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BULLETIN

The Missile Threat from North Korea and the U.S. Homeland Defence

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Since 2012, North Korea has been progressing with different types of long-range ballistic missiles and their successful tests of them are a determinant in the U.S. missile defence plans for the continental United States, Hawaii, and overseas territories. One of most important recommended solutions by the Pentagon to these growing threats is the concept of a "layered" approach to homeland missile defence. The Joe Biden administration is expected to comprehensively review the concept and any actions would have a distinct effect on U.S. deterrence of North Korea and bilateral relations with China and Russia. It also will be important also for American allies in Europe.

Threat from North Korea. Since 2012, the country has continued work on its arsenal of ballistic missiles and nuclear warheads, surprising the world with its first thermonuclear test in 2017. Despite three meetings between then-U.S. President Donald Trump and North Korean Chairman Kim Jong Un, it was impossible to slow the progress of the latter's missile programmes. The Biden administration is likely to return to the policy of "strategic patience" and sanctions in place before 2017. It is based in incremental pressure by the U.S. in coordination with South Korea and Japan with the goal of denuclearisation of the North. For the U.S., the main direct threats are the two ballistic missile classes believed held by the North—intermediate, with a range of up to 3,000 km (IRBM), and intercontinental, for ranges greater than 5,500 km (ICBM). The first class includes missiles of the HS-10 and HS-12 types, which could reach the U.S. base on Guam and, in case of a missile tipped with a nuclear warhead, could neutralise some U.S. air and naval forces in the Pacific.

However, North Korea is first and foremost determined to achieve capabilities to reach the continental United States and its main cities. In the last decade, the North's Unha rockets, used as space launch vehicles, mock-ups of an HS-13 missile and developmental versions of it (HS-14 and HS-15) comprised demonstrations of ICBM technologies. The growing capabilities of the Kim regime were confirmed in October 2020 with the display of four mock-ups of mobile and "heavy" ICBM HS-16 types. This missile is based on improved technologies used in previous missiles, but so far not tested in flight. Moreover, the North made a breakthrough in the area of solid fuel in its sea-launched ballistic missile family. These were the base for PK-2 medium-range ballistic missiles. The experience gathered in their development might be helpful with the next generation of IRBMs and ICBMs with solid-fuel engines. There are also legitimate concerns about the possible transfers of these new technologies or missiles from North Korea to Iran.

U.S. Defense Department Plans. Since the 1990s, the U.S. advanced its missile defence of its continental territory against missile threats from both North Korea and Iran. The National Missile Defense project was promoted by the administration of George W. Bush, which in 2004 introduced the first Ground-Based Interceptors (GBI). This system was redesigned in 2009 after the cancellation of GBI silos in Poland and initiation of NATO's European Phased Adaptive Approach. A separate system for continental defence under the new name Ground-based Midcourse Defense (GMD) was developed with GBI silos at bases in Alaska and California. In 2013, as the North Korean threat increased, the decision was made to increase the GBI arsenal from 44 to 64. Subsequent versions, though, were delayed or failed tests and were cited by the Pentagon in

the decision to work on the successor to the GBI—the Next Generation Interceptor (NGI).

The Trump administration's Missile Defense Review, among many plans, envisioned modernisation of the GMD. The system's costs had already reached $67 billion, which was 60% higher than originally planned and with still questionable effectiveness. In this context, a new concept was introduced, which is to build a "layered shield" as an interim solution until the introduction of the NGI around 2030. The main argument for additional layers to the GMD is to increase the probability of success in denying a missile's re-entry vehicle into U.S. territory. The existing Aegis and THAAD systems are operational and highly effective, meaning there are no additional costs of research and development. According to this approach, the GMD system would be augmented by Aegis naval and ground-based systems with SM-3 IIA interceptors and ground-based THAAD interceptors, all capable of defending smaller areas (e.g., installations or cities). These systems might also create additional defence layers above Hawaii and Guam not defended by the continental-based GMD. Currently, one THAAD battery is deployed to Guam. An Aegis Ashore in Hawaii is used only for tests and training (in November 2020, an SM-3 IIA successfully intercepted a simulated ICBM warhead).

Problems with the New U.S. Concept. The Pentagon lacks details about the number of additional launchers and interceptors it needs, as well as the deployment sites. This along with the economic effects of the COVID-19 pandemic might influence Congress' attitude to fund the plans in the coming years. According to the FY 2021 National Defense Authorization Act, passed into law in January, Congress cut about $39 million from the further development of the Aegis systems and $100 million for THAAD interceptors with increased range. Congress also demanded a detailed Pentagon report on the new architecture, the costs of additional sensors and interceptors to the GMD layer, as well as an intelligence estimate of these systems' impact on potential adversaries' strategic calculus. According to the Congressional Budget Office (CBO), the costs of the new defence elements would reach $5 billion for an additional 40 GBI silos based in Alaska and $4 billion to build a completely new base with 20 GBI silos in a different location. Even more problematic to the budget are other cost estimates, depending on the number of existing and planed Aegis BMD ships (each SM-3 IIA interceptor costs $30 million), the number of new THAAD batteries ($800 million each), and scale of radars modernisation. The CBO estimates do not include the costs of any new Aegis Ashore system, but indicate "marginal costs" of repurposing the system in Hawaii.

The Biden administration will weigh all the above aspects during its review of the missile defence plans, but there are indicators that it will likely integrate all these issues with the new deterrence strategy. The change of decision-makers at the Pentagon means the administration might take a broader approach to the implications of the "layered shield" concept, extending more broadly than facing just the North Korean threat. The latest unclassified U.S. intelligence estimate do not analyse the prospects of an operational HS-16 ICBM or the possibility of multiple warheads on it. Assuming the Kim regime has these new capabilities would strengthen the rationale for new GMD architecture and faster research and development of a new interceptor. On the other hand, the Biden administration also will factor in the different available options in U.S. relations with China and Russia. Both powers perceive any U.S. missile defence system as destabilising and the introduction into the Americans' capabilities an effort to neutralise their offensive strategic arsenals. At the same time, they are silent about the clear threat from North Korea. In this context, the Biden administration might take into consideration at least some of their concerns, especially if China and Russia assist with pressure on North Korea and Iran. This U.S. approach to strategic arms control is already visible in the case of Russia and the extension of the New START Treaty.

Conclusion. The Biden administration's missile defence review might include recommendations to scale-down suggested new investments to a few vessels with Aegis BMD and SM-3 IIA interceptors for defence of the continental United States. Less clear are the prospects for the GBI's successor and missile defence architecture for Guam and Hawaii. NATO allies have limited influence over the American calculations and decisions on these expensive options. Nevertheless, they should be interested in balance between the U.S. need for limited homeland missile defence and credible deterrence of North Korea, and continuing the nuclear powers' dialogue on arms control. European countries should also support the U.S. in putting pressure on the Kim regime to limit its nuclear arsenal. In the Alliance discussion on strategy towards Asia, it should take into account the threat assessments presented by NATO's Asian partners. Poland may also include the many issues surrounding North Korea in bilateral Polish-American consultations. Poland is interested in effective defence of the U.S. from North Korean missile threats and credible American deterrence of Kim. The introduction into service of SM-3 IIA interceptors will augment U.S. defence against North Korean missiles but also will help complete the NATO European regional defence from Iranian missiles. This will be of greater importance due to the likelihood of close cooperation between North Korea and Iran in the development of long-range arsenals.