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## **COLLECTION OF THE THESES**

**Péczeli Anna**

**Shifting Away From Cold War Nuclear Thinking?**

Nuclear Strategy under the Obama Administration

Ph.D. dissertation

**Advisor:**

**N. Rózsa Erzsébet, Dr. Habil.**

Senior Lecturer (National University of Public Service)

Budapest, 2014

**Institute for International Studies**

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## **1. Overview of the Research Project**

The roots of nuclear strategy go back to the 1950s and over the course of the Cold War the primary goals of U.S. nuclear planning did not change much. Military planners and targeteers were preparing for the “unthinkable” with war plans that maximize the chances of victory for and minimize vulnerability of the U.S. to nuclear attacks, by offering strike options that could guarantee these goals without such a high level of collateral damage that might risk a President to hesitate to launch an attack. In the meanwhile, Presidents and policy makers were trying to solve the fundamental challenge of how to deter a first strike by credibly threatening to use nuclear weapons but at the same time avoiding a confrontation where their actual use would be necessary. In order to ensure the credibility of these threats, every administration tried to implement innovations in U.S. nuclear doctrine but despite their best efforts, doctrinal changes usually had only limited effects on the actual war plans. As a result of the lack of strong a civilian oversight, a striking difference started to emerge between the declaratory policy and the operational level. While the political guidance went through several fundamental changes, war plans were mostly lagging behind with moderate transformations (which had a direct affect on force level requirements as well).

With the fall of the Soviet Union, the United States lost its main adversary and it was logical to assume that both the number and the mission of nuclear weapons would be revised and dramatically reduced. In 1990 the U.S. possessed 21,400 nuclear weapons which by 2014 have been reduced to 7,700 – with 4,804 warheads in the military stockpile. (U.S. Department of State [2014]) These dramatic reductions in the force structure came with major changes in the nuclear guidance, and several shifts and innovations in the war plans. But the level of these operational adjustments was far behind the realities of the post-Cold War security environment, and Cold War legacies still seem to define certain levels of U.S. nuclear weapons policy.

In his 2009 Prague address, President Obama stated that it is time to end Cold War nuclear thinking and pave the way towards a world without nuclear weapons. (Obama [2009]) The notion of “Cold War nuclear thinking” has been the central concept of the dissertation which was built on the basic premise that Cold War nuclear thinking has certain

requirements on the different levels of nuclear strategy and maintaining these requirements is a “showstopper” for further reductions.

Since the Prague address, the term “Cold War nuclear thinking” has been widely used in academic, as well as in political circles but it has never been defined what it exactly means or what the administration meant by it. Therefore, it is not clear what specific aspects of the so called Cold War nuclear posture President Obama promised to shift away from. In the lack of a clear definition, the term has been mostly used in a negative context, or as a sarcastic description of anyone whose thinking is not progressive enough.<sup>1</sup> This, however, is only one side of the coin – it is true that many legacies of the Cold War are outdated in the current security environment but there are still some characteristics of U.S. nuclear strategy which were developed during the Cold War and remain logical today.

In this regard, the main goal of the dissertation was to examine the evolution of Cold War nuclear strategy and to objectively identify those guiding principles which were characteristics of the bipolar system and designated U.S. nuclear strategy for decades. By identifying these principles, the author developed a methodological framework which clearly defined what Cold War nuclear thinking meant on three analytical levels. This framework helped to examine to what extent U.S. nuclear weapons policy is still driven by Cold War legacies. The three analytical levels of this model were:

- the *declaratory policy*: it basically refers to a broad set of public statements and written documents made by the President, the Secretary of Defense and other high-ranking officials on the requirements of deterrence, the strategic doctrine and the most important guidelines for nuclear weapons policy;

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<sup>1</sup> There are several examples for referring to Cold War thinking in a negative context. Rachel Staley from the BASIC Institute, for example, called Cold War thinking “*a recipe for disaster.*” (Staley [2013]) After the 2012 Chicago Summit, Lesley McNiesh, a former associate of the Center for Arms Control and Non-Proliferation, described the new NATO strategy as outdated which was still inappropriately designed to fight the “*last (Cold) War.*” (McNiesh [2012]) In a 2011 Washington Post article, Walter Pincus claimed that Cold War thinking still defined the U.S. force structure which was not adequate to “*deter China, or al-Qaeda or other non-state terrorist groups,*” and he also reminded that “*U.S. nuclear warheads have not deterred North Korea from trying to build their own, nor do they deter Iran. They may have encouraged their programs.*” (Pincus [2011]) In another example, Johan Bergenäs and Miles Pomper also advocated to end the outdated strategies of the bipolar system in a 2010 Guardian article, titled ‘*No more cold war thinking.*’ (Bergenäs; Pomper [2010])

- the *operational level*: this is where the “declaratory policy” should be implemented into concrete military strategies and war plans (while the principles of the declaratory policy are defined by politicians, the making of operational level strategies mostly falls under the control of the military – although civilians are having an increased role in the oversight of these strategies since the mid-1980s);
- and finally the *force structure*: it contains the necessary type and number of nuclear weapons and delivery vehicles needed to meet the requirements of the operational level and to fulfill the role and mission set by the declaratory policy.

Outlining the characteristics of Cold War nuclear thinking on these three levels helped to define the nature of the current U.S. nuclear policy and to describe if and how the legacies of the Cold War affect the prospects of further reductions in the stockpile.

In summary, the main research questions of the dissertation were:

- How has the Obama administration’s visionary Prague agenda affected U.S. nuclear weapons policy?
- What practical changes did it trigger in nuclear strategy?
- Has the administration really shifted away from Cold War traditions or is there still Cold War nuclear thinking on the different levels of nuclear policy?
- If so, how does it affect the prospects of further nuclear disarmament?

The first chapter of the dissertation had three main missions. First, it provided a historical overview of U.S. nuclear weapons policy, the development of the institutional and procedural frameworks of strategic planning, as well as the concrete characteristics of nuclear strategy. Describing the evolution of Cold War nuclear planning showed the past dynamics of policy guidance and operational planning which gave an important contextual framework. Despite the shifting priorities and the constant innovations on the policy level, the chapter also showed that there were several common beliefs and guiding principles which led the different administrations. Therefore, the historical overview also laid down the ground to identify the specific elements of Cold War nuclear thinking.

Besides the historical overview, the Cold War context also provided a solid basis to conceptualize other key terms of the dissertation, like for example nuclear strategy,

counterforce and counter-value strategies, or strategic stability. Clarifying these concepts was a necessary precondition to introduce the main hypotheses of the dissertation which suggested that the operational level still preserved many conservative elements of the Cold War which had a negative effect on further nuclear reductions. In order to prove these hypotheses, the author chose to merge the main findings of the historical overview with the relevant aspects of strategic studies and set up a list of criteria on Cold War nuclear thinking which served as an analytical framework to test the Obama administration's nuclear policy.

For this purpose, the third mission of the first chapter was to provide a literature review of three main groups of relevant sources: 1) selected pieces from the discipline of strategic studies, 2) the relevant works of policy makers, and 3) seminal works on the operational aspects of Cold War nuclear strategy.

Strategic thinking on the role of nuclear weapons started to evolve during the second half of the 1940s. The debate was centered around RAND Corporation's strategic theorists, like for example Bernard Brodie, Albert Wohlstetter, Herman Kahn, William W. Kaufmann or Thomas C. Schelling who introduced a unique interdisciplinary approach to the field of strategic studies. In the framework of the historical overview, the focus was laid on those studies and concepts which had a direct effect on the evolution of U.S. nuclear strategy and which made it to actual policy guidance. In addition to these theoretical works, the literature review also outlined the most relevant writings of policy makers who played a key role in the development of U.S. nuclear doctrine – this group included people like Robert S. McNamara, Henry A. Kissinger, Zbigniew Brzezinski or James R. Schlesinger. The third set of sources which was presented in this chapter was a synthesis of those groundbreaking academic papers and books which focus on the operational aspects of nuclear strategy. William M. Arkin, Bruce G. Blair, William Burr, Fred Kaplan, Janne E. Nolan, Peter Pringle, David A. Rosenberg, and Scott D. Sagan laid down the foundations of this kind of research focus and paved the way towards further works on the operational level of nuclear weapons employment policy.

