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Next Steps in the U.S.-Russia Arms Control Dialogue:

Intermediate-Range Ballistic Missile Flight-Test Ban in the Middle East

A Policy Memo

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A decade after dissolution of the Anti-Ballistic Missile (ABM) Treaty, U.S. plans to place missile defence assets in Europe remain a source of tension and a barrier to transforming the U.S.-Russian strategic relationship. Diplomacy focused on diminishing the threat perceptions that drive missile defence plans could offer one way forward. The U.S. and Russia should together promote a regional ban on intermediate ballistic missile test launches.

The Missile Defence Challenge

President Obama's September 2009 decision to shelve the Bush administration's 'Third Site' in favour of the Phased Adaptive Approach (PAA) only partially alleviated Russian mistrust. Many in Moscow view Phase IV of the PAA as a potential threat to Russia's nuclear deterrence forces. Recently, Russian officials asserted that missile defence threatens to undermine the nuclear disarmament progress codified in New START.

Debate still rages as to the real performance characteristics of the interceptors slated for Phase IV -- the technical parameters are yet to be established by Washington – and whether Moscow's concerns are valid. But perceptions are strong and American reassurances are viewed with scepticism. Russian suspicions will be allayed (or proven) only after the U.S. begins producing and testing prototypes of the SM-3 Block IIB interceptor, when the real technical capabilities of the Phase IV system can be accurately determined.

U.S.-Russian cooperation on European missile defence has been offered as a means for enhancing transparency and generating trust between Washington and Moscow. Limited progress has been made to date in building a joint framework for future missile defence deployments, despite the strong advocacy for cooperation expressed by Presidents Obama and Medvedev. This is not surprising, as many technical, institutional, and political hurdles stand in the way of progress. Overcoming the barriers to cooperation is possible, but requires time to identify and implement the fundamental changes to the institutional incentives and bureaucracies driving each side's national security bureaucracies. Unfortunately, time is in short supply, as the U.S. and NATO continue to implement the PAA on the ambitious schedule laid out by President Obama. Supporters of missile defence in the U.S. Congress are unlikely to compromise or allow delays, regardless of potential opportunity costs associated with rapid deployments. Consequently, barring any dramatic changes to U.S. perceptions of the Iranian missile threat, missile defence is destined to complicate the U.S.-Russian arms control agenda for the foreseeable future.

Diplomatic or arms control measures that forestall -- with reasonable confidence -- Iranian attempts to develop and field ballistic missiles capable of reaching Western Europe and U.S. territory offer an effective means for changing threat perceptions in Washington and delaying the implementation of Phase IV. A prolonged delay might provide the U.S. and Russia the time needed to develop greater trust, establish the mechanisms needed to promote missile defence cooperation, and ultimately, further the nuclear arms reduction agenda.

Divergent Perceptions of the Missile Threat are Real

According to a leaked diplomatic cable summarizing the December 2009 U.S.-Russian Joint Threat Assessment meeting, government officials agreed on the general technical parameters and performance characteristics of Iran's current inventory of ballistic missiles. Both countries concluded that the *Shahab*-3/*Ghadr*-1 missiles, derived from the North Korean *Nodong*, have a maximum range of roughly 1600km. And both viewed the solid-propellant, two-stage *Sajjil* missile as being able to deliver a reasonably sized warhead (700-1000kg) about 2000km, once it is developed fully. However, officials could not reach consensus on Iran's future capabilities. Moscow believes that Tehran has neither the intent nor the capacity to build intermediate- and intercontinental-range missiles in the near future. Washington, on the other hand, says little about Tehran's intentions, but concludes that Iran could exploit existing technologies and hardware to develop and field missiles capable of threatening Western Europe within the next few years. If Iran pursued this route, according to the American view, the development of an operational ICBM could occur soon thereafter.

