwhelming and directly threaten the interests of the Russian Federation and national security. The document calls for a substantial Russian nuclear deterrent. In a comment on strategic nuclear requirements, Security Council Secretary, Sergei Ivanov stated, "If there is no aggression against Russia and its allies, there will be no use of nuclear weapons."[184]

Doctrine is a statement of officially sanctioned beliefs. The National Security Concept and Military Doctrine of the Russian Federation are compelling in their language regarding the requirement for and how strategic nuclear weapons will be employed in national policy and military application. These two documents are an evolution from the

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[182]Alexei Arbatov, "Russian Military Doctrine and Strategic Nuclear Forces to the Year 2000," *Yablokov*, http://www.eng.yabloko.ru/Hotissues/Politics/Defence/arms_control/arbatov-260397.html, accessed 02 Feb 04.

[183]Anonymous, "Russia's Military Doctrine," *Arms Control Today* …, 29.

[184]Bleek, "Putin Signs New Military Doctrine, Fleshing Out Security Concept," …, 42.

doctrine of the USSR; however, they reinforce the essential necessity of a strategic nuclear capability for the Russian Federation. This capability is vested in the obligation to provide a credible strategic nuclear force that can deter aggression and ensure the national security of the state against all aggressors.

CONCLUSIONS

Russian history is punctuated by the invasion and occupation of its territory by mercenaries, rebels and foreign armies. These invasions have resulted in the deaths of millions of Russian citizens and the destruction of the property and liquidation of the wealth of the Russian nation. What emerged from several centuries of conflict was an understanding by Russia that it would require a significant military capability in order to survive as a nation state. From the earliest periods of Russian history, the military has provided a conventional deterrent to those nations considering invasion and when required, the force to repel invasion and conquer aggressors.

The closing phase of the Second World War brought a new dimension to modern warfare. The final defeat of Japan was brought about by the use of a new weapon, the atomic bomb. The USSR immediately recognized the importance of nuclear weapons and proceeded to develop its own nuclear weapons program. The end of the Second World War also saw a transition in the grand alliance that had defeated Germany and Japan. Allies became adversaries. The Russian ideology of Marxism was diametrically opposed to the democratic values inherent in the western alliance. Nuclear weapons

became an important dynamic of the USSR and United States relationship and became the mantra of United States and Soviet strategic policy for the ensuing fifty years.

The Cold War was a period of uneasy peace between the superpowers and the maintenance of this peace was sustained by two principles, nuclear deterrence and non-proliferation. The theories of conventional deterrence prescribed equally well to nuclear weapons. The USSR and United States nuclear arsenals ensured that each nation would neither attempt to upset the balance of power nor attack the other. The deterrence language of this period was that of mutual deterrence and assured destruction. Each side understood that an attack against one would lead to the destruction of the other. Coupled with nuclear deterrence was the non-proliferation of nuclear weapons to other states. The Unites States and USSR both fully comprehended the devastating capabilities that nuclear weapons provided. A non-proliferation regime was designed to ensure that nuclear weapons would not proliferate beyond the five nations that possessed them at the signing of the NPT in 1970. Through the period of the Cold War, the USSR and the United States signed a series of codified arms reduction treaties to reduce the overall threat posed by nuclear weapons. These accords resulted in significant reductions in the strategic nuclear arsenal of each nation; however, each state still maintains a capability to field sufficient nuclear weapons to hold the other at significant risk.

The collapse of the USSR has brought about an evolution in political relations between the Russian Federation and the United States. However, the nuclear relationship has remained largely unchanged. The collapse of the USSR also witnessed the

disintegration of the conventional forces of the new Russian Federation. To guarantee national security, the Russian Federation had only its nuclear forces to fall back on. The Russian Federation has reaffirmed that strategic nuclear weapons will continue to provide the deterrent necessary to maintain Russian national security. Further, the NPT has not been the success that was envisioned by the weapons states. The proliferation of nuclear weapons has continued despite the NPT. The Russian Federation must contend with this proliferation and recognizes that new nuclear weapons states will emerge and may pose a future threat to Russian national security. This threat cannot be discounted and the Russian Federation will require a strategic nuclear deterrent to offset the proliferation of nuclear capabilities. Additionally, the panacea of disarmament amongst the weapons states has proven to be difficult to achieve. The most recent rhetoric of the United States indicates that it will continue to maintain a strategic nuclear capability into the foreseeable future. In conjunction with these statements, the United States has also abrogated the ABM treaty. These two events have resulted a strong requirement for the Russian Federation to maintain their strategic nuclear forces to counter United States nuclear and BMD capabilities. Compounding this change in rhetoric is a Russian understanding that the RMA has been the sole domain of the United States. The RMA has allowed the United States to pursue a conventional capability that has neither rivals nor peers. The Russian Federation will not be able to participate in this RMA into the near term. Russia does not have the resources to fund such an endeavor. The only Russian capability that might counter the RMA is its strategic nuclear arsenal. This has been well recognized and factored into Russian political and military considerations.