The second chapter of the dissertation examined President Obama's nuclear policy based on his pledge to end Cold War nuclear thinking. In order to meet the promises of the Prague agenda, the White House initiated a comprehensive review of nuclear guidance and

pressed for some meaningful changes in U.S. nuclear weapons policy. The first milestone of the review was the publication of the administration's Nuclear Posture Review (NPR) report in April, 2010. (NPR [2010]) More than three years later, the President announced in his June, 2013 Berlin address that the review had officially been finished. (Obama [2013]) It was marked by the presidential employment guidance, a document which set out more specific policy recommendations for the military. (U.S. Department of Defense [2013]) Based on these two documents, the administration seemed to lessen the emphasis on Cold War nuclear thinking in the declaratory policy but the operational level was still assumed to preserve several elements of Cold War strategic planning. After outlining the campaign strategy and the roots of President Obama's nuclear policy, this chapter took a quick look at the different steps of the review process. It showed the procedural framework of implementation, and how the – usually more – general policy guidance gets down to the level of actual war plans. The following three sub-chapters (declaratory policy, force structure, operational level) focused on the results of the Obama administration, measured along the concept of Cold War nuclear thinking, which was described in the first chapter. (Despite the Cold War framework and the focus on the Obama administration, the two decades between the end of the Cold War and 2009 were not ignored – each sub-chapter started with a quick overview of the Clinton and Bush administrations' nuclear policy, outlining how they shifted (if at all) away from Cold War thinking and describing their legacy in terms of nuclear strategy.)

The last two sub-chapters focused on the consequences of these dynamics with a special attention to the prospects of the nuclear disarmament process. In this regard, the author acknowledged that there are many factors, which influence the implementation of reductions but her dissertation deliberately did not go into the policy debates of Congress, and the negotiations between the U.S. and Russia. Instead, her research focused on the strategic aspects of nuclear disarmament which is the most ignored (at least by the media) but probably the most influential determinant of future reductions. The next sub-chapter divided the question of further reductions into three separate cases: deployed nuclear weapons, non-deployed nuclear weapons, and the strategic triad. After going through the most important operational policies which define these force requirements, the dissertation outlined a list of elements which were needed to be limited or abandoned by any future administration that wishes to implement significant reductions in the U.S. nuclear arsenal.



In terms of time frame, the main focus of the dissertation was the Obama administration's nuclear policy between January, 2009 and mid-2013. The end date was chosen to align with the developments of the strategic review process. In June, 2013 the administration issued its presidential employment guidance document, which outlined what specific role and mission President Obama envisioned for the U.S. nuclear arsenal, and how the Department of Defense (DoD), the Joint Chiefs of Staff (JCS) and the Strategic Command (STRATCOM) should adjust their employment plans in order to meet the President's guidance. Despite these exact dates, the dissertation also provided an overview of the relevant aspects of the 2007-2008 campaign strategy and the post-2013 period. In addition to the Obama administration's analysis, the comparative historical approach required to include a focused assessment of the Cold War period, and the Clinton and Bush administrations as well.

In summary, the dissertation is considered unique for two reasons. The first one is the historic approach itself, which was the first academic effort to establish a clear definition of what Cold War nuclear thinking exactly means and analyzed the results of the Obama administration under these tenets. The second reason is the focus on the strategic aspects of nuclear disarmament, which is not emphasized enough in the current debate, despite the fact that this is the most important determinant of force requirements.

## 2. Methodology and Hypotheses

### 2.1 Applied Methods

The research design relied on the methodology of qualitative analysis. Quantitative methods were excluded because of the difficulty to transform variables – like for example Cold War nuclear thinking – into objectively measurable quantities. Qualitative methods, on the other hand, provided the necessary analytical tools to examine U.S. nuclear policy since the beginning of the Cold War.

In order to map Cold War nuclear thinking, the author conducted a focused archival research in the U.S. National Security Archive and the George Washington University's online Nuclear Vault, which is a thematic selection of resources from the National Security Archive's Nuclear Documentation Project. These collections provided an incredible amount of primary sources on U.S. nuclear policy during the Cold War – internal memorandums between key members of the government; notes and minutes from top secret meetings; declassified documents and records from the Pentagon and the State Department; and most importantly, partly or entirely declassified guidance documents on U.S. nuclear strategy. Some of these documents were especially unique: Jimmy Carter's PD-59 Nuclear Targeting Directive (basically his presidential employment guidance) which was entirely declassified in September, 2012, and Secretary of Defense James Schlesinger's 1974 NUWEP-74 (Nuclear Weapons Employment Policy) which guided the 1976 SIOP 5 (Single Integrated Operational Plan) war plan – until today this is the only policy directive from the Office of the Secretary of Defense (OSD) which has been entirely declassified. Based on these primary documents and the growing number of secondary sources on the operational dimensions of Cold War nuclear policy, it was possible to draw a relatively accurate picture on the operational requirements of Cold War nuclear thinking. Some groundbreaking works (for example the different volumes of the *'History of the Joint Chiefs of Staff'* as well as Bruce Blair's *'Strategic Command and Control,'* Fred Kaplan's *'The Wizards of Armageddon,'* Janne E. Nolan's *'Guardians of the Arsenal,'* David Rosenberg's *'Nuclear War Planning'* and *'The Origins of Overkill,'* or Scott Sagan's *'Moving Targets'* and *'SIOP-62: The Nuclear War Plan Briefing to President Kennedy'*) provided a good basis for this kind of research focus.

The examination of the Obama administration's nuclear policy was based on two qualitative methods: document analysis and a systematic interview process. The Obama administration conducts a relatively transparent nuclear policy and has made two of its primary strategic documents – the report on the Nuclear Posture Review and the summary of the presidential employment guidance – available for the public. These documents together with the transcripts of the President's and the key cabinet members' major foreign policy speeches provided a good basis for primary source analysis. With this methodology, the main objectives of the administration's nuclear agenda could be clearly identified which helped to judge if the official policy still reflected Cold War nuclear thinking. Besides, by comparing the practical results of the Obama years with the elements of the announced agenda, one could also define to what extent the administration has managed to meet its own goals and implement its own policy guidelines. A third benefit of the primary source analysis was the comparative framework that was created in order to see how the 2007-2008 campaign program made it to actual policy agenda. According to Gary Samore, President Obama's former Coordinator for Weapons of Mass Destruction Counter-Terrorism and Arms Control, campaign strategies do not necessarily translate into policy but in the case of President Obama, "*his personal interest and commitment ensured that his campaign promises became the basis for his April 2009 Prague speech.*" (Samore [2013]: p. 25.) Despite major overlaps between the campaign strategy and the Prague agenda, the dissertation also identified the differences and explored why certain priorities did not make it to official government policies. In this regard, a comparative analysis between the primary sources of the 2007-2008 period and the 2009-2010 presidential years highlighted some small but still important shifts in focus.

The last qualitative method applied by this dissertation was a systematic interview process which was conducted during a six-month visiting fellowship in Washington, DC. In the framework of this process, members of the academia, previous and current government officials from the White House, the State Department, the DoD, the National Security Council (NSC), the JCS and STRATCOM were questioned about the key concepts of this dissertation, the results of the Obama administration, the difficulties that might act against the implementation of more significant steps, and most importantly, the "secret world" of the current operational level and the possible effects of the new policy guidance on the actual war plans.

All these qualitative methods added up to a comprehensive methodology which seemed to be ideal to test and prove the most important premises and statements of the dissertation.

## **2.2 The Analytical Framework – Defining Cold War Nuclear Thinking**

In the 2009 Prague address, the Obama administration set for itself the standard of shifting away from Cold War nuclear thinking, which was the main reason why the author approached this question from a historical perspective. The historic overview showed that the 45 years of the Cold War have been a dynamic period with several major innovations in nuclear weapons policy. Every administration tried to put its own stamp on U.S. nuclear doctrine and introduced new concepts and principles to guide military planners in the preparation of strategic war plans. But despite the shifting priorities of these administrations, there were several elements in U.S. nuclear strategy, which were characteristic during the entire period of the Cold War. Based on these elements, the dissertation clearly identified Cold War nuclear thinking on three main levels: the declaratory policy, the force structure, and the operational level. This analytical framework was used to evaluate the Obama administration's achievements in nuclear weapons policy, and to define the current nature of U.S. nuclear strategy.

