**No farewell to arms**
The US and Russia are modernizing their nuclear arsenals. End of a dream?

By Oliver Thränert

Barack Obama has made a world free of nuclear weapons an important objective of his presidency. His Russian counterpart Dmitry Medvedev seems much less enthusiastic about the elimination of all nuclear arms, but agrees to Obama’s Global Zero initiative as a long-term goal. With the New START Treaty about to enter into force, both leaders have accomplished a first disarmament success. However, in order to convince Republican senators to ratify the new agreement, Obama committed himself to spend almost $100 billion on modernizing the nation’s nuclear weapons complex to ensure that a shrinking nuclear arsenal would still be effective. In his famous Prague speech of April 2009, in which he announced his Global Zero vision, the US president had already made clear that as long as nuclear weapons exist, the US would maintain a safe, secure, and effective arsenal to deter any adversary and guarantee the defense of its allies. Russia also continues to prioritize the modernization of its strategic nuclear forces. Does this mean that the leaders of those two countries still possessing the largest nuclear arsenals are only paying lip-service to the vision of Global Zero? Are we instead witnessing yet another US-Russian nuclear arms race? In fact, both the US and Russia are modernizing their delivery systems for nuclear weapons, but at a slow pace. In its Nuclear Posture Review (NPR) of April 2010, the Obama administration points out that retaining a (smaller) triad of sea-launched ballistic missiles (SLBM), landbased ballistic missiles (ICBM), and heavy bombers would be best suited to maintain strategic stability. To that end, the US Navy plans to replace its Ohio-class submarines, first deployed in 1981, with a new class of submarines beginning roughly in 2027. Their overall number could then be reduced from 14 to 12. Key components, such as electronics of the Trident II D5 missiles deployed on submarines, are modernized on a continuous basis. These missiles are planned to last until 2042. Likewise, the Minuteman III ICBMs, first deployed in 1970, are undergoing a life extension program, which essentially resulted in a new missile. It could serve until about 2030. The US heavy bomber fleet consists of B-2s and B-52s, the former being a relatively new system first introduced in 1997. It is being upgraded to improve its survivability and mission effectiveness. The B-52s carry air-launched cruise missiles (ALCM) that were first deployed in 1981. By 2030, the Air Force plans to deploy new ALCMs. In addition, a new generation of long-range bombers is scheduled to be developed by 2018, but it is unclear whether the new bomber would be nuclear capable or instead be used for conventional missions only. For Russia, ICBMs are much more important than for the US. Currently, Moscow continues to retire large numbers of its older ICBM fleet. At the same time, Russia is introducing new variants of its SS-27 ICBM, known as Topol-M and RS-24. This newest road-mobile system,
first deployed in the summer of 2010, is capable of carrying up to three nuclear warheads as opposed to the single one on top of the Topol-M. Moreover, Moscow intends to deploy new strategic Borey-class submarines as well as new SLBMs. But the respective program is not running smoothly. The new Bulava (SS-N-32) SLBM had test failures on a number of occasions. Tests with another SLBM, the Sineva, an improved version of the SS-N-23, have been more successful. One can expect this missile to be deployed on upgraded Delta IV submarines. Finally, a small number of Russian Tu-160 and Tu-95 strategic bombers are receiving major modernizations, and a new ALCM (Kh-102) is being developed. So much for delivery systems, but what about nuclear warheads themselves? Most experts believe that despite advanced computer simulation technologies, at least some nuclear testing remains inevitable to develop a brand new nuclear warhead. But the last nuclear test by the Soviet Union took place in October 1990; Russia as its successor has not conducted any nuclear tests since then. The US, in turn, conducted its last nuclear test in September 1992. Although the Comprehensive Test Ban Treaty (CTBT) has yet to be ratified by the US Senate and eight additional states to enter into force, it is reasonable to assume that both Russia and the US have no intention of resuming nuclear testing given the international public outcry that would follow. In fact, the Obama administration committed itself in its NPR not to conduct nuclear testing and to pursue CTBT ratification. Russia on its part ratified the CTBT in June 2000. More importantly, the Obama administration affirms not to develop new nuclear warheads. Life extension programs on several nuclear warheads will use only nuclear components based on previously tested designs. They will not support new military missions or provide for new military capabilities. The US is instead investing in its aging nuclear infrastructure. Respective programs are focusing on the nuclear weapons laboratories’ science and technical base, advanced computer modeling, new experimental facilities, and studies on the aging of warhead materials to help inform future stockpile stewardship approaches. Such a modern nuclear infrastructure is seen as a precondition for further nuclear reductions. Only if the US retains a hedge against technical or geopolitical surprise can it afford to reduce its nuclear arsenal to lower numbers. Russia also wants to keep its nuclear weapons functional. It is reproducing existing warhead designs as opposed to the US approach of life extension programs. New military missions are most likely not part of these programs. What does all this tell us? Both Russia and the US are indeed modernizing their nuclear arsenals, particularly their delivery systems. It should not come as a surprise that as long as nuclear weapons exist, both countries do not want their weapons simply to decay. But the respective modernization programs should in no way be confused with Cold War style nuclear arms races. After all, even if your new car does not need to be faster than that of your neighbor, you would still want it to be as reliable as possible.

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