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NORTH KOREAN SPACE VENTURES: A THREAT TO THE US

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Kim Jong-Un continues to intimidate Donald Trump in the most un-imaginable ways. Insane as it may sound, the most recent threat to the American population is a Nuclear explosion in the skies above. It is feared that North Korea is working towards launching a nuke-carrying satellite into space which can be detonated over the US at a time of choosing. The resulting blast would cause a powerful Electromagnetic Pulse (EMP) which would immediately make the crucial electrical grid system non-functional. Besides causing harmful radiation effects, it would incapacitate the US satellites orbiting in the vicinity and bring the routine functioning of American systems and livelihood to a standstill.[1]

Such a scenario is not fiction but may now be a reality, with North Korea's proven status as a nuclear state and space faring nation with independent launch capabilities. North Korea has already demonstrated its capabilities with Satellite Launch Vehicles, Intermediate Range Ballistic Missiles and Nuclear warheads. Kim Jong-Un's rationale of using a satellite bomb could be two fold. Firstly, it doesn't yet have the ability to launch a missile which can reach the US mainland, though many believe that they have acquired the range with their KN-14 ICBM. The Taepodong-2 missile with a range of around 6000 km can barely reach Alaska. Secondly, direct attacks on the American mainland are certain to invite the American wrath and bring the North Korean state to extinction. A low yield explosion in Low Earth Orbit or in the upper reaches of atmosphere may not cause severe damage and loss of life on ground, but the effects of Radiation, EMP and Shock Waves may cause sufficient damage to make routine life dysfunctional till restored. This seems to be Kim Jong's alternative to an Intercontinental Ballistic Missile (ICBM) strike.

Under a series of Security Council resolutions, North Korea is prohibited from developing nuclear weapons or ballistic-missile

technologies. United Nations Security Council Resolution of October, 2006 imposes a series of economic and commercial sanctions on North Korea in the aftermath of the States' claimed nuclear test of October 9, 2006. North Korea cannot conduct any further nuclear test or launch of a ballistic missile.

Despite sanctions, the rogue state continued with its ballistic missile programme and space programme. North Korea became a space faring nation in December 2012, when they successfully put a satellite, 'kwamyongsong-3-2' into a LEO. They launched another satellite in February 2016 (kwamyongsong-4), an earth observation satellite. The country now has two earth observation satellites in orbit but is restricted with the resolution of pictures taken by the satellite cameras (more than 100 m) and load carrying capacity of its launch vehicles (150-200 kg).[2] A later version of the Unha rocket, the Unha-9 with a payload capacity of 250 kg is said to have been tested in March 2017.[3]

Interestingly, North Korea is party to the Outer Space treaty of 1967, which prohibits states from placing nuclear weapons or any other weapons of mass destruction in orbit around the Earth, or station them in outer space. However, the state has not ratified the Nuclear Test ban Treaty (NTB) of 1963 also known as the Partial Test Ban treaty (PTBT), which bans nuclear weapon tests in the atmosphere, in outer space and under Water.[4]All said, a satellite / rocket launch by North Korea does fall within the legal parameters of the Outer Space Treaty as long as it is for peaceful purposes. North Korea being a signatory to the OST, is liable to legal ramifications if found in violation of any one article. However, detonation of a nuclear device in space, in the garb of testing, leaves ambiguity on whether it falls within the ambit of any of the treaties which are binding on the state, besides the sanctions.

High altitude nuclear explosions are not a new phenomena. The US and USSR had carried out around 18 nuclear tests in the upper atmosphere and near space at altitudes ranging from 21 km to 540 km between 1958 and 1962 prior to the PTBT. The American test termed 'Starfish Prime' in July 1962, which had a yield of 1400kt at 399 km altitude created radiation belts which damaged several satellites.[5]Soviet tests under 'Project K' in October, 1962 at altitudes of 290-300km and 300kt yield resulted in burn out of power and telephone cables and breakdown of a power station.[6]

North Korea has now conducted four known nuclear tests, as well as a number of long-range missile/rocket launches, the most recent being on August 29, 2017. They are now a space faring nation with two satellites in orbit. It can be assumed with a reasonable degree of certainty that North Korea possesses the wherewithal to attempt the launch of a nuke carrying satellite. These concerns seem extreme and require an

astronomical scale of irrationality on the part of the regime. Threats by the Trump administration and military coercion have not yielded any positive results in scaling down Kim Jong-Un's ambitions. While diplomatic efforts need to continue, the process of verification by UN mandated inspection teams need to be enforced for every launch.

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies [CAPS])

Notes

[1]jonlocket, "Nuke Space Attack: Fears grow North Korea is plotting to launch nuke-carrying satellite then explode it over the US", Februaury 10,2017, at https://www.thesun.co.uk/news/2833261/fears-grow-north-korea-is-plotting-to-launch-nuke-carrying-satellite-then-explode-it-over-the-us/, accessed on August 22, 2017.

[2] Nick Hansen, "North Korea's Satellite Program", September 12, 2012, at http://www.38north.org/2012/09/nhansen091212/, accessed on August 22, 2017

[3] c. p. vick, 'weapons of mass destruction (wmd)',http://www.globalsecurity.org/wmd/world/dprk/unha_3_fifth_flight.htm, accessed on August 24, 2017

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