Considering the developments in the institutional framework and the changes of the security environment, the analytical framework was based on the 1961-1989 period, from the Kennedy to the Reagan administrations. After a careful examination of these three decades, six main characteristics were identified in the declaratory policy. The first element was the worldview, which was based on a clearly identified enemy image, where the Soviet Union was the peer opponent of the U.S., and it was believed to constantly prepare for a surprise first strike against the Western Block; the role of the U.S. was seen as the global leader of the free world, tasked to ensure the victory of the good cause; and ready to use its nuclear weapons in the defense of its most important allies. The main doctrine was flexible response, which meant that the President was offered a number of options, starting from the use of conventional weapons, to an all-out nuclear war. Preventive strikes, as a matter of policy, were ruled out, but the U.S. reserved the options to act preemptively if the enemy was seen to prepare for an attack. In order to preserve this

option, Presidents rejected (with the exception of Kennedy) the policy of no-first-use, and they also retained their flexibility in terms of potential enemy targets, which required a rejection of a universal negative security assurance to all non-nuclear weapon states. This meant that nuclear weapons occupied a prominent day-to-day role in strategic planning, and they had to cover a great variety of contingencies.

Cold War nuclear thinking in the force structure meant an extremely robust nuclear arsenal with high number of nuclear weapons and delivery platforms, as well as a preference to deploy MIRVed (Multiple Independently Targetable Reentry Vehicle) ballistic missiles, which were able to hit several different targets in the same target group. The delivery vehicles included all three legs of the strategic triad, land-based Intercontinental Ballistic Missiles (ICBMs), sea-based Submarine-Launched Ballistic Missiles (SLBMs), and airborne strategic bombers. In order to minimize vulnerability to technical failures, and ensure a high level of credibility, there was a great diversity of nuclear warheads and nuclear weapons were regularly tested. This was guaranteed by an active infrastructure, which kept replacing portions of the arsenal in every few years, and eliminated the need to develop a constant hedging policy. Nuclear weapons, in addition, were forward deployed to the territory of allied states in order to more effectively protect them, and also to reflect U.S. commitments to their defense.

On the operational level, Cold War nuclear thinking required a high readiness of forces, and nuclear weapons were kept on “hair-trigger” alert levels, some of them ready to be launched on a few minute notice. This high level of readiness served to provide prompt launch operational policies, like for example preemptive strike options, launch on warning (LOW), or launch under attack (LUA). For a few decades during the Cold War, the control of nuclear weapons was pre-delegated in order to mitigate the risks of a decapitating first strike, and also to raise mission effectiveness in regional scenarios. U.S. targeting policy was based on a counterforce strategy, which meant a primary focus on Soviet nuclear weapons capabilities, leadership and command and control targets, as well as war-supporting and war-initiating infrastructure. Some administrations included softer categories, like for example after-war recovery infrastructure, but the primacy of counterforce targeting was never questioned. The focus on these hardened military targets required very conservative targeting criteria, which was based on high damage expectancy

levels, and a lot of cross targeting and redundancy. War plans were mostly dominated by massive attack options, and only a very few real limited options were offered to the President. Target plans were preplanned and not flexible at all, which meant that it took a lot of time to adjust them and develop new options. Planning for a nuclear war meant that the U.S. was preparing to fight a prolonged nuclear exchange, potentially extended to a global scale. Although the policy level tried to reflect to the developments of the security environment and implement changes accordingly, but the lack of clear procedures for civilian oversight meant that military planners had a lot of maneuvering capability to interpret the policy guidance documents and implement them according to their own judgment. War plans, in addition, seriously underestimated the potential damages of a nuclear strike, neglecting most of the secondary effects in their damage calculations. Humanitarian aspects, in general, also had a low profile in operational planning. Although civilians were not targeted per se and the emphasis was on military capabilities, targeting war-supporting, and after-war recovery infrastructure still held at risk massive civilian populations, and there was no guidance in place to hold these targets back, only because of their proximity to densely populated areas.

### **2.3 Hypotheses**

After defining Cold War nuclear thinking and showing the shifting focuses of policy and planning, the primary focus of the dissertation was to show how these dynamics work under the Obama administration. With the visionary Prague speech, the President designated a very ambitious policy agenda but the implementation is still far from complete. In the declaratory policy, the emphasis on nuclear weapons was clearly lessened, a new limited negative security assurance was announced and the administration promised to reduce reliance on such Cold War relics as the launch under attack policy for example. These declarations suggested that a meaningful shift has been implemented on the policy level but it still needs to be seen what changes it will trigger on the operational level and how it will affect the prospects of further reductions with Russia. Moscow has never based its strategic assumptions on the declarations of U.S. Presidents, it has always carefully examined what changes did those declarations produce in the actual war fighting capabilities of the U.S., and the Kremlin formulated its own nuclear policy according to

those capabilities. As Walter Slocombe noted in 1981, “*What the Soviets judge we could do, not what we say we would do, has the strongest impact on deterrence.*” (Slocombe [1981]: p. 18.)

Therefore, the most important questions to be answered relate to the operational aspects of the current nuclear strategy. Unfortunately, in this area the Obama administration seemed to lag behind its promises: the issue of reducing alert levels has been abandoned after the 2007-2008 campaign period and it did not even make it into the official policy agenda. Despite the declarations that the role of launch under attack has been reduced, the capability itself is still maintained; targeting policy still relies on a prompt counterforce strategy; and damage expectancy levels are still much higher than necessary. As a result of the maintenance of many of these conservative elements on the operational level, the prospects of further deep force reductions are not too promising. Altogether, the Obama administration seems to fit well in the paradox Cold War tradition of a considerable divide between the declaratory policy and the operational level.

All these assumptions and conclusions led to three main hypotheses:

**H1:** In the declaratory policy, the Obama administration has lessened the reliance on Cold War nuclear thinking.

**H2:** But on the operational level, it still retains key elements of Cold War nuclear thinking.

**H3:** Retaining key elements of Cold War nuclear thinking on the operational level has a negative effect on the prospects of further reductions.

Regarding the first hypothesis, having established what the author meant under Cold War nuclear thinking on the different levels of nuclear strategy, the first task was a primary source analysis to examine what aspects of the Obama administration’s declaratory policy constituted a shift from Cold War traditions. As defined in the introduction, declaratory policy in this case included speeches from the campaign and the presidential periods, as well as primary policy documents like for example the official campaign strategy from 2008, the nuclear agenda on the White House webpage, or the 2010 Nuclear Posture Review report. The term “lessened reliance” referred to concrete changes on the policy

level, based on the examination of what has disappeared from the Cold War elements and what was still there.

In the case of the second and the third hypotheses, there is a causal connection between the two statements – the third hypothesis depends on the second one and it can only be proved if the second hypothesis is true. In order to defend these statements, the operational policies of the current administration were compared with the analytical framework on Cold War policies. As the nature of strategic planning showed major overlaps between the two periods, a final task was to show the consequences of this continuity. The third hypothesis intended to link the different levels of nuclear policy and show how planning affects force structure requirements.

In this regard, the dissertation used a broad interpretation of the term “reductions.” First, it included reductions in the overall number of nuclear warheads or delivery vehicles. And second, it also included reductions in the type of nuclear weapons – reducing the number of the currently deployed seven warhead types or moving from a triad to a dyad in the deliveries would all constitute a reduction. Reducing the overall number and the diversity of weapons does not necessarily come together – one can reduce the number of warheads but still retain all seven types, and similarly, the number of deliveries can be reduced without phasing out one leg of the triad. However, in the case of the Obama administration, if the number of warhead types is reduced, the overall number of weapons would also be reduced, as the administration took a pledge not to develop new nuclear warheads. (NPR [2010]: p. 39.)

Regarding the term “negative effect,” it also had two dimensions. From a quantitative point of view, in several aspects, the requirements of the operational level can be reflected in concrete numbers – after all, this is how strategic planners outline the force requirements which are needed to execute the war plans. During the process of plan production, specific targets are identified, calculations are made on the sortie probability of arrival, the desired ground zero aimpoints are chosen, weapons are allocated to individual sorties, and calculations are made on the probability of damage. In the end, all these factors add up to a requirement for a certain number and type of nuclear weapons. (Kristensen [2010]: p. 6.) These data, however, are not available for the public (which makes it almost impossible to reproduce these calculations and apply a quantitative



approach to show the exact force requirements of certain operational elements). Therefore, the emphasis was on the qualitative aspect of the relationship between the operational level and the force structure. A good example for that was the case of the launch under attack policy. The decision of the Obama administration to maintain the capability to launch under attack meant that the military still had to provide a prompt launch capability, which in practice meant an ICBM force on high alert status.

As it was mentioned before, the prospects of nuclear disarmament depend on many issues, starting from the Russian will to cooperate, to the political intentions of Congress, but having favorable conditions in these two fields would still not mean that reductions can be implemented. Without changing the primary operational drivers of weapons requirements, the current force structure will mostly remain intact.

