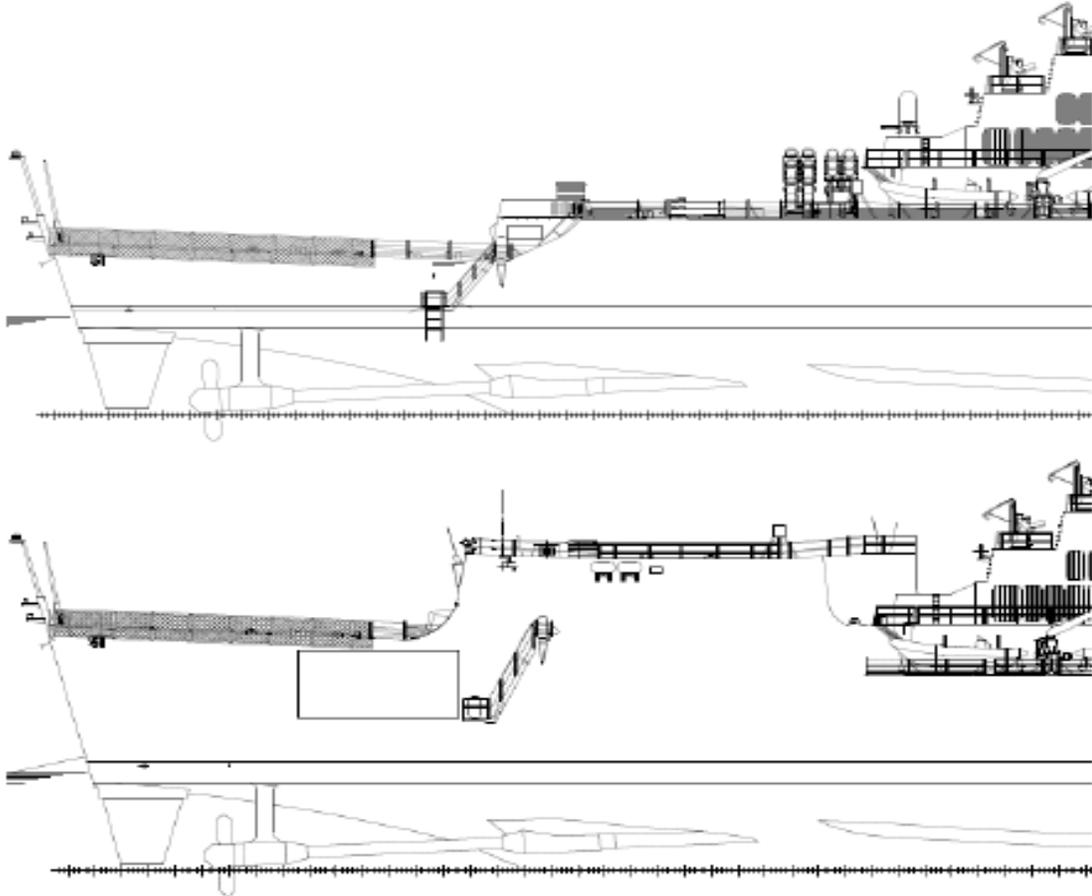


DDG-51 to LCS Mission Module Carrier (Conversion)

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The Littoral Combat Ship (LCS) was envisioned to be a platform that would greatly enhance the war fighting capabilities of the US Navy. However, cost over-runs as well as significant construction delays resulted in the cancellation of ships 3 and 4. The Navy currently lacks the capability expected of LCS. Therefore, in the absence of building additional LCS type ships, this conversion project presents a conversion design in which the Flight I Arleigh Burke Class Destroyer would be able to carry the mission modules designed for the LCS and subsequently perform the missions intended for LCS. The Flight I DDG is an ideal candidate for this conversion, as most of the hulls are nearing mid life major overhaul.

The design requires the removal of the Aft VLS system, the 2 Quad Harpoon Missile Canisters and related systems, and the aft CIWS. This conversion also required the removal of the TACTAS room and the ship's laundry room. The

laundry room was subsequently relocated to the space vacated by the Aft VLS. Two berthing rooms were also added into the space vacated by the aft VLS in order to provide sufficient berthing space for additional Mission Package support personnel. This conversion required the addition of a hangar onto the existing ship's superstructure as well as the addition of a large mission bay. The mission bay is a vertical extension of the aft boundaries of the ship, raising the flight deck by 16 feet.

The design project resulted in a ship capable of housing all seventeen possible LCS mission modules currently existing for the ASW, SUW, and MIW mission packages. Furthermore, there was no significant effect on the draft, displacement, list, or trim of the baseline ship. The converted ship will have the ability to execute missions that are currently intended for the LCS, as well as have the modularity to adapt to future mission packages while maintaining the seakeeping and stability characteristics of the original ship.

		DDG (Flt 1) Class Avg	Conversion Design			Max Difference
			MIW	ASW	SUW	
Disp	(LT)	8956	8961	8963	8921	0.39%
KG	(ft)	25.17	25.57	25.55	25.47	-1.59%
GM	(ft)	4.65	4.25	4.27	4.36	8.60%
LCG	(ft-FP)	234.24	235.58	235.76	235.05	-0.33%
Avg Draft	(ft)	21.35	21.32	21.32	21.28	0.33%
Trim	(ft)	0.4 (A)	0.26 (A)	0.35 (A)	0.05 (A)	0.35 ft (4.2 in)
Heel	(°)	0	0.50 (P)	0.70 (P)	0.97 (P)	0.97°

The cost analysis, based on the MIT cost model, estimates a total conversion cost of \$58.37M (FY2008\$).