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DF-41: FINAL PHASE OF TESTING IN PROGRESS, ENTERING SERVICE SOON

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Chinese online media reports that the testing phase of the PLA Rocket Force DF-41 ICBM will be completed this year (2016) and it will be inducted into service.[1] The DF-41 is a MIRVed ICBM and is claimed to carry ten nuclear warheads and has a max-range of 12000 to 14000 km which makes it capable of targeting any part of the United States Mainland. The ICBM is slowly growing to be a more versatile weapon and is poised to become the front line nuclear deterrent against the United States.

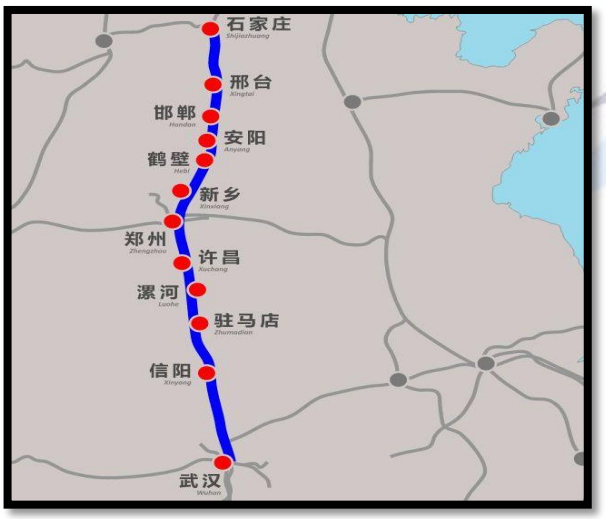
The DF-41 ICBM has been undergoing tests for a long time now and there finally is the indication that it would be inducted into the Rocket Force this year. Even last year the much expected DF-41 was not paraded in Tiananmen Square during the national day parade which indicated that the missile has not yet entered production as, by tradition, only missiles in service are shown during parades. The only ICBM displayed was the MIRVed DF-5B which was already in service.

The DF-41 has been undergoing some rigorous tests in the past few years. Last year, a new ICBM test site construction was completed at the northern tip of Wuzhai called the Wuzhai-41 which comes with a command centre, garages and testing space.[2] Analysis of the test process resembled the DF-31A, but the larger diameter of the launch site points that it is a test site for DF-41.[3]

A small number of DF-41s are likely to enter service this year. Another major speculation regarding the possible location of the new ICBM is that it might be based in Henan Province[4], which means that the missile will come under the Base 54 which already operates the road mobile DF-31 and the silo launched DF-5A and possibly the DF-5B. The reason for basing it under Base 54 and not the Base 55- which is known traditionally as the ICBM base- might be because Base 55 has experience operating only the silo based DF-5 series of ICBMs while Base 54 has good experience in operating the road

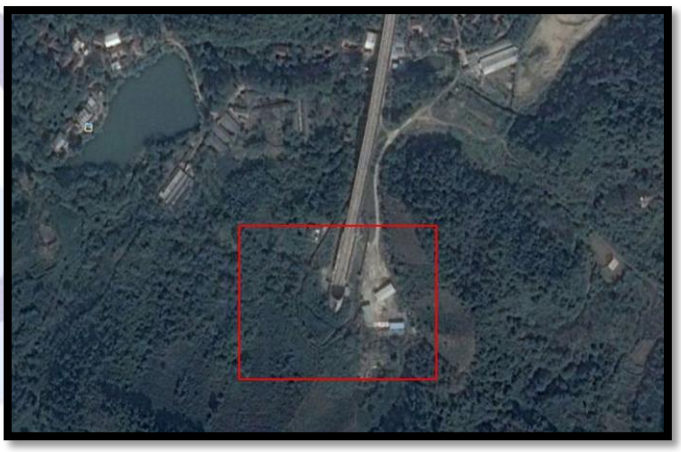
mobile DF-31 ICBMs. It is to be noted that the DF-41 is a road mobile missile.