### **3. Results of the Research**

Although the definition of Cold War nuclear thinking was developed to provide a methodological framework for the analysis of the Obama administration, it also provided some important conclusions with regards to the current debate on Cold War nuclear strategies. The dissertation showed that there are many different aspects of Cold War nuclear thinking, and – unlike many academic papers simplistically suggest – not all of these elements are outdated or inappropriate today. The idea of flexible response, for example, is still logical in the current security environment, although the focus seems to shift from a variety of nuclear options to a narrowed spectrum in nuclear, and a widened spectrum in conventional options. Or another example is providing positive security assurances to the closest allies, which is still an important bond between the U.S. and its allies, and some would argue that it still keeps some of these states from building their own nuclear weapons capabilities. Besides, the examination of these historic elements one-by-one revealed that some of these strategic policies have been developed for significantly different reasons than the ones they serve today. This means that ‘Cold War nuclear thinking’ as a concept might still be present in the current U.S. nuclear strategy, but it might no longer be Cold War thinking behind it.

Regarding the main research questions of the dissertation, the author intended to show how President Obama’s Prague agenda affected U.S. nuclear weapons policy, and what practical changes did it trigger in nuclear strategy. The main goal was to objectively examine through the lens of the historical framework if the Obama White House really shifted U.S. nuclear strategy away from the Cold War. The basic assumption was that the administration’s declaratory policy showed significant changes but the operational level still maintained key elements of Cold War nuclear strategies, which sets serious limits on the minimum level of force requirements, and acts against future deep reductions. The comparative analysis of the Obama years was always twofold, first the author showed how the administration’s nuclear policy was different from the previous post-Cold War administrations; and second, it also showed how the administration’s policy related to the Cold War traditions.

### **3.1. Declaratory Policy**

Analyzing the Obama administration's declaratory policy revealed that the 2010 Nuclear Posture Review was indeed a significantly different document than the Clinton or the Bush administrations' nuclear strategy. Building on the 2007-2008 presidential campaign, and the 2009 Prague address, the Obama NPR meant a significant shift in five main areas. First, the framework of the NPR was extended, and besides the traditional focus on arms control, it also included nuclear security in its scope. Second, the administration implemented significant rhetorical changes in the role of nuclear weapons: it included, for the first time, the long term objective of global zero; it pledged to refrain from developing new nuclear weapons and from supporting new nuclear missions; it committed to ratify the Comprehensive Nuclear-Test-Ban Treaty (CTBT); and it took steps towards a "sole purpose" posture, where nuclear weapons would only have a role in deterring a nuclear attack. The third area was the rhetoric towards Russia and China, which laid a huge emphasis on a cooperative relationship to promote strategic stability. China has never been handled in the same context as Russia – previous NPR documents rather put Beijing in the same group as rogue states. Similarly, the rhetoric towards other adversaries has also changed a lot. The U.S. extended its negative security assurance, and the only criteria remained the membership in the Nuclear Non-Proliferation Treaty (NPT), and the compliance with its obligations. This meant that only a few non-nuclear states remained, which were still threatened by U.S. nuclear weapons. But even for these states, the U.S. offered a way out, and the negative security assurance meant to provide them with a positive path. (In this regard, however, the U.S. maintained the right to unilaterally assess compliance, and despite the favorable rhetoric it did not change anything in operational terms, as none of the previously targeted countries was excluded by the new formulation of the negative security assurance.) The last issue was the relationship of the U.S. and its allies. The reception of the NPR was generally positive, as most of the allies could read their preferences into the NPR. The U.S., in addition, paid a bigger attention to their priorities, involved them in the drafting of the NPR, and reaffirmed that it will maintain its standing positive security assurances towards them.

Despite these results, the U.S. still failed to clarify some ambiguities about the role of allies in strengthening reliance on regional conventional capabilities, the role of prevention

and preemption, and the policy towards biological weapons. Critics, in addition, questioned why the U.S. hesitated to declare a “*sole purpose*” posture; why the negative security assurance was not universal, why it retained the right to reevaluate the assurance in case biological weapons became more alarming; why a no-first-use declaration was not included; and if the new posture had any effect on the actual targeting policy. The author found that there were two main reasons for not implementing a more dramatic posture. The first one was the reassurance of allies which explained, for example, the wording of the negative security assurance, and the hesitation towards the “*sole purpose*” posture. The second reason was the Obama administration’s desire to build a bipartisan support behind its nuclear strategy, which explained most of the cautious linkages between issues like for example global zero and the maintenance of a safe, secure, and reliable arsenal; admitting to have more nuclear weapons than necessary but rejecting unilateral disarmament measures; expressing the desire to cut the arsenal but maintaining the triad, and transferring the decision on the withdrawal of tactical nuclear weapons to NATO.

Examining these results along the Cold War framework showed that the security environment has significantly changed. While the chances of a U.S.-Russian nuclear exchange have dramatically reduced, Washington now faces a much wider range of potential opponents, and preventing nuclear proliferation and nuclear terrorism have become the number one security challenge. As mentioned before, there are no changes in terms of a continued assurance of the allies with positive security guarantees, and in terms of a continued reliance on the concept of flexible response. The Obama administration, however, lessened the role of preemption in its rhetoric; reduced the mission of nuclear weapons; shifted towards a “*sole purpose*” posture, which would be an implicit no-first-use declaration; declared a more comprehensive negative security assurance than any U.S. President before; and declared that the fundamental role of nuclear weapons is to deter a nuclear attack, and the use of nuclear weapons would only be considered in extreme circumstances. Compared to the prominent day-to-day role of nuclear weapons during the Cold War, these changes clearly showed that the first hypothesis of the dissertation, which claimed that “*in the declaratory policy, the Obama administration has lessened the reliance on Cold War nuclear thinking*” was true.

### **3.2. Force Structure**

Looking at the force structure, the end of the Cold War brought significant reductions in the U.S. nuclear arsenal. Both Bush administrations cut the nuclear arsenal in half. In addition, the George W. H. Bush administration dramatically transformed U.S. nuclear forces in the framework of the Presidential Nuclear Initiatives, it declared a testing moratorium, and it concluded the first and second Strategic Arms Reduction Treaties (START I and START II). The Clinton administration introduced the concept of a permanent hedge force, it initiated the Stockpile Stewardship Program, and it was deeply engaged in the drafting of the CTBT. The George W. Bush administration continued the efforts of its predecessors, it concluded the Strategic Offensive Reductions Treaty (SORT) and it introduced several innovations in U.S. nuclear forces – these initiatives included the concept of a responsive force, the capabilities-based approach, or the idea of a “new triad.”

In contrast to the two Bush administrations, the Obama administration only implemented moderate force reductions. Between 2009 and 2014, the military stockpile of the U.S. was only reduced by 309 nuclear warheads. The administration, however, concluded the New START agreement, which was the first verifiable arms control agreement since the START I. Although the treaty did not implement significant force reductions (the actual number of nuclear weapons allowed under the counting rules was well in the range of the SORT agreement), but New START put the U.S.-Russian arms control process back on track – it guaranteed transparency and confidence about the other side’s strategic nuclear capabilities, and it brought back serious verification mechanisms in the process. In addition to the New START agreement, the administration implemented two important structural changes in the U.S. nuclear arsenal. Under President Obama, the process of “de-MIRV”-ing the ICBMs was finished, and after 25 years, the Navy completely got out of the business of non-strategic nuclear weapons. Looking at the future, the Obama administration committed to further reductions in the deployed strategic nuclear arsenals, and it also expressed its desire to seek reductions in the non-deployed, and non-strategic nuclear arsenals as well.

Altogether, the force structure of the Obama administration showed significant continuities with the previous administrations, both in terms of numbers, and in terms of content (besides the moderate reductions of the New START Treaty, which reflected the

Bush administration's employment guidance, the Obama administration also pledged to maintain all three legs of the strategic triad), but unlike the Bush administration, President Obama prefers seeking reductions in a bilateral treaty framework, and he is committed to ratify the CTBT. The main drivers of the Obama administration's force structure are: maintaining strategic stability vis-à-vis Russia and China; strengthening the deterrence of potential regional adversaries; continued assurance of the allies; the implementation of the Stockpile Stewardship Program with continued investments in the nuclear weapons infrastructure; and finally, the level of Russian nuclear forces, which is still considered as the only peer in nuclear weapons capabilities.

