

Chinese nuclear weapons capability

[Overview]

China is the only nuclear weapon state under NPT that is increasing the number of its warheads. However, it is increasing them at a slow pace, and this is believed to be in line with China's current nuclear strategy. The same author estimates the number of warheads as having changed from 250 to 260 in August 2015 (Kristensen, Hans M. & Norris, Robert S. 2015), and then increased to 270 in April 2017 (Kristensen, Hans M. & Norris, Robert S. 2017). This is mainly due to China's efforts to MIRV part of ground-launched ballistic missiles, with a view to overcoming enemy missile defenses. China has consistently adopted a nuclear "no first use" policy (Ministry of National Defense, PRC 2015) and engaged in modernizing retaliatory capability to survive enemy attack. China will merit our attention, not quantitatively but in terms of how it plans to MIRV its arsenal or conduct deterrence patrols with strategic nuclear submarines. It is also hoped that China provide greater transparency over its nuclear posture and arsenal. Warheads in this table are estimated and, unless otherwise stated, all sourced from the same documentation (Kristensen, Hans M. & Norris, Robert S. 2016). China's long-range warheads (DF-5A, DF-5B, and DF-31A) capable of reaching the U.S. mainland number about 75. China's budget for nuclear weapons is estimated to be USD 0.87 million in 2016 (Zhang, Hui 2018).

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Type / designation	NATO designation	Range(km)	Yield (kt)	No. of warheads	Remarks
Deployed				0	1)
Reserve / Nondeployed				240	2)
Ground-based ballistic missile 3)				173	4)
Dong-Feng DF-3A	CSS-2	3,000	3,300	?	5)
Dong-Feng DF-4	CSS-3	5,500 +	3,300	10	6)
Dong-Feng DF-5A	CSS-4 M2	13,000 +	4,000–5,000	5	7)
Dong-Feng DF-5B	CSS-4 M3	13,000 +	3 × 200-300	45	7)
Dong-Feng DF-15	CSS-6	600	?	?	8)
Dong-Feng DF-21	CSS-5	2,150	200–300	80	9)
Dong-Feng DF-26	?	4,000 +	200–300	?	10)
Dong-Feng DF-31	CSS-10 M1	7,000 +	200–300 ?	8	11)
Dong-Feng DF-31A	CSS-10 M2	11,000 +	200–300 ?	20	12)
Dong-Feng DF-41	CSS-X-20	?	?	?	13)
Ground-launched cruise missile				?	
DH-10	CJ-10	1,500 ?	?	?	14)
Submarine-launched ballistic missile (SLBM)				48	15)
Julang JL-1	CSS-NX-3	1,000 +	200–300	0	16)
Julang JL-2	CSS-NX-4	7,000 +	200–300 ?	48	17)
Airborne bombs				20	
Nuclear bomb				20	18)
Air-launched cruise missile					
DH-10	CJ-10	1,500 ?	?	?	19)
DH-20?	CJ-20?	?	?	?	20)
Retired warheads awaiting dismantlement, etc.				30	21)
Total inventory				270	

[Notes]

- 1) Since the nuclear warheads are stored separately from missiles, they are viewed not as operationally deployed but as reserve / nondeployed warheads. (Kulacki, Gregory 2011; Kristensen, Hans & Norris, Robert S. 2016)
- 2) The figure of 241 was rounded.
- 3) The DF-4, DF-5A, DF-31, and DF-31A are intercontinental ballistic missiles (ICBM, range of 5,500 km or more). The DF-15 is a short-range ballistic missile (SRBM, range of 1,000 km or less), and the others are intermediate-range ballistic missiles (IRBM, range of 1,000 to 5,500 km). Of the latter, those with range of 3,000 km or less are sometimes terms medium-range ballistic missiles (MRBM).
- 4) Kearns estimates them to be 130-140 (Kearns, Ian 2011), Kulacki estimates 155 (Kulacki, Gregory 2011) and Zhang estimate 120 (Zhang, Hui 2015).
- 5) The characters 東風 are romanized as Dong-feng. Liquid-propellant. Mobile. According to U.S. intelligence agencies, they probably have single warheads. Deployed in 1971. They are in the process of being replaced by DF-21 (Kristensen, Hans M. & Norris, Robert S. 2015). Some researchers estimate the number of warheads at 5 (Zhang, Hui 2015).

