

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**).

Updated : June 1, 2019

[Click here for pdf version of this table.](#)

Type / designation	NATO designation	Range(km)	Yield (kt)	No. of warheads	Remarks
Deployed				0	1)
Reserve / Nondeployed				290	2)
Ground-based ballistic missile ³⁾				220	
Dong-Feng DF-4	CSS-3	5,500 +	3,300	10	4)
Dong-Feng DF-5A	CSS-4 M2	13,000 +	4,000-5,000	5	5)
Dong-Feng DF-5B	CSS-4 M3	13,000 +	3 × 200-300	45	5)
Dong-Feng DF-15	CSS-6	600	?	?	6)
Dong-Feng DF-21	CSS-5	2,150	200-300	80	7)
Dong-Feng DF-26	?	4,000 +	200-300	25	8)
Dong-Feng DF-31	CSS-10 M1	7,000 +	200-300 ?	8	9)
Dong-Feng DF-31A	CSS-10 M2	11,000 +	200-300 ?	32	10)
Dong-Feng DF-31AG	CSS-10 M3?	?	?	?	11)
Dong-Feng DF-41	CSS-X-20	?	?	(15)	12)
Ground-launched cruise missile				?	
DH-10	CJ-10	1,500 +	?	?	13)
Submarine-launched ballistic missile (SLBM)				48	14)
Julang JL-2	CSS-NX-4	7,000 +	200-300 ?	48	15)
Airborne bombs				20	
Nuclear bomb				20	16)
Air-launched cruise missile					
DH-20?	CJ-20?	?	?	?	17)
Total inventory				290	

[Notes]

- 1) Since the nuclear warheads are stored separately from missiles, they are viewed not as operationally deployed but as reserve / nondeployed warheads. (**Kristensen, Hans & Norris, Robert S. 2018**) As regards submarine-launched ballistic missiles, because China is not known to always maintain a submarine on an underwater patrol/deterrence mission, we treat it likewise (see Note 14).
- 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) The characters 東風 are romanized as Dong-feng. China's last remaining mobile, liquid-fueled missile. 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 (**Kristensen, Hans M. & Norris, Robert S. 2015**). Currently being replaced by the DF-31 and expected to fully retire soon.
- 5) 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.
- 6) 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**)
- 7) 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 (**Kristensen, Hans M. & Norris, Robert S. 2015**). 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. The DF-21 also carries a conventional warhead (anti-ground and anti-ship). We estimate nuclear missiles to be 40 and warheads, 80.
- 8) The characters 東風 are romanized as Dong-feng. 16 missiles appeared in a military parade in 2016. Reappeared in 2017. Road-mobile with a range of 4,000km and Guam is within its range. They are believed to be nuclear/non-nuclear dual use and some contend China may launch the DF-26 carrying conventional warhead aimed

- at U.S. aircraft carriers (**Kristensen, Hans M. & Norris, Robert S. 2016**)(**Kristensen, Hans M. & Norris, Robert S. 2018**). The U.S. Department of Defense describes it as nuclear capable in its report (**Office of the Secretary of Defense 2019**). Because this missile program is being enhanced, we estimated nuclear warheads at 25.
- 9) 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. The increase in deployment has been halted for unknown reasons. The U.S. Department of Defense estimates the range at 7,200 km (**Office of the Secretary of Defense, 2019**).
 - 10) 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 (6-10 warheads) 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, 2019**).
 - 11) The People's Liberation Army's 90th anniversary parade in 2017 showcased a modified transporter erector launcher (TEL), fueling speculation for a new ICBM. A 2019 report from the U.S. Department of Defense described the DF-31AG as nuclear capable (**Office of the Secretary of Defense 2019**). No further information is currently available.
 - 12) The characters 東風 are romanized as Dong-feng. Road-mobile or Silo, 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, and described that it was in development and likely MIRV-capable (**Office of the Secretary of Defense 2016 and Office of the Secretary of Defense 2019**). Likely solid fuel (**Gertz, Bill 2016**). While the missile is in development, warheads may already be available. So our qualified estimate is 15, in parentheses.
 - 13) 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. 2018**). The U.S. Department of Defense's estimate of the range is 1,500km or longer (**Office of the Secretary of Defense 2016**).
 - 14) To be deployed aboard four Jin-class strategic nuclear submarines. A fifth Jin class 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. Detailed reporting by Reuters concludes that China does not always maintain a submarine on a patrol mission (**Torode, Greg & Lague, David, 2019**). 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. 2018**).
 - 15) The characters 巨浪 are romanized as Julang. Single warheads. A variant of the DF-31. Plans are to carry it on the Jin-class (type 094) 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. 2018**). The U.S. Department of Defense estimates the range at 7,200km. The assumption here is that 48 missiles for four vessels have been produced.
 - 16) 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. 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**). Aircraft modification and airborne-launched ballistic missile development are under way, according to U.S. Department of Defense reports (**Office of the Secretary of Defense 2019**).
 - 17) 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**).

