

# LEARN ABOUT NUCLEAR WEAPONS

## *China*

The size of the Chinese nuclear arsenal is uncertain. The Nuclear Notebook, produced by the Natural Resources Defense Council and published in the well reputed Bulletin of the Atomic Scientist estimated in July 2006 a total of 130 operational nuclear warheads and an additional 70 in the Chinese arsenal – a total of approximately 200 warheads.<sup>1</sup>

The Chinese arsenal consists of approximately 80 land-based missiles with the capacity to carry one nuclear warhead each. The state also has one nuclear submarine equipped with 12 single warhead missiles. A small number of nuclear warheads – approximately 40 – can be launched by bombers.<sup>2</sup>

Earlier estimates talk about some 100 non-strategic nuclear weapons in the Chinese arsenal, but there is no updated evidence that these are part of the operational arsenal. China has deployed up to 650-730 shorter range ballistic missiles targeted at Taiwan – a force estimated to grow by 100 missiles each years. These missiles, however, are all believed to be conventional, not nuclear. The Pentagon sees China's growing conventional force as an attempt to reach strategic capacity without the political and practical problems associated with nuclear missiles.<sup>3</sup>

## *Nuclear weapons upgrades*

China continues to modernize its nuclear forces very slowly, and many unknowns remain. The actual number of warheads appears to have plateaued at about 200 in the 1980s, and has remained at that number since then. The December 2006 White Paper, China's National Defense in 2006, however, says that China "aims at progressively improving its force structure of having both nuclear and conventional missiles, and raising its capabilities in strategic deterrence and conventional strike under conditions of informationization".<sup>4</sup> Today, a large number of China's nuclear warheads are deployed on liquid-fuelled missiles that take days to get ready for use. Ballistic missiles fuelled with solid fuel are more accurate and can be launched more quickly.<sup>5</sup>

### ***Missile upgrades***

A program to upgrade its intercontinental ballistic missile (ICBM), the DF-5, to a DF-5A with increased range and payload, has been ongoing since the 1980s. China may decide to deploy multiple warheads on the currently single-warhead missiles in response to US missile defenses. Reports of a new three-stage, solid-fuelled, mobile ICBM, the DF-31, surfaced nearly two decades ago, but it still has not been deployed. It is expected to replace aging DF-3As and DF4s once deployed. China is also developing a longer-range version of this missile, the DF-31A, but it is unlikely to be deployed before the end of the decade.<sup>6</sup>

### ***Submarine upgrades***

China currently has one Xia-class nuclear-powered ballistic missile submarine (SSBN), which has never conducted a deterrent patrol. China is working on a new Type 094 Jin class SSBN. This new class of SSBN is expected to carry 16 three-stage JL-2s, which is a variant of the D-31 missile, but is not expected to be deployed before 2010.<sup>7</sup>

### ***Bomber upgrades***

China is developing land-attack cruise missiles (the DH-10 and the YJ-63) that could be delivered by its H-6 bomber. China is not thought to have aircraft whose primary purpose is to deliver nuclear weapons.<sup>8</sup>

### ***Nuclear weapons reductions***

The DF-3A missiles are being gradually retired from the Chinese nuclear arsenal. Another missile type, the DF-41 was cancelled and some DF-21 missiles have been converted to non-nuclear missions.<sup>9</sup> Since the 1990s, China has gradually cut back on its nuclear weapons development program. The research and development site in Qinghai was closed. Then it was returned to civilian use in May 1995 after environmental clean-up.<sup>10</sup>

### ***Role of nuclear weapons in national security strategy***

China's intentional ambiguity about national security issues makes detailed reporting difficult. Elements of national security strategy, however, can be discerned from diplomatic statements and governmental white papers.

China focuses its security strategy on three inter-related elements:

- promoting national economic development
- promoting domestic unity
- and maintaining state sovereignty and territorial integrity.<sup>11</sup>

China views its nuclear arsenal – the smallest of the five recognized nuclear weapon states – as an important element of deterrence, although it repeatedly voices support for global elimination of nuclear weapons. Its December 2006 White Paper, *China's National Defense in 2006*, cited deterring nuclear attack or threat of attack as the fundamental goal of its nuclear arsenal. Thus, China "upholds the principles of counterattack in self-defense and limited development of nuclear weapons, and aims at building a lean and effective nuclear force while pledging not to enter into a nuclear arms race with any other country."<sup>12</sup>

China's "no first use" policy is still in place, although there is some debate in China over whether to maintain that position. Annual White Papers from 2003 to 2006 have reiterated China's firm commitment to "no first use". During Secretary of Defense Rumsfeld's October 2005 visit, China's senior leadership also assured him that its policy of "no first use" will not change. Several individuals closely connected to the government, however, have publicly advocated changing the policy.<sup>13</sup>

### *Fissile material*

#### **Military Stocks of Fissile Materials**

Plutonium: 4.1 tons, with 2.1-6.6 ton range of total estimated stock

HEU: 21 tons (+/-5)<sup>14</sup>

#### **Declared Excess**

Plutonium: 0

HEU- 0<sup>15</sup>

**Unseparated Civil Plutonium:** 5.1 tons

**Separated Civil Plutonium:** 0<sup>16</sup>

#### **Civil Highly Enriched Uranium:**

End of 2003: 1 ton

Projected for 2020: 1.5 tons<sup>17</sup>

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- 1 Nuclear Notebook, vol. 62, Nr. 3, s. 60-63: Norris, Robert S, Kristensen, Hans M.
  - 2 Ibid.
  - 3 Ibid.
  - 4 China's White Paper on Defense 2006 <http://www.china.org.cn/english/features/book/194421.htm>
  - 5 Institute of Peace and Conflict Studies  
[http://www.ipcs.org/Nuclear\\_articles2.jsp?action=showView&kValue=2460&issue=1015&status=article&mod=a](http://www.ipcs.org/Nuclear_articles2.jsp?action=showView&kValue=2460&issue=1015&status=article&mod=a)
  - 6 Nuclear Notebook, vol. 62, Nr. 3, s. 60-63: Norris, Robert S, Kristensen, Hans M.
  - 7 Ibid.
  - 8 Reaching Critical Will <http://www.reachingcriticalwill.org/about/pubs/Inventory07/China.html#5>
  - 9 Ibid.
  - 10 Ministry of Foreign Affairs of the People's Republic of China  
<http://www.fmprc.gov.cn/eng/wjb/zzjg/jks/cjck/2622/t93539.htm>
  - 11 Reaching Critical Will <http://www.reachingcriticalwill.org/about/pubs/Inventory07/China.html#5>
  - 12 China's White Paper on Defense 2006 <http://www.china.org.cn/english/features/book/194421.htm>
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[http://www.isis-online.org/global\\_stocks/end2003/military\\_pu.pdf](http://www.isis-online.org/global_stocks/end2003/military_pu.pdf)
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