

## STRATEGIC

# Photograph reveals China's Jin-class SSBN

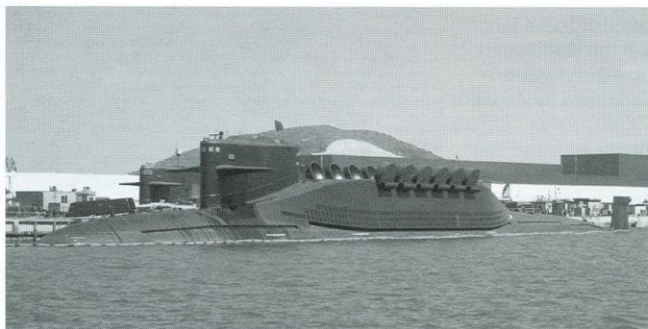
A photograph anonymously posted on the Internet has provided Western analysts with a first close-quarters look at the Chinese People's Liberation Army Navy's (PLAN's) new Type 094 Jin-class nuclear-powered ballistic missile submarine (SSBN), write **Dawei Xia** and **Richard Scott**.

The picture, taken at the Bohai shipyard in Huludao, clearly shows two Jin-class boats alongside. It also reveals that the Type 094 design is equipped with 12 missile tubes aft of the fin — not the 16 originally speculated.

However, it remains unclear whether China has now launched two or three Jin-class SSBNs. The Federation of American Scientists (FAS), which claims credit for identifying the first Jin-class SSBN at Xiaopingdao submarine base from images taken last year by DigitalGlobe's Quickbird commercial satellite, states: "The image of the first SSBN discovered at Xiaopingdao in July 2007 was taken on 17 October 2006. The new image of the two SSBNs at Huludao was taken six-and-a-half months later on 3 May 2007.

"One possibility," states the FAS, "is that the Xiaopingdao SSBN returned to Huludao for repair or further adjustment and was captured on the 2007 photo together with the second SSBN. Another possibility is that the two Huludao SSBNs are indeed the second and third boats of the new Jin-class SSBN."

Western intelligence agencies are understood to have concluded that the most recent photograph shows the only two Jin-class boats currently in the water. However, they assess that additional Type 094 boats are in build at the Bohai yard.



> This Internet photograph shows two Jin-class SSBNs. The one nearest to the camera has its missile tubes open.

Chinese Internet: 1169381

The Jin-class is the PLAN's second generation of SSBN, following on from the single Type 092 Xia-class SSBN commissioned in 1987. The latter, equipped with 12 JL-1 (CSS-N-3) ballistic missiles, has a poor service history and is reported to be excessively noisy.

The successor Type 094 SSBN was described by the US Office of Naval Intelligence (ONI) in its 1997 World Submarine Challenges report: an unclassified intelligence dossier that outlined the PLAN's future submarine aspirations. In its assessment the ONI stated: "The Type 094 will be the largest submarine ever constructed in China. It is expected to be a dramatic improvement over the sole Xia-class SSBN, with improved quieting and sensor systems and a more reliable propulsion system.

"Furthermore, the Type 094 will likely carry 16 newly designed missiles, which will provide a marked increase in both number and capability over the 12 missiles carried on the Xia SSBN."

However, photographs now reveal the Type 094 submarine is only equipped with 12 missile tubes. Furthermore, although the Type 094 has been built to deploy with the new JL-2 (CSS-NX-4) submarine-launched ballistic missile (a derivative of the land-based DF-31 solid-fuel intercontinental ballistic missile), *Jane's* sources suggest that the JL-2 remains in development. The programme is reported to have been delayed following an unsuccessful test in mid-2004.

Its missile compartment excepted, the Type 094 is seen to exhibit many similarities with the new Type 093 Shang-class nuclear-powered attack submarine, indicating that they are both derived from a common design baseline.

The ONI currently estimates that China is planning to build a total of five Type 094 Jin-class SSBNs. This is most likely based on presumptions of the force level required to assure the availability of at least one boat at all times to maintain a credible at-sea deterrent posture.

## SURFACE-TO-AIR

## Upgraded S-125-2T conducts successful live firings

Kazakhstan armed forces missile crews have conducted successful live firings with the newly upgraded S-125-2T (SA-3 'Goa') surface-to-air missile system, writes **Miroslav Gyürösi**.

Several demonstrated performance beyond the system's official capabilities.

The trials were carried out at Kazakhstan's Sary Shagan proving ground between 22-27 September under terms of the upgrade contract between Kazakhstan and the Belarus company Tetraedr. Conducted under plans authorised by the Commander of the Air Defence Forces of the Republic of the Kazakhstan Major General Aleksandr Nikolayevich Sorokin, these firings form part of the final phase of the handover of upgraded hardware to the customer.

Four missiles were launched during the exercise using 5V27D missiles against a PM-6

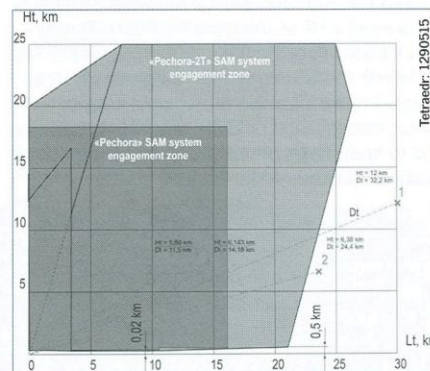


Tetraedr: 1290516

> A Balaban target falls from the sky after being engaged by the S-125-2T system (left). > Two of the four targets destroyed during the Sary Shagan firings were flying outside the performance envelope of the upgraded system (right).

parachute target, MR-9 target rocket and the Balaban target missile. Balaban is based on the 5Ya23/V-759 missile used in S-75M3 (SA-2 'Guideline') systems.

Two targets were destroyed outside of the official performance envelope. In one instance, the target was engaged at a range of 32.2 km while flying at an altitude



of 40,000 ft. Total flight time of the missile was 49.3 sec, close to the time at which the round would have self-destructed.