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# De-alerting: Decreasing the Operational Readiness of Strategic Nuclear Forces\*

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Discussion paper presented at the seminar on “Re-framing De-Alert: Decreasing the Operational Readiness of Nuclear Weapons Systems in the U.S.-Russia Context” in Yverdon, Switzerland, 21-23 June 2009.

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*\*The views expressed in this paper are those of the authors and do not necessarily reflect the views of the conference sponsors.*

# **De-alerting: Decreasing the Operational Readiness of Strategic Nuclear Forces**

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## INTRODUCTION:

U.S. President Barack Obama characterized U.S. nuclear weapons as being on "hair-trigger alert". During his presidential campaign he promised to "work with Russia to take U.S. and Russian ballistic missiles off hair-trigger alert."

There are growing international calls to do just that. Six nations, including Chile, New Zealand and Switzerland, recently pressed the U.N. General Assembly to pass a resolution demanding that the world's nuclear weapons be removed from a status that would allow them to be launched in minutes.

According to Hans Kristensen from the Federation of American Scientists the land-based missiles can be fired three to four minutes after a presidential order, while the submarine weapons require roughly 12 minutes' notice prior to launch.<sup>1</sup>

The United States keeps roughly 1,000 nuclear warheads on alert atop land-based intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs). Russia retains approximately 1,200 warheads at top readiness, nearly all of them on ICBMs. The British and French together have roughly 112 nuclear warheads on alert.

The Sixty-third session of the United Nations General Assembly (UNGA) adopted on December 2, 2008 Resolution 63/41 "Decreasing the operational readiness of nuclear weapons systems". The Resolution was sponsored by Switzerland, Sweden, Chile, New Zealand, and Nigeria. A similar Resolution 62/36 was adopted by sixty-second session of UNGA on December 5, 2007. 141 UN member states voted for

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<sup>1</sup> Elaine M. Grossman, "Top U.S. General Spurns Obama Pledge to Reduce Nuclear Alert Posture Friday," *Global Security Newswire* Feb. 27, 2009.

the Resolution. The U.S., France and UK voted against the Resolution. The Russian Federation and some other UN member states did not participate in the voting.

Why did this happen? Why do the major nuclear powers constantly vote against such resolutions or abstain from voting? The United States Representative on behalf of the U.S., France and UK stated in the First Committee of the UNGA on October 29, 2008 that the Resolution is unacceptable to these three states because they disagree with the Resolution's main contention that the maintenance of nuclear weapons system at a high level of readiness increases the risk of the use of such weapons, including the unauthorized, unintentional or accidental use. "The alert postures that we are in today are appropriate, given our strategy and guidance and policy," Air Force Gen. Kevin Chilton, who heads U.S. Strategic Command, said recently.<sup>2</sup>

It is known that Russian and US strategic nuclear forces are able to conduct three types of combat operations: preventive (first) strike; "launch on warning" strike; and retaliatory strike. During the Cold War both states considered the "launch on warning" to be the major concept of deterrence strategy. This concept has defined the necessity to maintain nuclear forces at the highest level of operational readiness. In spite of deep changes in US-Russia relations "launch on warning" continues to be the basis for nuclear doctrines of both states. Adherence to the "launch on warning" concept is more important for Russia than for the U.S. because Russian strategic nuclear potential is based mostly in ground-launched ICBM in silos. Silo-based ICBMs sites are well known and vulnerable against not only the ICBM attack but also against precision guided missiles including cruise missiles attack. The U.S. has a more powerful SLBM arsenal, which is less vulnerable against first strike. Russia also has ground mobile ICBM systems which theoretically have a higher degree of survivability by maintaining the continuous random movement within the positioning area. However in reality ICBM ground mobile systems mostly stay in the stationary shelters, thus increasing the probability to be destroyed by a surprise attack.

The idea of decreasing the hair-triggered status of nuclear strategic forces readiness, better known among the experts community as *de-alerting*, has been appearing since the 1990s when politicians, arms control and security expert community and public recognized "that, notwithstanding the end of cold war, several thousand nuclear weapons remain on high alert, ready to be launched within minutes"<sup>3</sup>.

Many well known experts and scholars including Frank von Hippel, Bruce Blair, Harold Feiveson<sup>4</sup> in the U.S. and Alexei Arbatov, Vladimir Dvorkin, Segey Rogov<sup>5</sup>, and Viktor Koltunov<sup>6</sup> in Russia actively discussed de-alerting problems and the ways

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<sup>2</sup> *Ibid.*

<sup>3</sup> (United Nations General Assembly Resolution 63/41 adopted on December 2, 2008)

<sup>4</sup> B. Blair, G. Feiveson, F. von Hippel. *De-Alerting Nuclear Weapons, Yadernoe Rasprostraneniye*, 1998, February, Moscow.