In addition to these elements, budget realities might become a new factor in the future of the stockpile. The United States is facing a "perfect storm" where the nuclear warheads, the delivery platforms and the nuclear weapons infrastructure are all in desperate need of significant investments to refurbish the ageing systems, develop the next generation of nuclear weapons, and build the necessary infrastructure to support these programs. The only problem is that the U.S. does not have the money to do that. In light of the sequestration and the shrinking defense budget, some crucial elements of the nuclear modernization programs are seriously endangered by the strict budget environment. The "3+2" warhead modernization strategy has already been postponed by five years (which directly affects the future of the non-deployed stockpile), and the Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF) project has essentially been killed, while the Uranium Processing Facility (UPF) is running on a reduced budget. Therefore, cost overruns and further reductions in the available funds might slice some elements of the robust modernization programs, which will have a direct effect on the size and shape of the future nuclear arsenal of the U.S.

Regarding the concept of Cold War nuclear thinking, strictly speaking only the continued commitment to the nuclear triad (at least under the New START agreement) remained the same. As opposed to that, the number and diversity of nuclear weapons have been significantly reduced, although the current number of U.S. nuclear forces was still identified as high, based on the comparison of U.S.-Russian nuclear arsenals with the nuclear weapons capabilities of any other state. The diversity of nuclear weapons has not disappeared either, as there are still multiple warhead types for all three legs of the triad.

In the meanwhile, nuclear weapons testing was replaced by the Stockpile Stewardship Program, and a hedging policy was introduced in the early 1990s to address the unforeseen geopolitical challenges of the security environment, and the potential technical failures of a warhead type or a delivery vehicle. The last element of Cold War nuclear thinking was forward deployment of nuclear weapons, which was reaffirmed by the Obama administration as well, although the number of these weapons has been significantly cut since the Cold War, and all forward deployed nuclear weapons have been withdrawn with the exception of 180-200 tactical nuclear weapons in the territory of five NATO allies.

Examining the main reasons behind these policies showed that there were significant shifts in the case of many of these elements. The high number of nuclear weapons no longer seems to address the Russia-threat in itself: the U.S. admitted that the chances of a nuclear exchange with Russia are extremely remote, and today these nuclear forces serve a much wider range of contingencies. The current nuclear arsenal has to maintain strategic stability with Moscow and Beijing, but it also has a new role in deterring regional WMD proliferator states. In the case of the delivery platforms, the triad traditionally served to guarantee survivability by the nuclear-powered ballistic missile submarines (SSBNs), prompt launch capability by the ICBMs, and flexibility by the strategic bombers. These three legs provided Presidents with a wide range of options, they were considered the most effective way to deter opponents and reassure allies, they served strategic stability by reducing the incentives for a first strike, and they erased vulnerabilities by providing inter-leg hedging capabilities for the potential technical failures of an entire platform. These arguments still seem to be present in the debate, but in addition to them the political aspect of maintaining the triad seems to gain a bigger and bigger emphasis. As Morton Halperin highlighted, the pledge to maintain the triad can also be used as a political bargaining chip to enhance further reductions in the number of warheads.

Similarly, the diversity of nuclear weapons, and the forward deployment of tactical nuclear weapons also have some alternative justifications today, in comparison to the bipolar system. During the Cold War, the diversity of nuclear weapons was a result of an active infrastructure, and it was rather a sign of constant technological developments, which provided the U.S. military with newer and more capable weapons systems year-by-year. In the meanwhile, maintaining the diversity today is mostly important for technical

reasons. As the U.S. declared a testing moratorium, and switched to the Stockpile Stewardship Program and the Life Extension Programs, it became imperative to provide a constant technical back-up to the deployed nuclear weapons. Having a diverse stockpile with multiple options for each delivery platform is increasingly important to erase potential technical failures and to maintain the credibility of the arsenal.

Regarding the last element, the forward deployment of tactical nuclear weapons used to have many justifications, including reassurance, deterrence, burden-sharing and signaling. But from this list, the most important mission was to deter the Warsaw Pact from attacking NATO and, in case deterrence would fail, to support a theater nuclear war between the two alliances. Today, on the other hand, this focus has shifted towards the reassurance of allies (especially the new members of NATO), who still seem to attach a significant political value to these nuclear weapons. Altogether, these shifts show again that Cold War nuclear thinking might still be there as a concept, but the thinking behind does not necessarily reflect Cold War logic, or at least not necessarily with the same emphasis as before.

### **3.3. Operational Level**

On the operational level, President Obama inherited from the Clinton and the two Bush administrations flexible and adaptive planning capabilities, which on the one hand significantly reduced the time to adjust the war plans, and the development of new strike options; and on the other hand, these capabilities also allowed the U.S. to cover a much wider range of scenarios with significantly less nuclear weapons than before. This latter capability was especially important, as the post-Cold War targeting policy significantly extended the scope of potential contingencies, which the U.S. had to cover with nuclear weapons. This shift in focus meant that Russia was no longer considered an immediate contingency, and strike plans increased their attention on China and WMD proliferator states. Although the rhetoric of these administrations reflected an essentially post-Cold War thinking, the operational level did not limit the role of nuclear weapons, in fact it expanded the mission of nuclear weapons to cover regional WMD scenarios, where under the Bush administration, the preemptive use of nuclear weapons was an explicit operational policy. A new war plan (CONPLAN 8022) was developed to cover these



contingencies, which seemed to lower the threshold to use nuclear weapons; increased the role of strategic nuclear weapons in theater missions; and significantly blurred the lines between conventional and nuclear weapons. This on the one hand seemed to increase the likelihood of nuclear use, and on the other hand raised some serious concerns about the different lines of command, and the reactions of adversaries and allies as well. Moscow and Beijing repeatedly expressed their worries about the new Global Strike mission and used it as a justification to their own modernization programs. Although the employment component of Global Strike was withdrawn and the entire program was canceled, some of its missions were believed to migrate into the other plans.

Under the Obama administration, there were two major updates to the war plan, the first one probably as a result of the retirement of the nuclear capable Tomahawk cruise missiles, and the retirement of 80 Russian ICBMs. In the meanwhile, the second one is believed to be underway at the moment, in reflection to the new presidential guidance of the administration, issued in June, 2013. Regarding the potential adversaries, Iraq and Libya have fallen off the list since the Bush administration, and the Obama administration is believed to have added a new category, a “9/11-type” terrorist organization, which initiates a WMD attack on the U.S. or its allies and partners. Besides these changes, Russia, China, North Korea, Iran and Syria probably remained on the list, which adds up to six adversaries – half of which is non-nuclear. In Russia, the number of targets is estimated at around 1,000 with a primary focus on Russian nuclear weapons capabilities, while in China this number is estimated at 500, with a bigger emphasis on war-supporting industry targets. The strike options range in size from very limited regional employments to the use of hundreds of nuclear weapons in a more robust preplanned strike option. The target categories surprisingly reflect a very similar system to the Cold War: in addition to the traditional focus on military forces, leadership and command and control targets, and war-supporting infrastructure, the only new element is WMD infrastructure, which gradually gained a bigger significance after the fall of the Soviet Union.

A key document of the Obama administration’s operational policy is the 2013 presidential employment guidance (PPD-24), which was only initiated after the NPR was issued, and the New START negotiations were completed. This was the third major targeting review since end of the Cold War, and the first one since the Bush administration’s review in

2002. The first big problem of this document (or at least in the case of the unclassified Pentagon summary of PPD-24) was that it did not seem to provide any real guidance on targeting categories and strike options – it basically repeated the main goals of the 2010 NPR, and explained how these elements should be implemented. The most genuine effect of the guidance was that it made the case for further reductions in the number of deployed strategic nuclear weapons by up-to one third, and it included some constraints with regards to the use of nuclear weapons. But besides these declarations, the new guidance did not implement any major changes, and it seemed to provide only half-solutions – the wording of the document implied discussions about implementing really progressive policies but it seemed that there was always some kind of push-back in the next sentence. President Obama, for example, pledged to reduce the role of nuclear weapons, but his guidance failed to declare a “sole purpose” posture, which implied that there is still a narrow range of contingencies where the U.S. would consider the use of nuclear weapons in response to conventional, or chemical and biological attacks. Although the guidance stated that the President directed the DoD to deliberately plan for non-nuclear strike options, it also stated that these capabilities cannot substitute nuclear weapons. Another example is the case of launch under attack policy – the White House directed the DoD to reduce reliance on this policy, but in the meanwhile it also directed to maintain the capability. While the issue of reducing alert levels was high on the campaign agenda, it suddenly disappeared from the list of priorities, and both the 2010 NPR and the 2013 employment guidance pledged to maintain the current levels. The guidance in addition reinforced counterforce targeting, and rejected the counter-value strategy and the minimum deterrence posture. But as STRATCOM said itself, counterforce “*is preemptive, or offensively reactive*” and it also has strong requirements on the force structure.