The national beliefs of the Russian Federation have been well articulated in the National Security Concept and Military Doctrine. Russia continues to be a nation that believes that it has a significant role to play in the world and albeit not a superpower, Russia is a major power. In a unipolar world, Russia is challenged to ensure that her foreign policy remains pertinent at the international level and that her sovereignty can be guaranteed. In the context of the present global situation, a credible and relevant strategic nuclear force is the only capability that will allow the Russian Federation the security that it requires and the ability to exercise influence within the international community.

BIBLIOGRAPHY

Books

Axworthy, Lloyd. *Navigating a New World: Canada's Global Future.* Toronto: Alfred A. Knopf Canada, 2003.

Beckman, Peter, Larry Campbell, Paul Crumlish, Micheal Dobkowski and Steven Lee. *The Nuclear Predicament: Nuclear Weapons in the Cold War and Beyond*. New Jersey: Simon & Schuster Co., 1992.

Bee, Ronald J. *Nuclear Proliferation: The Post Cold War Challenge*. New York: Foreign Policy Association, Inc., 1995.

Bukharin, Oleg, Timur Kadyshev, Eugene Mianikov, Pavel Podvig, Igor Sutyagin, Maxim Tarasenko and Boris Zhelevov. *Russian Strategic Nuclear Forces*. Cambridge: The MIT Press, 2001.

Cimbala, Stephen, J. *The Russian Military into the Twenty-First Century*. London: Frank Cass Publishers, 2001.

Cimbala, Stephen, J. *Deterrence and Nuclear Proliferation in the Twenty-First Century*. Westport, CT: Praeger Publishers, 2001.

Cimbala, Stephen, J. *The Past and Future of Nuclear Deterrence*. Westport, CT: Praeger Publishers, 1998.

Daniels, Robert V. *Russia: The Roots of Confrontation*. Cambridge: The Harvard University Press, 1985.

Dunn, Lewis A. "Rethinking Deterrence: A New Logic to Meet Twenty-First Century Challenges," In *Deterrence and Nuclear Proliferation in the Twenty-First Century,* ed. Stephen J. Cimbala, Westport, CT: Praeger Publishers, 2001.

Erickson, John. "We Have Plenty to Defend Ourselves With: Russian Rhetoric, Russian Realism." In *The Russian Military into the Twenty-First Century*, ed. Stephen J. Cimbala, 3-29. London: Frank Cass Publishers, 2001.

Freedman, Lawrence. *Th*

Goldblat, Jozef. *Twenty Years of the Non-Proliferation Treaty: Implementation and Prospects*. Oslo: International Peace Research Institute, 1990.

Goure, Leon, Foy Kohler and Mose Harvey. *The Role of Nuclear Forces in Current Soviet Strategy*. Miami: University of Miami, 1974.

Gray, Colin, S. *Nuclear Strategy and National Style*. Landham, MD: Hamilton Press, 1986.

Gray, Colin, S. *House of Cards: Why Arms Control Must Fail*. Ithaca, NY: Cornell University Press, 1992.

Harvey, Frank, P. *The Future's Back: Nuclear Rivalry, Deterrence Theory, and Crisis Stability After the Cold War*. Montreal: McGill-Queen's University Press, 1997.

Hilsman, Roger. *From Nuclear Military Strategy to a World Without War: A History and a Proposal*. Westport, CT: Praeger Press, 1999.

Kamoff-Nicolsky, George. *Soviet Military Doctrine and Strategy: The Evolution of Nuclear Doctrine*. Ottawa: Department of National Defence, 1988.

Krepinevich, Andrew. *The Military Technical Revolution: A Preliminary Assessment*. Washington D.C.: Center for Strategic and Budgetary Assessments, 2002.

Larres, Klaus. *Churchill's Cold War: The Power of Personal Diplomacy*. New Haven, CT: The Yale University Press, 2002.