<sup>5</sup> A. Arbatov et. al, *De-Alerting Russian and US Nuclear Weapons: A Path to Reducing Nuclear Dangers*, IMEMO, Moscow 2001.

<sup>6</sup> <http://www.armscontrol.ru>. Seminar on De-Alerting. Center for Arms Control, Energy and Environmental Studies. October 23, 2002. Moscow

to achieve diminishing alert status of US and Russian strategic nuclear forces. Such discussions and disputes are continuing in the U.S., Russia, other nuclear states and all over the world. The UNGA Resolutions on de-alerting demonstrates that this issue is also the focus of the United Nations concerns.

## DEFINING DE-ALERT

Most of the experts define de-alerting as implementing some **reversible** physical changes in a weapon system that would significantly increase time between the decision to use the weapon and the actual moment of its launch. The proponents of this concept consider it as one of the ways to maintain strategic stability. They provide the following arguments in support of this concept.

- Radical changes have occurred in US-Russian relations. Russia and the United States are building strategic partnership relationship. In such situation the high alert readiness of strategic offensive forces targeted at each other does not correspond to the character of our relations.
- Strategic nuclear forces high alert readiness in combination with a concept of launch-on-warning strike increases the risk of “accidental” nuclear war (as a result of mistakes in the C<sup>3</sup>I system, inadequate situation analysis, mistaken decision-making, unauthorized action of personnel or even terrorists, provocation from the “third” states or non-state actors, etc.);
- False signals about missile attacks obtained from early warning system that may trigger an accidental launch. This assumption was very popular when the Russian early warning system was weakened as a result of collapse of the Soviet Union.

Analysis of the above arguments shows, that they do not have solid grounds. Today Russian and U.S. ICBMs are not targeted at any state. High alert status of the Russian and U.S. strategic nuclear forces has not been an obstacle for building a strategic partnership.

The issue of the possibility of an “accidental” nuclear war itself is hypothetical. Both states have developed and implemented constructive organizational and technical measures that practically exclude launches resulting from unauthorized action of personnel or terrorists. Nuclear weapons are maintained under very strict system of control that excludes any accidental or unauthorized use and guarantees that these weapons can only be used provided that there is an appropriate authorization by the national leadership. Besides that it should be mentioned that even the Soviet Union and the United States had taken important bilateral steps toward decreasing the risk of accidental nuclear conflict. Direct emergency telephone “red line” has been established between the White House and the Kremlin in 1963. In 1971 the USSR and USA signed the Agreement on Measures to Reduce the Nuclear War Threat. This Agreement established the actions of each side in case of even a hypothetical accidental missile launch and it contains the requirements for the owner of the launched missile to deactivate and eliminate the missile. Both the Soviet Union and

the United States have developed proper measures to observe the agreed requirements.

In 1998 the Presidents of the U.S. and Russian Federation reached an agreement to establish the Joint Centre for the Exchange of Data from Early Warning Systems and Notification of Missile Launches. Under the Memorandum<sup>7</sup> signed on June 4, 2000 the construction of the Center was started in Northern part of Moscow. The end of construction was planned on June 2001. The establishing of the Joint Center was expected to play a significant role in reducing the risk of accidental nuclear war. The Center has been planned to provide the launch information of ballistic missiles from the US and Russian early warning radars and space assets not only **to** these two countries but this data could be shared **with other states**. In spite of some organizational, bureaucratic and legal obstacles the construction of the center continued and it almost reached organizational and operational status. In May 2002 the Declaration signed along with Moscow Treaty confirmed the intention of both states to make the Center operational. But subsequently the George W. Bush Administration lost interest in arms control, verification and confidence building measures in general and the construction of the Center was not finished. The UN General Assembly Resolution 63/41 welcomed this bilateral US-Russia initiative. During the meeting with President George W. Bush in July 2007 President Vladimir Putin renewed the proposal to establish the Joint Center in Moscow and, perhaps, again in Brussels when he suggested the use of the Russian Early Warning Radar in Gabala, Azerbaijan instead of the US ABM deployment in Europe<sup>8</sup>.

An assumption that decreasing operational readiness of strategic forces automatically promotes the strengthening of international security is a delusion. In spite of its seeming attractiveness the proposal of de-alerting strategic nuclear forces contains some negative aspects if adopted as it is.

It is worth mentioning that a variety of techniques to reduce launch readiness level of strategic nuclear forces have been discussed, but removing warheads from missiles and placing them at storage at distant locations from missile deployment sites is considered to be the primary one. Other means are either ineffectiveness and cannot be verified or are unfounded from a technical point of view as, for example, welding shut SLBM launcher hatches, dismantling the pneumatic-hydraulic ICBM pre-launch and launch operations systems, etc.

## CONCERNS OVER DE-ALERT

What will be the consequences of de-alerting by removing warheads?

1. That would mean depriving nuclear forces of their primary role – the role of deterrence. Contrary to the arguments for de-alerting the overall impact on strategic stability may be negative.