Creating Consensus: Banning Intermediate-Range Ballistic Missile Flight-tests

Countries wishing to create new ballistic missiles, with or without foreign assistance, must undertake, as part of the development process, flight-test programmes to validate performance parameters, verify reliability under a wide-range of operational conditions, correct inevitable design flaws, and train military forces on the basic operational functions of the missile. Flight tests, which cannot be concealed, provide outside observers the data needed to characterize missiles under development and to project future capabilities with considerable confidence. A study of development programmes conducted elsewhere, most notably those undertaken by Germany, the United States, the Soviet Union, China, France, India, Iraq, and Iran reveals that flight

testing requires a dozen launches, or more. Equally important, historical data shows that such testing efforts entail three to five years' time. The exceptions are rare, involve minor modifications to existing systems, or can be explained by conditions that do not exist in Iran. In any case, the minimum time, regardless of circumstances, is about two years.

The need to conduct flight-test programmes to develop an operational system suggests that if Iran can be persuaded to forego such activities, it could not create and field longer-range systems without assuming considerable risk. There is nothing in Iran's history of missile development to indicate that it would accept such risks. Tehran did not induct the *Shahab*-3 into the military service until 2003, some five years after receiving *Nodong* missiles from North Korea and initiating test launches. Modifications to extend the range of the *Shahab*-3, resulting in the 1600km-range *Ghadr*-1, required three to five years. And development of the *Sajjil*-2, which continues today, has been on-going since it was first flight-tested in late 2007. It is therefore reasonable to conclude that if Iran were to fashion a small nuclear arsenal, it would not fit them to missiles with unproven performance or reliability.

The U.S. and Russia should exploit this testing requirement and together promote regional flight-test bans of intermediate- and longer-range ballistic missiles. The range-payload characteristics of an intermediate-range missile would have to be defined by all of the parties involved in the final agreement, though a 3000km-500kg envelope seems reasonable. Space launch vehicles could be excluded.[1]

Two regions, the Middle East and the Korean peninsula, would have to be included in the test ban to ensure that Iran could not develop and test launch missiles in North Korea, or purchase a long-range missiles developed by Pyongyang. In response to Iranian acceptance of the test ban, Israel and Saudi Arabia might be asked to eliminate in a verifiable manner their *Jericho*-III and *DF*-3 missiles, respectively.[2] U.S. and Russian participation in the elimination efforts would assist the verification process.

Next Step

[1] Space launch vehicles, which Israel, Iran and North Korea are very unlikely to relinquish, would not have to be included in the regime proposed. While it is certainly true that space launcher and ballistic missiles are founded on similar technologies, there are fundamental differences between the two systems. For example, space launchers are normally prepared for flight over a period of many weeks, components and sub-systems can be checked and verified before launch, and the mission commander can wait for ideal weather before initiating the countdown. If during the countdown an anomaly is encountered, the launch can be delayed, the problem fixed and the process restarted. Ballistic missiles, on the other hand, must perform reliably under a variety of operational conditions, and with little advanced notification, like any other military system. These operational requirements must be validated through an extensive test program before a missile can be declared combat ready. Although some of the validation can be achieved within a civilian space program, not all of them can be addressed adequately when operating the system as a satellite launcher. Consequently, converting a proven space launcher into a ballistic missile would still require two to five years of testing in the ballistic missile mode.

[2] Israel has little strategic imperative to maintain its fleet of *Jericho*-III missiles, as the primary threats to the Jewish state reside within about 2500km. Tel Aviv might accept the elimination of the Jericho-III, which is capable of flying well beyond 3000km, if sufficient incentives were offered. The Saudis are rumoured to have acquired two-stage, solid-propellant DF-18 or *Shaheen*-II missiles from China or Pakistan, respectively, around 2002 or 2003, though there is no verification of such in the public domain. Possession of the newer solid-fuelled systems would allow Saudi to relinquish their obsolete DF-3 missiles with little loss in strategic reach.

The U.S. and Russia should seek to persuade countries in the Middle East and the Korean peninsula to accept a verifiable regime that prohibits the possession or flight-testing of intermediate- and longer-range ballistic missiles. Success in achieving such a regime would significantly delay the need to implement Phase IV of the Phased Adaptive Approach to European missile defence. While Russia might continue to worry about the impact of ballistic missile defences on its strategic nuclear deterrent, the breathing space offered by the proposed regional flight-test ban regime could facilitate cooperation on the short- and medium-range missile threat and the building of greater trust and confidence between Moscow and Washington. This enhanced trust should make it easier to resolve the more difficult issues associated with long-range missiles, and in the process, support the arms control objectives of both parties.