대외학술활동시리즈 2020-47

What South Korea is facing with the New Missile Guideline

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South Korea and the United States have recently agreed to a new missile guideline that allows Seoul to use solid fuels on space launch vehicles, yet the range of its missiles stay the same as before. From the perspective of national security, the new missile guideline brings about several positive changes, such as enhancing surveillance and reconnaissance capability. However, there are issues that must be balanced. What are the implications of this new guideline? Is this good for the South Korea-US alliance? How does it affect South Korea in general? To answer them, it is crucial to review the history of South Korea's missile development and examine the opportunities that South Korea may encounter after implementing the new guideline.

First, South Korea's missile development program has historically been limited by proliferation concerns and the US alliance, not technical constraints as in the case of North Korea. South Korea's ballistic missile development program was first initiated in 1971 under President Park Chung-hee. Henceforth, South Korea signed a memorandum of understanding (MOU) in 1979 with the United States which set the maximum capacity of ballistic missiles to a range of 180km with a payload of 500kg which was just enough for South Korean ballistic missile to reach Pyongyang but not beyond. Over the decades, South Korea and the United States have gone through a series of negotiations for revising the agreement due to a growing security threat posed by North Korean nuclear development. The first revision took place in 2001, three years after North Korea had fired Taepodong-1 missile over Japan. In response to North Korea's provocative action, South Korea decided to join the Missile Technology Control Regime (MTCR) which allowed the extension of the maximum range of its ballistic missile to 300km while the payload stayed the same as before.

A decade later, a request for revision was made again after North Korea had launched another long-range rocket in 2012. Although the rocket broke up and its remnants fell into the sea soon after the launch, it nevertheless demonstrated the extent of North Korea's secretive development of an intercontinental ballistic

missile. This event rationalized South Korea's new demand for another readjustment of the agreement. In September 2012, a new missile guideline was drafted with the compromise that a missile that range 300km could carry up to a two-ton warhead while a 500km ranged missile would only be allowed to deliver up to a one-ton warhead. So, the payload could be increased in inverse proportion to its range. However, in 2017, following North Korea's sixth nuclear test, President Donald Trump agreed to extend the missile range limit but discard the warhead weight limit from the guideline. From then, the weight of the warhead did not matter as long as the maximum missile range was 800km. Due to these three revisions made on ROK-US missile guidelines over the last half-century, the capacity of South Korea's ballistic missiles improved.

In last July, Seoul and Washington agreed on the fourth revision of the missile guideline. The new arrangement allowed South Korea to develop solid propellant boosters for space launch vehicles but made no change to the existing range limit of missiles. This change largely provides South Korea with two upfront benefits. First, using solid fuel allows better efficiency and mobility in launching rockets or missiles with significantly reduced preparation time. Second, South Korean research institutes, corporations, and individuals are now free to research, evelop, roduce and possess different kind of fuels for space launch vehicles including liquid, solid or hybrid. Moreover, unlike the previous rounds of missile talks, this time was a house-to-house negotiation where Cheong Wa Dae's National Security Office negotiated directly with the White House National Security Council. This may have expedited both the process and the final decision.

The opportunities that South Korea may seize in accordance with the latest version of the missile guidelines are as follows. The first set of opportunities is evident in national security and defense. As the deputy presidential national security adviser of the ROK has explained, South Korea can improve its intelligence and reconnaissance capability by launching comparably low-cost solid fuel rockets that deliver surveillance satellites into space. The more satellites South

Korea puts in orbit, the better it can monitor the security situation on the Peninsula. Basically, an around-the-clock surveillance over North Korea would be possible. Furthermore, solid fuel also brings about a change in South Korea's defense structure. Unlike liquid fuel missiles, solid fuel missiles can be fueled in advance and this fact enhances South Korea's defense readiness, specifically the precision strike capability in the event of an emergency.

If the abovementioned developments are properly made, the ROK-US alliance would be bolstered to another level. In fact, South Korea's enhanced capability of anaging security on the Peninsula would be considered a positive factor in prospective ROK-US meetings concerning wartime Operations Control Authority (OPCON) transfer. The bottom line is that the newly revised missile guideline will enhance the ROK-US combined defense readiness.

The new guideline has created infinite opportunities for South Korea in the space industry as well. South Korea has proven to be the world's leading IT nation and excels in the areas of semiconductors, display, steel, lithium batteries and consumer electronics. With solid-fuel boosters, both the public and private sectors of South Korea have an opportunity to enter the space market before it becomes too saturated. Against this backdrop, it is certainly time for South Korea to think beyond the scope of the Peninsula and move into a more meaningful role in the Pacific region and even the solar system.

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