Analysts also speculate that the missile would be deployed with unit 96267 in Xinyang in Henan.[5] This unit is close to Nanyang where the DF-31 is deployed. In addition, it is also known that the missile would also be deployed as a rail mobile missile and hence the host garrison should be well connected via rail with rail-transfer points. In fact the Shijiazhuang-Wuhan high speed rail line passes through Xinyang. In addition, Xinyang is also well connected with the regular rail to the North-South and East. If China adopts the garrison based deployment of its rail mobile missiles as it has done with its road mobile ICBMs, then the garrison base would most probably be located in the Xinyang area.



Img 1: Shijiazhuang-Wuhan high speed rail line

Moreover, given China's tendency to depend on underground tunnels for enhancing survivability, the missile rail-garrisons could be located underground, most possibly beneath mountains. Most of the strategic tunnelling under mountain ranges is road tunnels. In the case of rail deployments the existing tunnels could be expanded and used. It can be viewed in Google earth satellite photographs that the Shijiazhuang-Wuhan high speed rail line passed through several mountain ranges via tunnels, with the closest being the mountain range south of Xinyang. Nevertheless, considering certain vulnerability factors of the Chinese high speed rail lines, it is more likely that the missile will be deployed on the regular rail lines like the Soviet Union.



Source: Google Earth. (Tunnel entrance highlighted in red)

The DF-41 ICBM is the technologically more sophisticated missile in the PLA Rocket Force's arsenal. Hence, survivability is of paramount importance, particularly the fact that the missile is MIRVed and hence, in case of rail deployment, would be travelling with multiple nuclear warheads on board. It is claimed that each of the nuclear missile train could carry four DF-41s.[6]

There is also speculation among Chinese military analysts that the DF-41 could use the Chinese Beidou navigation system after it is fully deployed by 2020 [7] to enhance accuracy. Presently, there are no effective missile defence systems that could successfully intercept an incoming ICBM RV. Even the US Ground Based Mid-Course (GMD) missile defence system, going by the number of test failures and the scripted nature of the test, would not be able to intercept even a single ICBM RV. Hence, the only way to neutralise an ICBM is to destroy it on the ground. Given the emphasis China puts on the survivability of its ICBMs on the ground, the DF-41 would be a very effective nuclear deterrent weapon against the United States for several decades to come.

With a range of 14000 km, the DF-41 could take around 45 minutes to an hour to reach the United States depending on its launch location and the target. The trajectory would go over the Arctic region. Such a flight would normally give the adversary around 30 to 40 minutes of warning considering the missile defence sensors the US and its allies have deployed in the East Asian region.

The advanced nature of the DF-41 would mean that the older vintage DF-5B ICBMs would be retired once enough number of the DF-41s enter service. The new garage construction in Xinyang points that each brigade would consist of 6 to 8 missiles.[8] In future, as more DF-41s enter service, some missiles might be deployed under the brigade in Nangyang and Xixia brigade which lie North-West of Nanyang as both the units handle the road mobile DF-31 ICBMs.

(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] "东风 41 今年服役　透露最先部署省份",http://www.cn1n.com/mil/sw/20160329/174387988.htm , 29 March 2016, accessed on 16 April 2016

[2] "Revealed: A mysterious Chinese Missile Base and Auxillary facility Wuzhai", http://mil.news.sina.com.cn/china/2016-04-05/doc-ifxqxcnr5301575.shtml?cre=milpagepc&mod=f&loc=8&r=9&doct=0&rfunc=92 , 5 April 2016, accessed on 16 April 2016

[3] ibid

[4] "DF-41 Missile for Headed for Final Tests", http://dailynews.sina.com/bg/chn/chnoverseamedia/cna/20160327/20147250607.html , 27 March 2016, accessed on 26 April 2016

[5] ibid

[6] No.2

[7] ibid

[8] No.4