Focus Area: Conventional Submarines – Not Right for the U.S. Navy

Key Messages

- U.S. power projection and mission needs are key drivers that make SSN procurement a more cost effective strategy than either a mixed force or a complete diesel-powered submarine (SSK) force.
- U.S. submarine safety and survivability standards are stringent and unique. History shows they are necessary to ensure the safety of our crews. These requirements prevent the U.S. from buying foreign SSKs, and would add significantly to the cost of building an indigenous SSK.

Facts & Figures

- SSKs range in size from the 1,500 ton Swedish Gotland-class to the 3,350 ton Austrailian Collins-class. Some nations build smaller SSKs such as the 130 ton North Korean Yono-class of midget submarines.
- Maximum sustained transit speed for SSKs is about 10kts and requires the SSK to be snorkeling.
- It takes 2.2 to 6 SSK's to provide the effectiveness of 1 SSN.

Myth #1: SSKs more appropriate for littoral water operations

- Littoral waters are not always shallow. In a hypothetical China scenario their submarines would engage in anti-surface ship warfare (ASUW) against U.S. forces, with most operations occurring east of Taiwan out to several hundred miles from the Chinese mainland. Over 80% of the water is greater than 200 fathoms with only a fraction under 100 fathoms.
- The difference in SSK versus SSN height is 15 feet or less. The added risk to an SSN operating closer to the bottom or surface than a SSK is slight, and mitigated by the SSN's submerged endurance and speed advantage.
- Undersea warfare missions in waters too shallow for SSN operations would also challenge an SSK. Some missions in very shallow water may be accomplished more effectively with unmanned undersea vehicles or deployable sensors.

Myth #2: Cost to procure SSK is 20-30% of a SSN

- Claims that the U.S. could buy modern Air-Independent Propulsion (AIP) SSKs for under $500 million do not account for the cost of combat and weapon systems nor do those ships meet U.S. submarine safety standards.
- The estimated cost to build 12 new AIP equipped SSKs for Australia is $36B dollars ($3B each – includes cost to design).
- At least one government study estimated it would cost $1.5B (FY05$) for the U.S. to build a state-of-the-art AIP-SSK with improved Los Angeles-class (688I) like combat systems and U.S. safety and survivability standards.
- SSK equivalent fleet with equal on-station capability as SSN has life cycle cost 1.3 - 3.5 times an SSN fleet.

Myth #3: Need SSKs to provide U.S. forces with more realistic Anti-Submarine Warfare (ASW) training

- The Diesel-Electric Submarine Initiative (DESI) offers a unique partnership with South American navies that enhance the ability of the U.S. Fleet's to counter the growing diesel-electric submarine threat.
- The Unitied States Navy routinely exercises with NATO and other allied navies that operate the latest advanced, AIP equipped SSKs

Myth #4: AIP allows SSKs to transit faster and significantly reduces historical snorkeling vulnerability

- AIP does allow a SSK to remain submerged for up to a couple of weeks. However, the system can't be refueled on station. Once used, the SSK must return to port to reload fuel or oxidizers.
- AIP energy output only allows the SSK to operate at slow speeds (2-4kts). It does nothing to increase the surfaced or submerged speed of a SSK.

Myth #5: Forward-basing SSKs eliminates long transits

- Even when forward based, SSKs must spend a significant portion of their patrols transiting to and from station, as well as transiting inside the theater during a patrol due to changing mission needs.
- In addition, forward-based submarines would be more vulnerable to preemption at the start of a conflict. Forward deploying a large percentage of its forces would be contrary to America's best interests.
- Forward bases such as Guam have limited infrastructure. Increasing the number of forward-based ships will incur significant construction costs.
- Forward deployment does not eliminate the inability of SSKs to sustain high speed underwater transits to take advantage of a rapidly tactical environment.