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Author: Mr. Philippe Cosyn
Belgium

THE DPRK'S ROAD TO SPACE – A BRIEF HISTORY

Abstract

On August 31st, 1998, a three-stage rocket lifted off from the Hwadaegun Missile Test facility in Musudan-ri, North Korea. The first stage of the launch vehicle consisted of a No-Dong 1 IRBM using a cluster of four rocket engines derived from the Scud missile, designed in the late 40s by Sergei Korolev's Soviet design bureau, building on German A4/V2 technology of WW II.

On its way to space, the second stage fell in international waters some 330 km from the Japanese port of Hachinohe, creating an international uproar. However, on 4 September 1998, the North Korean press agency claimed that the launch was not linked to a military missile test but that an artificial satellite had been put into orbit in order to "promote scientific resarch for the peaceful use of outer space". Ten days later, a launch video and photograph of the satellite, Kwangmyongsong 1, very similar to the first Chinese earth satellite, were released. Western intelligence agencies failed to detect the satellite, however. US officials later acknowledged that a space launch had apparently been attempted but that the satellite failed to reach orbit.

Although a formal national space programme did not start until the l1980s, possibly partly in response to the then-burgeoning South Korean space programme, the DPRK's involvement with space and missile technology started in the early 1960s with the indigenous production of a Chinese-designed multiple rocket-launcher. Subsequently, North Korea received coastal defense missiles from the USSR. The most fundamental step to space was taken in the late 1960s when North Korea obtained Soviet FROG-7A surface to surface missiles. Subsequently, North Korea aimed to gain experience in missile engineering by collaboration with the People's Republic of China on the DF 61 missile project. This project was cancelled but provided DPRK engineers with sufficient know-how for the next step : the acquisition and production of Scud-missiles, a non-nuclear version of which the Soviet Union started delivering to its allies, including Egypt, a small batch of which was then re-sold to the DPRK. There, the Egyptian Scuds were reverse-engineered and mass-produced as the Hwasong-5, which was deployed in the late 1980s. The DPRK subsequently developed several improved Scud-derivatives for export to Syria, Libya, Egypt, Iran and Pakistan, with the two latter countries building on the North-Korean/Scud technology to develop their own launch vehicles and launch their first satellites.

In the following years, the DPRK succeeded in building heavily scaled-up versions of the SCUD, dubbed the Nodong and Taepo-Dong by Western intelligence agencies. A No-Dong was first launched from Musudan-ri in 1993, with a range of about 500 km. Five years later, the Taepodong-1 (Paektusan-1), allegedly carrying the first North Korean satellite, was flight-tested. The DPRK had thus embarked on a real space programme.

Under international pressure, the DPRK government adopted a moratorium on missile testing in 2000, expressing a desire to give up its missile technology in exchange for access to Western space technology. However, in 2003, South Korea's Ministry of National Defense announced that the DPRK had started deploying 1,300 km range Nodong-1 missiles and was engaged in developing a new Taepodong-2. A July 2006 launch of that missile failed, however. Nevertheless, in recent years, the DPRK continued testing new rocket engines and is engaged in building a new launch facility on its West coast. Currently, the DPRK has confirmed that it is making final preparations for the launch of its second earth satellite from

the Musidan-ri facility.