- 6) The characters 東風 are romanized as Dong-feng. Liquid-propellant. Mobile. All or some are deployed in tunnels. According to U.S. intelligence agencies, they probably have single warheads. Deployed in 1980. They are capable of reaching India, part of Russia and Guam. They are in the process of being replaced by DF-31. Some researchers estimate the number of warheads at 17 (**Kearns, Ian 2011**) and 10 (**Zhang, Hui 2015**).
- 7) The characters 東風 are romanized as Dong-feng. Liquid-propellant. Silo-based. According to U.S. intelligence agencies, they probably have single warheads. Deployed in 1981. Since the start of the 1980s, they have targeted on the U.S. and Russia (**Kristensen, Hans M. & Norris, Robert S. 2015**). A recent report by the U.S. Department of Defense refers to an M3 variant with multiple warheads for the first time (**Office of the Secretary of Defense 2015**). The same report in 2016 reconfirmed its existence (**Office of the Secretary of Defense 2016**). Here, we assume five DF-5A missiles to have been replaced by DF-5Bs with three warheads each. This gives us a total 15 MIRV ICBMs.
- 8) The U.S. CIA thought the August 1990 nuclear tests were possibly to develop warheads for short-range ballistic missiles, and estimated that deployment would start in September the next year, 1993. The DF-15 is thought to be mostly for dual nuclear and non-nuclear use. The number of warheads cannot be estimated. (**Kristensen, Hans M. & Norris, Robert S. 2015**)
- 9) The characters 東風 are romanized as Dong-feng. The range of the CSS-10 M1 is 1,750km but that of the M2 variant is estimated to be 2,150km. This is the mainstay of China's intermediate-range missile force. Solid-propellant. 2-stage Mobile. According to U.S. intelligence agencies, they probably have single warheads. Deployed in 1981. They are gradually being replaced by the DF-3A and DF-4. The number of warheads has been estimated at 55-60 (**Kearns, Ian 2011**) and 60 (**Zhang, Hui 2015**). There is also the DF-21 with conventional warheads. The number of nuclear-armed missiles alone is estimated at 80.
- 10) The characters 東風 are romanized as Dong-feng. 16 missiles appeared in a military parade in 2015. Road-mobile with a range of 4,000km. They are believed to be nuclear/non-nuclear dual use (**Kristensen, Hans M. & Norris, Robert S. 2016**).
- 11) The characters 東風 are romanized as Dong-feng. Solid-propellant. 3-stage. Mobile. Initially deployed in 2006. According to U.S. intelligence agencies, they probably have single warheads. There are researchers who estimate the number of warheads at 10-15 (**Kearns, Ian 2011**). The increase in deployment has been halted for unknown reasons. The U.S. Department of Defense estimates the range at 7,200 km or more (**Office of the Secretary of Defense, 2013**).
- 12) The characters 東風 are romanized as Dong-feng. Solid-propellant. 3-stage. Mobile. Available in both road- and rail-mobile platforms. Deployed in 2007. According to U.S. intelligence agencies, they probably have single warheads. Although they have single warheads, they are thought to be accompanied by decoys for missile defense. Documentation suggests MIRV capability. The U.S. Department of Defense confirmed that, on April 19, 2016, double test launches were conducted from a road-mobile platform (**Gertz, Bill 2016**). There are researchers who estimated the number of warheads at 10-15 (**Kearns, Ian 2011**). The U.S. Department of Defense estimates the range 11,200 km (**Office of the Secretary of Defense, 2015**).
- 13) The characters 東風 are romanized as Dong-feng. Road-mobile, in development. The U.S. Department of Defense reported on the weapon in 1997 but remained quiet for a long time. In 2014, the DOD made another reference. Likely MIRV-capable (**Office of the Secretary of Defense 2016**) and solid fuel (**Gertz, Bill 2016**).
- 14) Ground-launched land-attack cruise missiles. The U.S. Air Force has stated that their nuclear capability is "conventional or nuclear". The number of missiles is not known (**Kristensen, Hans M. & Norris, Robert S. 2015**). The U.S. Department of Defense's estimate of the range is 1,500km or longer (**Office of the Secretary of Defense 2016**).
- 15) These are carried by the Xia- and Jin-class submarines but the Xia class is thought to have been retired (see 16)). Of the Jin class, four are in service while a fifth is under construction (**Office of the Secretary of Defense 2016**). It is not known if the Jin fleet has been committed to strategic deterrence patrols. The U.S. expected these to commence in 2016 (**Office of the Secretary of Defense 2016**) but there are no such reports to date. Peace time patrols will necessitate a formal change in China's basic doctrine and require upgrades in communications as well as command and control systems (**Kristensen, Hans M. & Norris, Robert S. 2016**).
- 16) The characters 巨浪 are romanized as Julang. Single warheads. Deployed in 1986. Scheduled to be carried by the Xia-class strategic nuclear submarine (Chinese designation: Daqingyu, type 092). These are expected to be retired without having seen a single use, together with the nuclear submarines (**Office of the Secretary of Defense 2015; Office of the Secretary of Defense 2016**). These warheads are assumed to have been retired.
- 17) The characters 巨浪 are romanized as Julang. Single warheads. A modification of the DF-31. Plans are to carry it on the Jin-class (type 094) new-generation nuclear submarine. 12 launch tubes. Launch tests had failed, but were successful in 2013. U.S. intelligence agencies anticipate that it will achieve its initial operational capability in 2013-2014 (**Kristensen, Hans & Norris, Robert S. 2015**). The assumption here is that 48 missiles for four vessels have been produced. China is seen pursuing greater technological sophistication (**Office of the Secretary of Defense 2016**).
- 18) Of the 100-120 轟 (Hong) H-6 bombers (NATO designation: B-6), 20 are thought to have a nuclear mission. Combat radius 3,100 km. Deployed in 1965. A modification of the Soviet Tu-16 (Badger) and China is seen pursuing greater technological sophistication (**Office of the Secretary of Defense 2016**). While fighter-bombers are known to have been used in nuclear test launches, it is not clear if they have been deployed operationally (**Kristensen, Hans M. & Norris, Robert S. 2015**). Some 20 other aircraft, including the Qiang (Q-5) fighter, are thought to have nuclear missions.
- 19) Ground-launched. The U.S. AF intelligence agency considers it to be dual (nuclear/conventional) mode. In 2011, the U.S. military estimated the system to consist of 40-55 platforms and 200-500 missiles (**Kristensen, Hans M. & Norris, Robert S. 2016**).
- 20) Air-launched. Under development. Scheduled to be carried by the improved-model Hong (H-6) fighter-bomber. The U.S. Air Force Global Strike Command supposes it to be nuclear capable. However, there is no consistent account of it in the U.S. Department of Defense (**Kristensen, Hans M. & Norris, Robert S. 2016**).
- 21) DF-3A, JL-1 and others are retired / awaiting dismantlement.

[Source]

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