MacKenzie, David and Micheal W. Curran. *A History of Russia, the Soviet Union, and Beyond*. Albany, NY: West/Wadsworth, 1999.

Mazarr, Micheal, J. *Nuclear Weapons in a Transformed World*. New York: St Martin's Press, 1997.

Monks, Alfred L. *Soviet Military Doctrine: 1960 to the Present*. New York: Irvington Publishers, Inc., 1984

Ogarkov, N.V. *Voyennaya strategiya: Sovetskaya voyennaya*. Moscow: Voenizdat, 1978.

Paret, Peter. *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*. Princeton: Princeton University Press, 1986.

Payne, Keith, B. *Deterrence in the Second Nuclear Age*. Kentucky: The University Press of Kentucky, 1996.

Quester, George. *The Nuclear Challenge in Russia and the New States of Eurasia*. London: M.E. Sharpe, Inc., 1995.

Riasanovsky, Nicholas, V. *A History of Russia*. New York: Oxford University Press, 1977.

Richter, Andrew. *Avoiding Armageddon: Canadian Military Strategy and Nuclear Weapons, 1950-1963*. Vancouver: UBC Press, 2002.

Schelling, Thomas. *The Strategy of Conflict.* Cambridge: Harvard University Press, 1980.

Schmitt, Burkard. *Nuclear Weapons: A New Great Debate*. Paris: Institute of Security Studies, 2001.

Sloan, Elinor C. *The Revolution in Military Affairs*. Montreal: McGill University Press, 2002

Sokov, Nikolai. *Russian Strategic Modernization*. Lanham, MD: Rowman and Littlefield Publishers, 2000.

Stern, Paul, C., Axelrod, Robert, Jervis, Robert, Radner, Roy. *Perspectives on Deterrence*. Oxford: Oxford University Press, 1989.

The Acronym Consortium. *Indefinite Extension of the Non-Proliferation Treaty: Risks and Reckonings.* New York: The Acronym Consortium, 1995.

The International Institute of Strategic Studies. *The Military Balance 2003-2004*. London: The Oxford University Press, 2003.

United States Department of Defense. *Department of Defense Dictionary of Military and Associated Terms*. Washington, DC: Department of Defense, 1989.

United States Air Force. *Air Force Basic Doctrine*. Washington, DC: 1977.

Umbach, Frank. *Future Military Reform: Russia's Nuclear & Conventional Forces*. London: Defence Academy of the United Kingdom, 2002.

Zaloga, Steven J. *The Kremlin's Nuclear Sword: The Rise and Fall of Russia's Strategic Nuclear Forces, 1945-2000*. Washington: Smithsonian Institution Press, 2002.

Articles

Boese, Wade, "The Jury is Still Out," *Arms Control Today*, Vol 32, Iss 5, (June 2002), pp 4-6.

Cohen, Eliot A., "A Revolution in Warfare," *Foreign Affairs*, Vol 75, No 2, (March/April 1996), pp 37-54.

Jean, Francois, "Chechnya: Moscow's Revenge," *Harvard International Review*, Vol 22, Iss 3, (Fall 2000), pp 16-21.

Krepinevich, Andrew, "Cavalry to Computer: The Pattern of Military Revolution," *The National Interest*, (Fall 1994), pp 30-42.

Lambeth, Benjamin S, "Russia's Wounded Military," *Foreign Affairs*, Vol 74, Iss 2, (March 1995), pp 86-98.

Levine, Robert A, "Deterrence and the ABM," *World Policy Journal*, Vol 18, Iss 3, (Fall 2001), pp 23-31.

Mann, Paul, "Arms Control Twilight: Blessing or Curse?" *Aviation Week & Space Technology*, Vol 155, Iss 25, (December 2001), p 100.

Matlock, Jack F, "The End of the Cold War," *Harvard International Review*, Vol 23, Iss 3, (Fall 2001), pp 84-86.

Metz, Steven, "Operational Level of Nuclear War Fighting: Missing or Unnecessary?" *Airpower Journal 7*, No. 1 (Spring 1993), p 19.

Meyer, Stephen, "The Devolution of Russian Military Power," *Current History*, (October 1995), pp 322-328.

Norris, Robert A, "Russian Nuclear Forces, 2002," *Bulletin of the Atomic Scientists*, Vol 58, Iss 4, (Jul/Aug 2002), pp 71-74.

Pipes, Richard, "Is Russia Still an Enemy," *Foreign Affairs*, Vol 76, Iss 5, (September/October 1997), pp 65-78.

