

Bernard D. Cole, Ph.D., Captain USN (Ret.) - Hearing on
China's Naval Modernization and U.S. Naval
Susceptibilities, November 4, 2005

Thank you, I am honored to be
testifying before this Committee. I must start
by noting that my remarks today and the printed
material I have provided to the Committee Staff
represent only my own views and may not
represent those of the National Defense
University or any other agency of the U.S.
Government.

I must also note that after more than
10 years studying and visiting the Chinese Navy
I am certain of only one thing: that I still
have a great deal to learn about that growing,
modernizing naval force.

The ongoing modernization in the
People's Liberation Army Navy (or PLAN) is
benefiting directly from the increased
financial resources available to China's
military as the result of that nation's
remarkable economic growth. The PLAN is
utilizing those resources in several areas,

which I will address briefly today, preparatory to responding to your questions. For purposes of clarity, I will address three categories of PLAN modernization, and suggest some areas of concern they might raise for the U.S. Navy.

These are first, the hardware acquisition we are reading so much about, the ships, submarines, aircraft, and missiles being acquired by the PLAN. Second are the "software" improvements that have been occurring in the Chinese Navy during the past decade or more, including personnel accession policies, and education and training changes. Third are the changes we have observed in PLAN operational paradigms.

The modernizing PLAN is concerned primarily with a Taiwan scenario, with a focus on resolving that situation by deterring, delaying or, if necessary, defeating U.S. intervention.

China does not want a war with the United States, but it is determined to prevent Taiwan from becoming formally independent, even if that means fighting U.S. forces. The 1996

Taiwan Strait crisis, when aggressive Chinese military moves against Taiwan were halted by the dispatch of two American aircraft carrier battle groups to the area, probably convinced Beijing that the United States would enter any conflict initiated by China with Taiwan. The 1996 crisis may also have very likely spurred Beijing to accelerate and expand a naval modernization program.

Hardware

China is increasing the number and capability of its surface ships, including destroyers, frigates, and amphibious ships. Very significantly, Beijing is at the same time buying new platforms from Russia and building them indigenously; nothing more clearly denotes the increased resources being made available for modernizing the PLAN.

Destroyers:

-*Sovremenny* class: two purchased from Russia and operating in the Chinese fleet; two more being built in Russia, with 2006 delivery. These ships are designed for attacking aircraft

carriers and are equipped with the very formidable SS-N-22 anti-ship cruise missile.

-*Luhu* and *Luhai* class: these three ships were built by China as their entry into the modern, seaborne guided missile arena. The ships are armed with older but still dangerous cruise missiles.

-Three new classes are also being constructed and deployed.

--The *Type-51C* destroyer is basically an improved *Luhai*; like that and earlier ships (including the *Sovremennys*) it lacks an air defense system capable of much more than short-range self-defense.

-The *Type-52B* and *-52C* destroyers have more capable air defense systems; the *Type-52C*, in fact, appears armed with an Aegis-like area-defense system that will, for the first time, enable Chinese naval task forces to operate in the sort of dense air attack environment which would likely be employed by U.S. Naval forces.

-*Maanshan* frigates are another new class of surface combatant being built by China; it has a less adequate air defense system than the PLAN

destroyers, but like them is equipped with very capable anti-ship cruise missiles. These ships will almost certainly also be armed with the long-range land attack cruise missiles that have been developed by China.

Submarines:

- Kilo class: four of these Russian-built diesel electric submarines are currently operated by the PLAN; eight more have been ordered, the first two of which will join the Chinese fleet in 2006. These are among the world's most capable conventionally powered submarines and are armed with one of the world's best anti-ship cruise missile, the long-range, supersonic, SS-N-27B-Sizzler, which is launched while the submarine is submerged.
- Song class: probably 12-15 of these boats are being built in China, with 3-4 of them already operating with the fleet.
- Yuan class: the first of this new class of submarine was unveiled in August of last year, and apparently is a Chinese version of the Kilo.
- Han class: China built five of these nuclear-powered attack submarines, but they have not

been completely successful, due to engineering problems and generated noise. Perhaps three of them have been armed with anti-ship cruise missiles launched while the submarine is submerged, however, and the *Hans* cannot be ignored just because they are "noisy."

This class is being followed by the *Shang* (Type-093) class nuclear-powered submarine; China has launched two of these boats and more are apparently under construction, almost certainly with significant Russian assistance.