Looking at these policies through the lens of the Cold War, every element of Cold War nuclear thinking changed in a way but only the policies of pre-delegation of control, and the planning for a protracted global war disappeared entirely. In addition to these policies, the lack of clear civilian oversight was also addressed, and it was dramatically improved as a result of a much closer cooperation between the different players of strategic planning. Despite these changes, all the other elements of Cold War nuclear thinking were somehow transformed or limited but not abandoned, which means that they still define the operational level of U.S. nuclear strategy. The first one of these elements was high alert

levels. In this regard, there were significant reductions, bombers have been taken off day-to-day alert, as well as thousands of tactical nuclear weapons. But the U.S. still has 800 SLBM and ICBM warheads on high alert, ready to launch within fifteen minutes. In close relation to this element, the reliance on prompt strike operational policies like preemption, launch on warning and launch under attack has also been significantly reduced but the capability to execute these policies remained. Although the current employment guidance does not discuss preemption or launch on warning, the capability to maintain LUA means that the other two policies are also executable (only there is probably even less thinking about them – in the case of the launch on warning policy, the 1980 PD-59 has already used a similar wording to the current employment guidance: it reduced the reliance on LOW, while it also directed the DoD to maintain the capability). Regarding the targeting policy of the U.S., it remained mostly counterforce, which shows slight differences from adversary to adversary – China for example is a mix of hard counterforce elements and softer targets, while Russia and the WMD proliferators are predominantly counterforce. The targeting criteria has also changed somewhat since the Cold War: it is still conservative but damage expectancy levels have been lowered, and there is significantly less cross targeting and redundancy in the system. In the case of attack options, massive attack options disappeared, and the current options include Emergency Response Options, Selective Attack Options, Basic Attack Options, and Directed/Adaptive Planning Capability options. Although the U.S. still has huge preplanned attack options with the employment of hundreds of nuclear weapons, today there is probably bigger emphasis on very limited attacks in primarily regional scenarios, and conventional integration is becoming stronger and stronger. Since the Cold War, the strategic war plans have been restructured, the SIOP was renamed to Operations Plan (OPLAN), and the U.S. developed adaptive targeting capabilities, which allow real-time targeting adjustments, and a very quick development of new attack options. In terms of considering calculations on the secondary effects of a nuclear blast, there have been some developments – even if not all of the factors are included in the war planning models, strategic thinkers consider electromagnetic pulse (EMP) effects, radiation patterns and fallout, and they probably include to a greater extent firestorms and radiation in general. Besides, withholding targets based on these effects has also appeared. In close relation to these issues, President Obama included in his 2013 employment guidance that the humanitarian aspects should be

included in the strategic war plans, and planners should minimize collateral damage to civilians – this might not mean avoiding the targeting of Moscow or Beijing, but it is still an important constraint for targeteers.

The second hypothesis of this dissertation claimed that President Obama failed to implement his own promises on the operational level, and “*it still retains key elements of Cold War nuclear thinking.*” In this regard, the dissertation found that the most important Cold War legacies, which still seem to guide U.S. operational policy are: the rejection of counter-value and minimum deterrence postures, while counterforce targeting was reaffirmed; the maintenance of the triad and a significant upload capability; the continued role of nuclear weapons against non-nuclear states; the maintained capability to launch under attack; and the still high alert levels. These elements put a huge pressure on the force structure and they seem to stand in the way of future deep reductions.

In comparison to the declaratory policy level, where mainly political reasons (seeking a bipartisan support and reassuring allies) seemed to be the most important reasons for not implementing even more progressive measures in the strategy, the case of the operational level showed a more significant reliance on “parochial” interests. Bureaucratic resistance and greater strategic considerations seemed to feature strongly in these debates. In the case of alert levels, opponents of de-alerting claimed that it would be risky to reduce the readiness of forces for crisis stability considerations, as a re-alerting race in a conflict situation could actually make the use of nuclear weapons more likely. Besides, there was a strong resistance in the military against de-alerting measures, because of technical difficulties in the implementation, fears of the morale consequences on the ballistic missile crews, and also because they did not see any reliable verification mechanism to provide confidence that the adversary has implemented the same measures. This latter issue had some political relevance as well – the administration also held it against reducing alert levels that the current relations with Moscow do not imply any willingness in the Russians to engage in an agreement over alert levels, and unilateral measures were not a preferred option for the administration.

Similarly to the issue of alert levels, bureaucratic resistance was important in the case of launch under attack policy as well. Military planners claimed that LUA provides survivability to the ICBMs, and in a crisis situation it gives the President a wider range of

options, while abandoning this policy would not bring any real world gains for the U.S. They argued that abandoning the capability to launch under attack would reduce the flexibility of the President, and it would leave the ICBMs vulnerable. From a strategic perspective, this was claimed to be dangerous, as letting an adversary confidently believe that it could take out a significant portion of U.S. nuclear forces would be an invitation for a first strike, which no President can allow. In addition, the current operational policies (like for example counterforce targeting against Russia, and high damage expectancy criteria) still require U.S. forces to be on a high readiness level, and to be able to launch immediately. Besides, it provides a hedge against any future survivability challenges to the submarine leg of the triad, and an additional strategic value of this policy is that it has a strong deterrence effect, which is not necessarily directed against Russia anymore, but much rather against North Korea.

All these considerations guaranteed that instead of abandoning these two (Cold War) operational policies, the U.S. decided to retain them, and only implemented supplementary measures to mitigate the most important risks of their maintenance. In the case of alert levels, the administration pledged to continue the practice of open ocean targeting, take measures to increase presidential decision time, and explore new modes for ICBM basing to make them more survivable. In the case of LUA, there were continuing efforts to make ICBMs more survivable, make them less lucrative targets for a first strike (i.e. de-MIRV them), and also to strengthen the command and control systems, and increase presidential decision time.

### **3.4. Reductions and Nuclear Strategy**

By examining the requirements of these operational policies on the force structure, the following measures were identified as potential steps to pave the way for further significant reductions: introduce a “sole purpose” posture, and apply an unconditional negative security assurance to limit the number of contingencies and adversaries against which nuclear weapons play a role; limit damage criteria to reduce the reliance on more capable, higher yield nuclear weapons; reduce flexibility requirements for strike options, which could reduce the number of scenarios that nuclear weapons have to cover; end

(hard) counterforce targeting, which would reduce reliance on a robust and advanced nuclear arsenal, and could also significantly reduce the amount of weapons, which are needed to hold at risk the designated targets; and finally reduce planning for damage limitation, which would mean a reduced reliance on alert levels and LUA capability, potentially triggering significant changes in the delivery platforms.

Based on the third hypothesis of the dissertation, as long as these elements are maintained, there is a tremendous pressure on the force structure, and the administration cannot implement any major reductions. In the meanwhile, all the above mentioned elements have the potential to reduce force requirements, and facilitate further disarmament measures. Although changing these operational policies is only the first step of the implementation, it cannot be avoided. The future of reductions will still depend on the security environment, the U.S.-Russian, U.S.-Chinese strategic relations, or the composition of Congress, but without reducing these operational requirements, even the most favorable political conditions would fail to trigger any dramatic reduction in the U.S. nuclear arsenal. This is the main reason why the Obama administration's 2013 employment guidance seems to miss a huge opportunity to pave the way for even more significant reductions, and if any future U.S. administration wants to continue these efforts, it has to be more effective in leaving the legacies of the Cold War behind.

#### **4. Summary of the Results**

Altogether, the dissertation contributed to the ongoing debate over U.S. nuclear strategy by providing a working definition of Cold War nuclear thinking. Despite the Obama administration's pledge to shift away from the legacies of the Cold War, this concept still seems to be relevant to describe many aspects of the current U.S. nuclear weapons policy (although in some cases this might not be a bad thing, and in other cases the rationale to maintain these elements might not be the same as before). Identifying the specific requirements of this concept in the declaratory policy, in the force structure, and on the operational level served to provide an analytical framework for the examination of the Obama administration.

In the framework of this comparative analysis, the author found that the Obama administration shifted away from Cold War nuclear thinking in its declaratory policy but it still retains key elements of the Cold War on the operational level. On both levels, there are continuities, and there have been significant changes as well, but the major difference is the level of these changes and the underlying reasons for continuities. In the declaratory policy, only a few elements remained from the Cold War, and most of these policies have been adjusted to limit the role and mission of nuclear weapons. The main reasons for not implementing more dramatic changes have been the political commitment to credibly reassure allies, and the desire to build a bipartisan support behind the nuclear posture. In the meanwhile, retaining conservative elements on the operational level has been explained primarily by bureaucratic resistance and greater strategic considerations. Despite some dramatic changes since the end of the Cold War, key elements of Cold War nuclear planning still guide strategic planners, which puts a tremendous pressure on force level requirements. In this regard, the dissertation proved that as long as some (or all) of these operational policies are changed, the chances of dramatic force reductions are extremely remote, regardless of how favorable the political circumstances might be.

