

# **SMALL UNIT RIVERINE CRAFT (SURC): ADDING CAPABILITIES IN THE LITTORALS**

**By CDR Paul G. Gregory, USNR (Ret.)**



Originally envisioned as a replacement for the Rigid Raiding Craft (RRC) for use as a riverine platform, testing of the Small Unit Riverine Craft (SURC) has exceeded operational expectations to make it a viable littoral/riverine craft. This article provides the background on the SURC program with a look towards its future employment. The drawing reflects changes identified during operational testing that are being incorporated in the SURC design to improve human factors.

## **THE REQUIREMENT**

In 2001, the Marine Requirements Oversight Council (MROC) approved and the Assistant Commandant of the Marine Corps (ACMC) signed the SURC Operational Requirements Document (ORD). An excerpt is: “To support Operational Maneuver From the Sea (OMFTS), Sustained Operations Ashore (SOA), and Military Operations Other Than War (MOOTW), the SURC will provide Marine Forces with a small craft designed to provide the tactical waterborne lift for the conduct of conventional Military Operations in a Riverine Environment (MORE). The primary function of the SURC is to provide tactical mobility and a weapons platform for the Ground Combat Element (GCE) of a Marine Air Ground Task Force (MAGTF) in a riverine environment.”

In 2002, the Joint Warfighting Capabilities Assessment report that was prepared for the Joint Requirements Oversight Council (JROC) stated in part,

- “Real mission capability to conduct effective joint riverine operations is suspect.
- Threat assessments that indicate probable employment of U.S. forces within the JV2020 construct to address inevitable threats in riverine environments in many parts of the globe, argue for a strong decision to reverse this trend.
- Real mission capability will only be achieved after instituting effective joint training initiatives to conduct operations in a riverine environment.
- Riverine operations have been a part of past military operations and will continue to effect future military operations.
- The U.S. Armed Forces need to revive their riverine operations capability in order to successfully address future threats.”

## **THE FUTURE**

As seen in the following excerpt, future conflicts for the Navy-Marine Corps team will likely be in the littoral/riverine environment.

“Future conflicts will continue to emerge in the littorals, areas characterized by well-populated coasts containing urban centers and the intersection of trade routes where land and sea meet. Cities traditionally have been built where rivers meet the ocean or upstream at the first major rapids. While representing a relatively small portion of the world's surface, littorals provide homes to over three-quarters of the world's population, locations for over 80 percent of the world's capital cities, and nearly all the market places for international trade. A map reconnaissance shows that much of what we classify as littoral would also qualify as a riverine environment. Because of this, the littoral riverine environment is where many of the world's conflicts are likely to occur.”<sup>1</sup>

## **THE SURC PROGRAM**

The SURC was approved for full rate production in August 2003 by the Commanding General, Marine Corps Systems Command. There will be forty (40) SURC fielded. They will be single-sited at Camp Lejeune with Small Craft Company, Headquarters Battalion, 2<sup>nd</sup> Marine Division, but are available for use worldwide as a “reachback” capability. The SURC is a thirty-eight foot aluminum hulled boat with a patented, high-strength, solid cell polyethylene foam collar that provides stability, redundant buoyancy, and small-arms ballistic protection. The collar is not subject to puncture or deflation and is easily repaired. The prime contractor for the SURC is Raytheon in Poulsbo, WA. The boat manufacturer is Safe Boats International in Port Orchard, WA and the trailer manufacturer is Boat Master Trailers.

SURC characteristics:

- Maintains a cruise speed of 30 knots and a sprint speed of 35 knots at full load.
- Incorporates ballistic protection and signature reduction technologies.
- Beaches on unobstructed shorelines with mud, sand, silt, and gravel surfaces.
- Remains afloat as a survival platform when filled with water.
- Has a draft of 24 inches when operationally loaded in a stationary position.
- Operates in a water depth of 24 inches under the hull.
- Combat range of 200 nm.
- Fully Operational in Sea State 3.
- Transports 16 combat loaded Marines plus 2 crewmembers or 4500+ lbs of equipment.
- Employs full-length aluminum beaching plates.
- Has an organic heavy machinegun installed with two additional mounts to integrate medium or heavy machineguns.

The primary mission of the SURC is to provide tactical mobility and a limited weapons platform for the GCE of a MAGTF in littoral and riverine environments. The SURC provides significant tactical capabilities in a water-dominated environment. When fully fielded in 2005, it will be capable

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<sup>1</sup> MCCDC Concept Paper, “*Military Operations in the Riverine Environment*”, 1 Jun 98

of lifting the assault echelon of an Infantry Battalion and providing a sustaining presence in a riverine/littoral area of operation.

The secondary missions of the SURC include logistics/resupply, waterborne security operations, command and control, reconnaissance, medevac, counter-drug operations, humanitarian assistance, peacekeeping and noncombatant evacuation operations. The craft has twin inboard diesel engines with a marine transmission and waterjet propulsion systems. It incorporates a Global Positioning System capability, has a depth sounder and surface radar, an intercom system and integrates current and future Combat Net Radio Systems. The craft has three weapons mounts that are interoperable with current and future universal weapon mounts and pintle adapters for tactical vehicles.

The SURC provides tactical mobility to the assault echelons of an infantry battalion conducting conventional operations in a littoral/riverine environment. This includes the capability to conduct a simultaneous tactical lift of approximately 520 Marines, although the preponderance of the operations will be conducted at the company and platoon level. During employment, the SURC will be supported with fire support and generally escorted by the Riverine Assault Craft (RAC) during the conduct of riverine/littoral operations. The SURC will be employed to transport Marines to seize inland objectives in areas dominated by water. These forces will control the waterways and objectives adjacent to these waterways by conducting offensive operations and establishing mobile checkpoints, blocking positions, and strong points.

The RAC will soon reach the end of its service life. Its replacement will be the SURC-Escort (E). The SURC-E will have an identical hull and propulsion system to the SURC, but will incorporate greater firepower and communications abilities. The intent of this acquisition is to reduce the total ownership costs of the boat community by consolidating the boats into a base configuration that decreases the time required for training and maintenance. Twenty SURC-Es will be fielded.

As a reachback asset available to MEF Commanders, transportability is a major concern. Developmental testing conducted by the Marine Corps Systems Command with the Naval Surface Warfare Center Carderock, Norfolk Detachment, Combatant Craft Department and BAE SYSTEMS has shown that the SURC design can be carried internally with strategic aircraft (C-130, C-17, C-141 and C-5) and externally with the CH-53E.



C-130 Loading



CH-53E Airlift

The SURC can also be transported to the theater of operation by sealift. It is compatible with amphibious shipping, Roll-On/Roll-Off (RO/RO) shipping, and can be craned on and off sealift ships. The High Speed Vessel (HSV) is a sealift platform that could be used to get the SURC to the theater of operation quickly. The SURC demonstrated the capability to be launched and recovered from a Landing Craft, Air Cushioned (LCAC) and a Landing Craft, Utility (LCU).



LCAC Launch

### **SUMMARY**

The SURC is adding significant capabilities to the Navy-Marine Corps team in littoral/riverine warfare. It radically improves the ability to transport and sustain forces in a littoral/riverine environment by several orders of magnitude over the current capability with the RRC. The SURC will provide outstanding service well into the 21<sup>st</sup> century. Although it is single-sited at Camp Lejeune, the SURC is truly capable of being a worldwide reachback asset to the Navy-Marine Corps team. It is critical to the success of future Navy-Marine Corps littoral/riverine operations for commanders to understand and employ the capabilities of the SURC and SURC-E.