-Fleet Ballistic Missile submarines: China's single *Xia*-class has not been a success, operationally, but certainly served as a sort of "school" for PLAN designers and engineers. They are currently building a new class of FBM, the *Type-094*; two of these reportedly have been launched, but the number planned for construction is unclear. This new FBM will be armed with the JL-2 ICBM, able to range most of the United States.

-China's fleet also numbers dozens of old, Russian-designed *Romeo*-class boats, and 17 *Ming*-class, which are a Chinese version of the *Romeo*.

These conventionally-powered submarines are much less capable than the *Kilo-* or *Song-*class, but would still be useful in a deterrence scenario involving Taiwan and the U.S. Navy.

Aircraft

-*Su 27/Su 30s*: the PLAN has been acquiring these modern, Russian-designed fighters and attack airplanes roughly akin to U.S. F-15s; the Su-30s, with the Chinese-built FB-7 and B-6 aircraft can be armed with anti-ship cruise missiles that effectively push China's line of defense against surface combatants hundreds of miles out to sea.

-Helicopters: China's new destroyers and frigates are able to operate helos (both those purchased from Russia, and those built in China) with various missions, including anti-submarine warfare and electronic warfare, but their most potent role is probably their ability to serve as surveillance and targeting assets necessary for their host ships to fire anti-ship cruise missile as over-the-horizon targets.

Amphibious Ships

-China has in the past five years built approximately two dozen new, large amphibious assault ships. This growing force is intended for only two possible missions: enforcing sovereignty claims in the South China Sea and, more immediately, to increase the viability of a Chinese amphibious assault on Taiwan.

Missiles

I have mentioned the potent anti-ship cruise missiles with which the PLAN is arming its new ships, submarines, and aircraft. Potentially even more threatening than these weapons, however, would be ballistic missiles able to be targeted in the final phases of their flights. If China develops this targeting ability, it would place in the PLA's armory a revolutionary new weapon to be employed against aircraft carriers and other ship formations.

Software

During the past fifteen years, the PLAN has benefited from China's programs to reorganize and increase the professional ability of its personnel. From officer accession to the

education and training of ship's crews, the PLAN today is being operated by a new generation of sailors and airmen. They have yet to perform in combat, of course, but I think that the attention paid to its personnel will prove to be the Chinese Navy's most important valuable progress as we enter the 21st century.

Operations

During the past five years, the PLAN branches—surface, air, sub-surface—have in the exercises reported in the open press demonstrated impressive progress in their ability to train jointly, in poor weather, and in the face of what they consider to be U.S.-level threats at sea. Overall, the major exercises have consistently assumed a Taiwan scenario.

U.S. Susceptibilities

-Anti-submarine warfare (ASW) remains, in my view, the most difficult naval mission to carry out effectively. Our submarines today are certainly more capable, one-for-one, than were

their predecessors of thirty years ago.

Unfortunately, there are only about half as many of them today, and no matter how capable, one submarine can only be in one place at one time. The same holds true for our modern ASW surface ships and aircraft. Following the end of the Cold War, the U.S. Navy quite understandably reduced the numbers and resources accorded to the ASW mission. It has started correcting that situation, but I fear we have a long way to go to be able to counter the modernizing, increasing Chinese submarine force, should that situation eventuate.

-Cruise missiles. These weapons have been a serious problem for surface ships since the Egyptian Navy sank an Israeli destroyer in 1968 with Soviet-supplied cruise missiles. The modern variants remain a very serious threat, given their speed, designed erratic maneuvering, flight profiles, multiple seekers, and powerful warheads.

-Layered defense. I expect that China would prepare for armed action against Taiwan by deploying submarines in separate "belts" at

various distances from their coast. The idea would be to delay U.S. naval forces and to be in a position to make coordinated, repeated attacks with long-range cruise missiles. Shore-based aircraft would also utilize cruise missile attacks as a task force neared the mainland. And of course, should China develop ballistic missiles with maneuvering warheads, it would further and significantly complicated the tactical situation for opposing naval forces.

The biggest challenge faced by U.S. naval forces in a Taiwan scenario, then, would be one of inadequate numbers, especially in light of out-of-area commitments, submarines, and missiles.

I think that the PLAN today is capable of succeeding against Taiwan, but would not be successful in the face of significant U.S. naval and air intervention, because the inexperienced Chinese military would not be able to cope with U.S. capabilities, professional expertise and experience.

This expectation of PLAN shortcomings may not be determinant, however, since China would not be aiming to defeat U.S. forces, as such, but to hold us off long enough to force Taiwan to concede.