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- Samore**, Gary [2013]: Making a Difference: Creating and Implementing the Prague Agenda. *Carnegie Reporter*. Vol. 7, No. 2, Summer 2013. pp. 22-31.
- Slocombe**, Walter [1981]: The Countervailing Strategy. *International Security*. Vol. 5, No. 4, Spring 1981. pp. 18-27. (DOI: <http://dx.doi.org/10.2307/2538711>)
- Staley**, Rachel [2013]: Cold War Thinking and Nuclear Deterrence in the 21st Century. BASIC Institute. July, 30, 2013 <http://www.basicint.org/blogs/2013/07/cold-war-thinking-and-nuclear-deterrence-21st-century> Accessed: 29-03-2014

## 6. List of Interviews for this Research Project

<b>Achton</b> , James M.	December 5, 2013
<b>Blair</b> , Bruce G.	April 3, 2014
<b>Brooks</b> , Linton F.	January 16, 2014
<b>Cartwright</b> , James E.	April 1, 2014
<b>Creedon</b> , Madelyn R.	July 24, 2014
<b>Einhorn</b> , Robert J.	March 26, 2014
<b>Halperin</b> , Morton H.	March 31, 2014
<b>Harvey</b> , John R.	January 24; February 7; and July 23, 2014
<b>Kristensen</b> , Hans M.	several occasions between October, 2013-May, 2014
<b>Luongo</b> , Kenneth N.	December 11, 2013
<b>Malin</b> , Martin B.	January 29, 2014
<b>Miller</b> , Franklin C.	April 8, 2014
<b>Miller</b> , James N.	April 7, 2014
<b>Miller</b> , Steven E.	January 29, 2014
<b>Norris</b> , Robert S.	several occasions between October, 2013-May, 2014
<b>Oelrich</b> , Ivan	January 17, 2014
<b>Pavel</b> , Barry	July 23, 2014
<b>Pifer</b> , Steven	January 17, 2014
<b>Roberts</b> , Bradley H.	March 31, 2014
<b>Rose</b> , Frank A.	Roundtable discussion at the Brookings Institution in Washington, DC on November 15, 2013
<b>Samore</b> , Gary	January 29, 2014
<b>Sokov</b> , Nikolai N.	October 27, 2013
<b>Wolfsthal</b> , Jon B.	April 1, 2014
<b>Woolf</b> , Amy F.	April 8, 2014

## 7. Publications by the Author on the Topic

### **Book Chapters in Foreign Language**

- Deeper Reductions in US-Russian Strategic Nuclear Arsenals. In: *Panorama of Global Security Environment 2013* (ed. by Marian Majer and Róbert Ondrejcsák). Bratislava: Centre for European and North Atlantic Affairs (CENAA), 2013. pp. 137-155. ISBN 978-80-971124-5-5
- Phased Adaptive Approach – Prospects for US-Russian Cooperation in the European Missile Defense System. In: *Panorama of Global Security Environment 2012* (ed. by Marian Majer, Róbert Ondrejcsák and Vladimír Tarasovič). Bratislava: Centre for European and North Atlantic Affairs (CENAA), 2012. pp. 169-186. ISBN 978-80-971124-1-7

### **Articles in Refereed Journals in Foreign Language**

- Hedging and Strategic Stability. *Public Interest Report - The Journal for Science and Security*. Volume 67, Number 1, Winter 2014. ISSN 0092-9824 <http://fas.org/pir-pubs/hedging-strategic-stability/>
- Negotiated cuts: A new nuclear weapons treaty is not the only option. *The Bulletin of the Atomic Scientists*. Voices of Tomorrow, January 2014. ISSN 1938-3282 <http://thebulletin.org/negotiated-cuts-new-nuclear-weapons-treaty-not-only-option>
- Harald Müller – Aviv Melamud – Anna Péczeli: From nuclear weapons to WMD: the history and development of regional ‘free zone’ arrangements. *EU Non-Proliferation Papers No. 31* (The publication of the EU Non-Proliferation Consortium: FRS – HSFK/PRIF – IISS – SIPRI), 2013. pp. 1-27. <http://www.sipri.org/research/disarmament/eu-consortium/publications/nonproliferation-paper-31>
- Marc Finaud – Anna Péczeli: Modest Confidence- and Security-building Measures for the Middle East – No-first Use Declarations, Transparency Measures, and Communication Structures. *Academic Peace Orchestra Middle East: Policy Brief No. 20*, 2013. pp. 1-8. <http://academicpeaceorchestra.com/?p=policybriefs>

### **Articles in Not Refereed Journals in Foreign Language**

- Middle Eastern Perceptions and Attitudes to the Proposed Nuclear-Weapon-Free Zone. *Grotius – Online Journal of the Institute of International Studies, Corvinus University of Budapest* (2011) <http://www.grotius.hu/publ/displ.asp?id=TGPRVE>

## **Books and Book Chapters in Hungarian**

- Erzsébet N. Rózsa – Anna Péczeli (editors): *Egy békésebb világ eszközei: Fegyverzetellenőrzés, leszerelés és non-prolifерáció* [The Tools of a More Peaceful World: Arms Control, Disarmament and Non-Proliferation]. Osiris and Hungarian Institute of International Affairs (Budapest), 2013. pp. 380. ISBN 9789633898987, ISBN 9789637039362
  - Project coordinator and co-editor
  - Author: Chemical Weapons Chapter (pp. 173-204.)
  - Co-author:
    - Nuclear Weapons Chapter (pp. 53-172.)
    - Missile Technologies and Missiles Defense Chapter (pp. 289-336.)

## **Articles in Refereed Journals in Hungarian**

- Nukleáris energiaipar az Egyesült Államokban a fukushimai katasztrófát követően [Nuclear Energy in the United States After Fukushima]. *Kül-Világ* [Journal of International Relations]. Vol. 9. No. 1. (2012/1) pp. 47-63. HU ISSN 1785-5284 <http://www.kul-vilag.hu/2012/0102/peczeli.html>
- Nukleáris kérdések a NATO chicagói csúcstalálkozóján [NATO's Nuclear Strategy and the Chicago Summit]. *MKI-elemzések* [HIIA Analyses – The Periodical of the Hungarian Institute of International Affairs], 2012/15. (E-2012/15) 2012.05.25. pp. 1-10. HU ISSN 2060-5013
- Nukleáris költségvetés és stratégiai felülvizsgálat az Egyesült Államokban [Budget Debate and Strategic Review in U.S. Nuclear Policy]. *MKI-tanulmányok* [HIIA Papers – The Periodical of the Hungarian Institute of International Affairs], 2012/10. (T-2012/10) 2012.05.11. pp. 1-23. HU ISSN 2060-5013
- Célkeresztben a taktikai nukleáris fegyverek [The Next Target is Tactical Nuclear Weapons]. *Nemzet és Biztonság. Biztonságpolitikai Szemle* [Nation and Security – Security Policy Review]. Vol. 5. No. 1. (2012/1) pp. 40-52. HU ISSN 1789-5286
- Emília Fábián – Anna Péczeli: Japán és a nukleáris leszerelés problémája a 21. században [Japan and the Problem of Nuclear Non-proliferation in the 21st Century]. *Nemzet és Biztonság. Biztonságpolitikai Szemle* [Nation and Security – Security Policy Review]. Vol. 4. No. 7. (2011/7) pp. 55-63. HU ISSN 1789-5286 [http://www.nemzetesbiztonsag.hu/cikkek/fabian\\_emilia\\_peczeli\\_anna-japan\\_es\\_a\\_nuklearis\\_leszerelés\\_problemaja\\_a\\_21\\_szazadban.pdf](http://www.nemzetesbiztonsag.hu/cikkek/fabian_emilia_peczeli_anna-japan_es_a_nuklearis_leszerelés_problemaja_a_21_szazadban.pdf)

- Az Átfogó Atomcsend Egyezmény és az amerikai ratifikáció kérdőjelei [The Comprehensive Nuclear-Test-Ban Treaty and the Question of American Ratification]. *Külgügyi Szemle* [Review of Foreign Affairs]. Vol. 10. No. 3. (2011/3) pp. 87-104. HU ISSN 1587-9089

