



**S. RAJARATNAM SCHOOL  
OF INTERNATIONAL STUDIES**  
A Graduate School of Nanyang Technological University

# RSIS COMMENTARIES

RSIS Commentaries are intended to provide timely and, where appropriate, policy relevant background and analysis of contemporary developments. The views of the authors are their own and do not represent the official position of the S.Rajaratnam School of International Studies, NTU. These commentaries may be reproduced electronically or in print with prior permission from RSIS. Due recognition must be given to the author or authors and RSIS. Please email: [RSISPublication@ntu.edu.sg](mailto:RSISPublication@ntu.edu.sg) or call (+65) 6790 6982 to speak to the Editor RSIS Commentaries, Yang Razali Kassim.

No. 074/2013 dated 24 April 2013

## **Freedom Arrives: What Next for the LCS?**

By Euan Graham

### **Synopsis**

*As the first-built Littoral Combat Ship, and the first to be deployed from Singapore, the USS Freedom carries high expectations for the US Navy and the US “re-balance” to Asia. How will this capability be received regionally, and what are the implications for maritime security?*

### **Commentary**

THE US Ambassador to Singapore described the arrival of the Littoral Combat Ship USS Freedom (LCS-1), to Changi Naval Base on 18 April as opening a new chapter in the “US-Singapore partnership promoting peace and prosperity in Southeast Asia”. What constraints and opportunities lie ahead for the LCS deployment to the region?

The basic LCS concept, conceived in 2001, calls for a single platform capable of consolidating missions performed separately by the US Navy’s legacy fleet of patrol craft, mine warfare ships, and frigates. A further requirement was set for a high-speed, shallow draft warship suited to “littoral” regions like Southeast Asia. Modularity is the main innovation, as each LCS can be configured to mission-specific modules for surface warfare, minesweeping and anti-submarine warfare, which can be switched quickly to meet tactical requirements.

In Southeast Asia, up to four vessels will “rotationally deploy” from Singapore, while in the Gulf a flotilla of eight LCS will eventually operate from Bahrain. The US Navy remains committed to acquiring up to 52 LCS, though the final number could be significantly fewer depending on performance and budget with the possibility of a “down-select” of one of the two current LCS variants.

Freedom’s initial deployment to Southeast Asia is set for eight months, but future deployments could be extended beyond that, with crews rotated at four monthly intervals. The Freedom’s total crew was recently expanded to 91 to accommodate extra mission specialists though not all of these will be simultaneously embarked. This still represents less than half the personnel required to operate a Perry-class frigate.

### **Teething issues**

Compounding the inevitable teething difficulties that attend the introduction of any new class of warship, two rival and radically different LCS “seaframe” designs - a monohull (LCS-1, 3, 5 etc) and a trimaran (LCS-2, 4, 6

etc) - were put into advance production. Pursuing parallel designs with limited commonality has also meant limited economies of scale, raising initial unit costs sharply, although the Navy negotiated fixed block buys reducing the cost of follow-on ships to below US\$500 million.

Questions remain about how interchangeable “plug-and-fight” mission modules will be across the two LCS variants. Swapping modules on the same hull currently requires up to 96 hours. This could limit the tactical agility of the LCS where small numbers of ships are deployed, although the modular concept will still act as a force multiplier overall.

Standardisation of crew and training is also complicated by the existence of divergent LCS variants. This is relevant since the concept was sold partly on its slim-sized crew, as an economising measure. Under its “3-2-1” concept, the US Navy plans to maintain three LCS crews for every two vessels, enabling one LCS to be continuously on station – better than the normal 3:1 ratio for naval vessels.

Critics have also targeted survivability issues because the LCS was built to a lower standard than the Perry-class frigates which it is partly replacing. Limited organic protection against cruise missile threats and the short range of its main surface warfare missile have been singled out. In fact, the LCS was designed to fill a perceived post-Cold War capability gap in shallow water, not sea control. While China’s naval modernisation has since refocused the US Navy’s attention on sea control missions, the LCS’ defenders argue that the ships are not designed for autonomous war-fighting and could perform “combat” roles alongside fleet elements better equipped for force protection.

Other LCS missions have been proposed, such as naval diplomacy; intelligence, surveillance, and reconnaissance (ISR) operations; maritime security and intercept operations (including anti-piracy and anti-trafficking) and supporting special forces. That Humanitarian and Disaster Relief (HADR) has not been mooted as a mission for the LCS in Southeast Asia is noteworthy, given the rising interest in naval HADR since the 2004 Indian Ocean tsunami. The main constraint is the LCS’ limited capacity to carry emergency stores or evacuees. However, its high speed, helicopter and command and control functions could still give it a “first responder” role.

### **Regional relevance**

In size terms, displacing 3,300 tons, the LCS is roughly on a par with corvettes, offshore patrol vessels and small frigates that are predominantly operated by Southeast Asian navies. This and the LCS’s ability to access shallow draft ports will further increase the functional scope of exercises and the range of potential partners under Cooperation Afloat Readiness and Training (CARAT), Southeast Asia Cooperation and Training (SEACAT) or other frameworks. With some observers estimating that the LCS will be deployed outside of Singapore for up to 95 per cent of its time, naval diplomacy and partnership-building are likely to be major objectives.

To “prove its worth” to programme critics the LCS may be tasked to find other operational niches in Southeast Asia that “fit” its capabilities and demonstrate broader value for the US re-balance. In the Philippines, where a US naval presence is being actively courted in reaction to Chinese assertiveness in the South China Sea, the LCS will be welcome. Closer to Singapore, the going may be harder – depending on the mission.

Freedom’s much vaunted “sprint” speed, in excess of 40 knots, will give the LCS a tactical edge in maritime intercept operations, including counter-piracy. International law permits States to respond to piracy attacks outside territorial waters, but in the Malacca Straits this is politically problematic as Singapore’s neighbours view security in the Straits as an exclusive littoral state responsibility. The prospect of LCS involvement in “kinetic” counter-piracy operations - apart from indirect cooperation through ISR operations -- is probably still too sensitive, and arguably superfluous since most regional maritime crime now occurs within territorial waters.

Vessel interceptions even on the high seas remain politically and legally problematic. Hence the US has been reluctant to board suspect vessels underway, though the positioning of the LCS in Singapore will improve its capabilities for this mission should the need arise.

Others were initially more concerned that the LCS deployment would upset China. That said, given the long lead time since the deployment was announced, neighbouring states have already “priced in” the LCS’ arrival as an extension of the US-Singapore security partnership, while local elites tacitly support the forward US presence in the Western Pacific. China, though naturally cautious about any enhancement of US capabilities around the South China Sea, appears to understand that the LCS is not a game-changer in the regional naval balance.

In the course of its various deployments from Singapore, whatever the mission, the LCS is bound to spend

much of its time operating in and transiting the South China Sea, in the process fulfilling the most irreducible quality of naval capability - presence.

*Euan Graham is Senior Fellow with the Maritime Security Programme of the Institute of Defence and Strategic Studies, a component of the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University.*