Podvig, Pavel, "Missile Defence: For Russia, Little Loss, Little Gain," *Bulletin of the Atomic Scientist*, Vol 57, Iss 6, (November/December 2001), pp 23-25.

Rarchomenko, Walter, "The State of Russia's Armed Forces," *Parameters*, Vol 29, Iss 4, (Winter 1999/2000), pp 98-110.

Trenin, Dmitri V, "Military Reform: Can It Get Off the Ground," *Demokratizatsiya*, Vol 9, Iss 2, (Spring 2001), pp 310-318..

Vikorov, T, "Human Losses of the USSR and Russia in the Great Patriotic War," *Social Sciences*, Vol 33, Iss 4, (2002), p 156.

Wallander, Celeste A, "Russia's New Security Policy and the Ballistic Missile Defence Debate," *Current History*, (October 2000), pp 339-344.

Attributed Internet Articles

Anonymous, "Russia's Military Doctrine," *Arms Control Today*, Vol 30, Iss 4, (May 2000), pp 29-38, http://www.armscontrol.org/act/2000_05/dc3ma00.asp

Anonymous, "U.S.-Soviet/Russia Nuclear Arms Control," *Arms Control Today*, Vol 32, Iss 5, (June 2002), pp 12-14, http://proquest.umi.com

Anonymous, "Statement of Russian President Putin on Strategic Reductions and Preservation of the ABM Treaty," *Arms Control Today*, Vol 30, Iss 10, (December 2000), p 30, http://proquest.umi.com

Arbatov, Alexei, "Russian Military Doctrine and Strategic Nuclear Forces to the Year 2000," *Yablokov*, http://www.eng.yabloko.ru/Hotissues/Politics/Defence/arms_control/arbatov-260397.html

Barnett, Roger, "What Deters? Strength, Not Weakness," *Naval War College Review*, Vol 54, Iss 2, (Spring 2001), pp 24-35, http://www.nwc.navy.mil/press/Review/2001/Spring/art2-sp1.htm

Bleek, Phillipp C, "Putin Signs New Military Doctrine, Fleshing Out Security Concept," *Arms Control Today*, Vol 30, Iss 4, (May 2000), p 42, http://www.armscontrol.org/act/2000_05/ru2ma00.asp

Boese, Wade, "Russia Declares Itself No Longer Bound By START II," *Arms Control Today*, Vol 32, Iss 6, (Jul/Aug 2002), p 16.

Bunn, George. "The Nuclear Nonproliferation Treaty: History and Current Problems," *Arms Control Today*, Vol 33, Iss 10, (December 2003), http://www.armscontrol.org/act/2003_12/Bunn.asp?print

Cimbala, Stephen J., "Nuclear Crisis Management and Information Warfare," *Parameters,* Vol XXIX, No 2, (Summer 1999), pp 117-128, http://carlisle-www.army.mil/usawc/Parameters/99summer/cimbala.htm

Federation of American Scientists, "Russia: Soviet Doctrine," http://www.fas.org/nuke/guide/russia/doctrine/intro.htm

Ferrell, Robert H,. "Truman and the Bomb: A Documentary History," *Truman Presidential Museum and Library*, http://www.trumanlibrary.org/whistlestop/study_collections/bomb/large/ferrell_book/ferrell_book_chap10.htm

Goodby, James E, "Nuclear Talks Will Test Six Nations in Beijing," *The Brookings Institute*, http://www.brookings.edu/views/op-ed/goodby/20040224.htm

Goure, Daniel, "Nuclear Deterrence, Then and Now," *Policy Review*, Iss 116, (December 2002), pp 43-55, http://www.policyreview.org/dec02/goure_print.html

Grier, Peter, "In the Shadow of MAD," *Air Force Magazine Online,* Vol. 84, No. 11 (November 2001), http://www.afa.org/magazine/nov2001/1101mad.asp

Harvey, Frank P, "The Future of Strategic Stability and Nuclear Deterrence," *International Journal*, Vol 58, Iss 2, (Spring 2003), http://proquest.umi.com

Hashim, Ahmed S, "The Revolution in Military Affairs Outside the West," *Journal of International Affairs*, Vol 51, Iss 2, (Spring 1999), pp 431-445, http://proquest.umi.com

Kerr, Paul, "Iran Slapped For Clandestine Nuclear Activities," *Arms Control Today*, Vol 33, Iss 10, (December 2003), p 31, http://www.armscontrol.org/act/2003_12/Iran.asp