[Source]

Gertz, Bill 2016: "China Flight Tests New Multiple-Warhead Missile," The Washington Free Beacon, April 19, 2016. <http://freebeacon.com/national-security/china-flight-tests-multiple-warhead-missile/> (accessed May 18, 2019)

Kristensen, Hans M. & Korda, Matt 2019: "Status of World Nuclear Forces," FAS Nuclear Information Project <https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/> (accessed May 18, 2019)

Kristensen, Hans M. & Norris, Robert S. 2015: "Chinese Nuclear Forces, 2015," Bulletin of the Atomic Scientists, Vol. 71, #4, 2015. <https://journals.sagepub.com/doi/pdf/10.1177/0096340215591247> (accessed May 18, 2019)

Kristensen, Hans M. & Norris, Robert S. 2016: "Chinese Nuclear Forces, 2016," Bulletin of the Atomic Scientists, DOI: 10.1080/00963402.2016.1194054 <http://dx.doi.org/10.1080/00963402.2016.1194054> (accessed May 18, 2019)

Kristensen, Hans M. & Norris, Robert S. 2018: "Chinese Nuclear Forces, 2016," Bulletin of the Atomic Scientists, 74:4, DOI: 10.1080/00963402.2018.1486620 <https://www.tandfonline.com/doi/pdf/10.1080/00963402.2018.1486620?needAccess=true> (accessed May 18, 2019)

Ministry of National Defense, PRC 2015: "China's Military Strategy," May 2015 http://eng.mod.gov.cn/Press/2015-05/26/content_4586805_4.htm (accessed May 18, 2019)

Office of the Secretary of Defense 2015: "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2015," April 2015. <https://dod.defense.gov/Portals/1/Documents/pubs/2016%20China%20Military%20Power%20Report.pdf> (accessed May 18, 2019)

Office of the Secretary of Defense 2016: "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2016," April 26, 2016. <http://www.defense.gov/Portals/1/Documents/pubs/2016%20China%20Military%20Power%20Report.pdf> (accessed May 17, 2018)

Office of the Secretary of Defense 2019: "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019," May 2, 2019. https://media.defense.gov/2019/May/02/2002127082/-1/-1/1/2019_CHINA_MILITARY_POWER_REPORT.pdf (accessed May 18, 2019)

Torode, Greg & Lague, David 2019: "China's Furtive underwater nukes test the Pentagon," May 2, 2019. <https://www.reuters.com/article/us-china-army-nuclear-short/chinas-furtive-underwater-nukes-test-the-pentagon-idUSKCN1S80Z3> (accessed May 18, 2019)

Zhang, Hui ,with updates by Allison Pytlak 2019: Chapter 'China,' "Assuring Destruction Forever: 2019 edition," edited by Allison Pytlak, 2019, Reaching Critical Will. <http://www.reachingcriticalwill.org/images/documents/Publications/modernization/assuring-destruction-forever-2019.pdf> (accessed May 18, 2019)