### **Articles in Not Refereed Journals in Hungarian**

- Az Atomsorompó-rendszer és a nukleáris leszerelés – A nemzetközi non-proliférációs rezsim reformja a 2010. májusi atomsorompó felülvizsgálati konferencia tükrében [The Nuclear Non-Proliferation Treaty and Nuclear Disarmament – The Reform of the International Non-proliferation Regime after the 2010 NPT Review Conference]. *Grotius – Online Journal of the Institute of International Studies, Corvinus University of Budapest* (2011) <http://www.grotius.hu/publ/displ.asp?id=BTITTO>
- Kényszerek vs. remények – A legújabb fejlemények [Imperatives vs. Hopes – The Newest Developments]. *Grotius – Online Journal of the Institute of International Studies, Corvinus University of Budapest* (2010) <http://www.grotius.hu/publ/displ.asp?id=PHEBOQ>
- Kényszerek vs. remények – avagy – szükségesek-e az atomfegyverek? [Imperatives vs. Hopes – Are the Nuclear Weapons Really Necessary]. *Grotius – Online Journal of the Institute of International Studies, Corvinus University of Budapest* (2010) <http://www.grotius.hu/publ/displ.asp?id=XPHQUM>
- Az iráni atomprogram amerikai szemmel (2005-től napjainkig) [The Iranian Nuclear Program from American Perspective – From 2005 until Today]. *Grotius – Online Journal of the Institute of International Studies, Corvinus University of Budapest* (2009) <http://www.grotius.hu/publ/displ.asp?id=GKTNFH>

### **International Conferences and Conference Papers**

- Lecture: *Conceptualizing Cold War Nuclear Thinking*. Union of Concerned Scientists: 26<sup>th</sup> International Summer Symposium on Science and World Affairs. United States: Princeton, NJ (Princeton University), July 25-August 1, 2014
- Lecture: *The Nuclear Security Summit and its Two Side Events*. Hungarian Institute of International Affairs, Permanent Mission of Hungary to the United Nations Office and Other International Organizations in Vienna, VCDNP, UNODA: CBRN Security Seminar. Hungary: Budapest, June 17-18, 2014

- Lecture: The Central Asian Nuclear-Weapon-Free Zone and Other Regional Treaties as Models for the Middle East. Indiana University: Guest Lecture at Inner Asian & Uralic National Resource Center. United States: Bloomington, 6 April, 2014.
- Participant of the 2014 Nuclear Knowledge Summit – An official side event of the 2014 Nuclear Security Summit. The Netherlands: Amsterdam, 23-24 March, 2014.
- Lecture: Central European Perspectives on NATO's Nuclear Policy. Center for Strategic and International Studies (CSIS) Project on Nuclear Issues (PONI) Fall Conference 2013. United States: Washington, DC, 17-18 December, 2013. Presentation: [https://csis.org/images/stories/poni/131217\\_Central\\_European\\_Perspectives\\_on\\_NATO\\_Nuclear\\_Policy\\_Peczeli.pdf](https://csis.org/images/stories/poni/131217_Central_European_Perspectives_on_NATO_Nuclear_Policy_Peczeli.pdf)
- Lecture: Prospects of the Obama Administration's Disarmament Policy. 8th International Student/Young Pugwash (ISYP) Conference. Also participant of the 60th Pugwash Conference on Science and World Affairs: Dialogue, Disarmament, and Regional and Global Security. Turkey: Istanbul, 30 October-5 November, 2013.
- Lecture: Revisiting the Theory of Nuclear Deterrence – Pre-Existential Deterrence and the Case of Iran. International Studies Association ISSS-ISAC Joint Annual Conference: Bridging the Academic/Policy Divide – George Washington University. United States: Washington, DC, 4-6 October, 2013.
- Participant of the Second EU Non-Proliferation and Disarmament Conference – Lecture at the Next Generation Workshop: The Obama Administration's Nuclear Policy and the Way forward in U.S.-Russian Nuclear Disarmament. Belgium: Brussels, 30 September-2 October, 2013.
- Lecture: Nuclear Identity in Central Europe. European Consortium for Political Research (ECPR) 7th General Conference. France: Bordeaux, 4-7 September, 2013.
- Participant of the second consultative meeting of the EU Non-Proliferation and Disarmament Consortium. Belgium: Brussels, 17-18 June, 2013.
- Lecture: Asymmetries in Deterrence – A Common Theory, But Different Practices. Peace Research Institute Frankfurt (HSFK/PRIF): Academic Peace Orchestra Middle East. Turkey: Istanbul, 27-29 May, 2013.



- Lecture: No-First Use Declarations: Opportunities and Pitfalls. Peace Research Institute Frankfurt (HSFK/PRIF): Academic Peace Orchestra Middle East. Malta: Valletta, 23-25 January, 2013.
- Lecture: Middle East vs. Other Nuclear Weapon Free Zones – Feasibility, Applicability or Impossibility. Arab Institute for Security Studies: Maintaining the Momentum and Supporting the Facilitator – Prospects for a Zone Free from Weapons of Mass Destruction in the Middle East. Jordan: Amman, 13-14 November, 2012
- Participant of the Hungarian Delegation to the 56th General Conference of the International Atomic Energy Agency. Austria: Vienna, 17-22 September, 2012.
- Lecture: NATO's Nuclear Policy and the future of U.S. Tactical Nuclear Weapons in Europe. 7th International Summer School for Young Professionals (SSYP) – Center for European and North Atlantic Affairs (CENAA) – Challenges of Global Security Environment. Ukraine: Mukachevo, 29 June – 1 July, 2012.
- Participant of the 8th Annual NATO Conference on WMD Arms Control, Disarmament and Non-Proliferation. Hungary: Budapest, 14-15 June, 2012.
- Participant of a nuclear seminar by Polish Institute of International Affairs (PISM) & Nuclear Threat Initiative (NTI) – Reducing the Role of Nuclear Weapons in European Security: Central and Eastern European Perspectives. Poland: Warsaw, 19 April, 2012.
- Lecture: The Future of U.S. Tactical Nuclear Weapons in Europe. Pugwash & UNESCO – Science and Social Responsibility: Rising Problems, Wise Initiatives. France: Paris, 13-15 March, 2012.
- Participant of the first EU Non-Proliferation and Disarmament Conference. EU Non-Proliferation Consortium – Fondation pour la recherche stratégique (Paris), Peace Research Institute Frankfurt (HSFK/PRIF), International Institute for Strategic Studies (IISS – London), Stockholm International Peace Research Institute (SIPRI). Belgium: Brussels, 3-4 February, 2012.
- Lecture: The United States as an External Actor – Nuclear Non-Proliferation and Nuclear Security: A Possible Unified Approach. Arab Institute for Security Studies (ACSIS) & Partnership for Global Security (PGS) – Laying the Grounds for 2012: Opportunities for Nuclear Non-Proliferation and Nuclear Security. Jordan: Amman, 29 November-1 December, 2011.

- Lecture: The Role of External Actors – The United States and the Middle Eastern WMDFZ. Peace Research Institute Frankfurt (HSFK/PRIF): Academic Peace Orchestra Middle East. Hungary: Budapest, 26-28 September, 2011.
- Lecture: The Two Faces of Ronald Reagan – Nuclear Arms Control under the Reagan Administration. International Conference – Cold War History Research Center (Corvinus University of Budapest): Second Annual Cold War History Research Center International Student Conference. Hungary: Budapest, 11-12 July, 2011.
- Lecture: Global Zero in American Nuclear Policy. 7th International Student/Young Pugwash (ISYP) Conference. Also participant of the 59th Pugwash Conference on Science and World Affairs: European Contributions to Nuclear Disarmament & Conflict Resolution. Germany: Berlin, 29 June-4 July, 2011.
- Lecture: The ‘self’ and the ‘other’: Arab and Israeli Perceptions and Attitudes to the Middle Eastern Nuclear-Weapon-Free Zone. BRISMES (British Society for Middle Eastern Studies) Graduate Conference. United Kingdom: Manchester, 13-14 January, 2011.

### **Book Reviews**

- Mohamed ElBaradei: A megtévesztés kora [The Age of Deception – Nuclear Diplomacy in Treacherous Times]. *Külügyi Szemle* [Review of Foreign Affairs]. Vol. 10. No. 3. (2011/3) pp. 175-181. HU ISSN 1587-9089
- Bob Woodward: Obama háborúi [Obama’s Wars]. *Külügyi Szemle* [Review of Foreign Affairs]. Vol. 10. No. 1. (2011/1) pp. 190-196. HU ISSN 1587-9089