Kipp, Jacob W, "Confronting the RMA in Russia," *Military Review*, Vol 77, Iss 3, (May-June 1997), pp 49-55, http://www-cgsc.army.mil/milrev/english/mayjun97/kipp.htm

Krieger, David and Devin Chaffee, "Facing the Failure of the Nuclear Nonproliferation Treaty Regime," *The Humanist,* Vol 63, Iss 5, (September 2003), http://proquest.umi.com

Kucia, Christine, "Senate Endorses Nuclear Reductions Treaty; Duma Delays," *Arms Control Today*, Vol 33, Iss 3, (Apr 2003), p 30, http://www.armscontrol.org/act/2003_04/sortratification_apr03.asp?print

Kuchins, Andrew C, "Explaining Mr. Putin: Russia's New Nuclear Diplomacy," *Arms Control Today*, Vol 32, Iss 8, (October 2002), pp 3-7, http://www.armscontrol.org/act/2002_10/kuchinsoct02.asp

Libicki, Martin C, "Defending the Revolution," *Bulletin of the Atomic Scientist*, Vol 57, Iss 2, (March-April 2001), pp 31-33, http://www.thebulletin.org/issues/2001/ma01/ma01opinions.html#1

Levine, Robert A, "Deterrence and the ABM," *World Policy Journal*, Vol 18, Iss 3, (Fall 2001), pp 23-31, http://proquest.umi.com

Matlock, Jack F, "The End of the Cold War," *Harvard International Review*, Vol 23, Iss 3, (Fall 2001), pp 84-86, http://www.hir.harvard.edu/index.html?issue=50

Mendelsohn, Jack, "The Nuclear-Weapon States and Article VI of the NPT," *Arms Control Today*, Vol 25, Iss 2, (March 1995), 11-16, http://proquest.umi.com

Modestov, Sergei A, "The Possibilities for Mutual Deterrence: A Russian View," *Parameters*, Vol XXIV, No 4, (Winter 1996-1997), pp 92-98, http://carlisle-www.army.mil/usawc/Parameters/96winter/modestov.htm

O'Hanlon, Michael, "Beware the RMA'nia!," *The Brookings Institute*, (September 1998), http://www.brookings.edu/dybdocroot/views/articles/ohanlon/1998ndu.htm

Rubin, Trudy. "Nuclear 'Supermarket' Another Concern for US," *Pakistan-Facts*, http://www.pakistan-facts.com/

Scoblic, Peter, "Alive and Kicking: The Greatly Exaggerated Death of Nuclear Deterrence," *Ethics & International Affairs*, Vol 15, Iss 1, (2001), pp 71-78, http://proquest.umi.com

Shoumikhin, Andrei, "Evolving Russian Perspectives on Missile Defense: The Emerging Accommodation," *Comparative Strategy*, Vol 21, Iss 4, (2002), http://proquest.umi.com

Sokov, Nikolai, "Disarmament Diplomacy," *The Acronym Institute for Disarmament*, Iss 50, (September 2000), pp 1-7, http://www.acronym.org.uk/50newold.htm

Sokov, Nikolai, "The Russian Nuclear Arms Control Agenda After SORT," *Arms Control Today*, Vol 33, Iss 3, (Apr 2003), pp 7-14, http://www.armscontrol.org/act/2003_04/sokov_apr03.asp?print

Stanley, Richard and Micheal Ryan Kraig, "The NPT: Can This Really Be Saved?," *Bulletin of the Atomic Scientist*, Vol 59, Iss 5, (September 2003), 59-68, http://proquest.umi.com

Thomas, Timothy L, "Deterring Information Warfare: A New Strategic Challenge," *Parameters*, Vol XXVI, No 4, (Winter 1996-1997), pp 81-91, http://carlisle-www.army.mil/usawc/Parameters/96winter/thomas.htm

Vick, Charles P, "North Korean Missiles," *The Federation of American Scientists*, http://www.fas.org/nuke/guide/dprk/missile/td-2.htm

Wallander, Celeste, "Coming Into Focus: Understanding Russia's Security Interests," *Harvard International Review*, Vol 19, Iss 1, (Winter 1996), 14-17, http://proquest.umi.com

Weiss, Leonard, "Nuclear-Weapons States and the Grand Bargain," *Arms Control Today*, Vol 33, Iss 10, (Dec 2003), 21-28, http://www.armscontrol.org/act/2003_12/Weiss.asp?print