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<sup>7</sup> [www.kremlin.ru](http://www.kremlin.ru), 2000.06

<sup>8</sup> [www.vsesmi.ru](http://www.vsesmi.ru)

2. If the proponents for de-alerting admit a theoretical possibility of accidental or non-authorized launch of strategic missiles, one should recall that the Russian side did propose discussing jointly the ways to enforce guarantees of excluding such a possibility. The Soviet/Russian side made such proposals during the many talks on START to discuss the possibility of accidental or unauthorized launch. The US, under the Bush administration, simply rejected all arms control and the START process. This proposal has not been withdrawn since.
3. Removing warheads from missiles for the purposes of de-alerting will require production and deployment of their electronic equivalents (costly warheads imitators), preparation of additional warhead storage places (equipped with appropriate security, defense, safety systems as well as systems supporting needed temperature and humidity conditions), enlarging maintenance personnel. All listed measures will inevitably cause significant additional costs. However, what is more important, implementation of various means to decrease the launch readiness of missiles will in fact deliberately create events, that may lead to contingencies with unpredictable results. In addition, a storage place accommodating removed warheads may become an attractive target for a disarming strike.
4. Proponents of de-alerting idea propose reducing operational readiness of U.S. and Russian strategic forces only. Similar measures with respect to forces of UK, France and China are beyond discussion. At the same time it is well known that there is a coordination of patrol plans nuclear-armed submarines within the framework of NATO plans. It is also important that the Nuclear Planning Group, a body of NATO, plays the role of developing and coordinating nuclear policy of the alliance, and the United States leads the work of this group.
5. Most de-alerting measures concern land-based missiles, which is still the backbone of the Russian strategic forces. Readiness of strategic bombers of both U.S. and Russia has already been significantly diminished. As to submarine-launched missiles, it is well known that they are loaded into SLBM launchers with their warheads attached. Going to patrol area without missiles on-board does not make any sense.
6. An opportunity occurs to conduct a disarming attack against de-alerted ICBM launchers with conventional weapons (for example, cruise missiles) at a time when a fear of retaliation of such an action is significantly reduced. Thus, a decrease of operational readiness undoubtedly will become a destabilizing factor.
7. One cannot rule out that operating de-alerted missile systems will have a negative impact on morale of maintenance personnel. It is hard to predict the consequences of such a practice.
8. Finally, when reducing the operational readiness, the sides will have to develop measures that ensure rapid reconstitution of their strategic forces in

case of conflicts (preparation of reserve transport and load capabilities, roads and supporting infrastructure, personnel, etc.). These measures will also cause extra costs but what is more important, one may not exclude a possibility that reconstitution time will be different for the two sides. A side that brings back its readiness status earlier and gains advantage by doing so may seize the opportunity to strike first, which will obviously lead to the creation of a very dangerous situation. In other words, de-alerting may provoke a dangerous reconstitution race, which may cause a situation worse than one that existed before the launch readiness was decreased. Ensuring symmetry (equality of time for reconstitution) and implementation of control measures at the same time is almost an insoluble task. Besides that, one cannot rule out preventive measures by an adversary (diversion, sabotage) hindering from rapid reconstitution of operational readiness of missile systems. There exists also a problem of excluding covert reconstitution of alert status of forces.

Most Russian and US military experts consider the idea of reducing the launch readiness of strategic forces in a reversible manner as it is frequently proposed does not contribute to enforcing strategic stability.

## THE WAY FORWARD

If the goal is to demonstrate to the international community, that relations between the nuclear states have been improving, this has been done. In 1994 U.S. and Russian Presidents signed a Joint Statement on Mutual De-targeting agreement that entered into force on May 30, 1994. Similar declarations were signed between Russia and China, UK and France, the U.S. and China. But such steps demonstrate mostly the political will rather than operational function; the missiles targeting can be restored within minutes.

If the purpose is further improvement of international security and strategic stability, one should achieve an equitable agreement on further irreversible and deeper cuts of the US and Russia's strategic nuclear arsenals of the sides. Such an agreement needs to be based on the principle of equal security, and it should include confidence building, transparency, predictability, verification measures and other elements relevant to a full-scale agreement. If such an agreement is achieved, de-alerting measures may play a useful role as an interim step to elimination of strategic weapons subjected to cuts under the agreement.

The United States and Russia now have a unique chance to "reset" their relations which had seriously deteriorated over the past few years. President Obama and President Medvedev reaffirmed their intentions to negotiate the new legally binding START agreement to replace the existing START agreement which expires in December 2009. Russia will consider the new agreement in connection with US plans to further expand its ABM system and its deployment in Europe in particular. As it was during the previous START negotiation process both sides could include de-alerting measures. Such measures will depend on the structure of the planned agreement and should be a matter of serious consideration both from a technical and military operational point of view.