

ALPHA ZULU RoPAC

Search and Rescue & Disaster Relief Capability

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“A vessel that can reach anywhere is also a vessel a region can depend on when it matters most.”

1. The regional need

The Caribbean’s emergency response challenge is structural. The region is an archipelago exposed to hurricanes, volcanic events and flooding; its islands depend on ports, airstrips and fuel supplies that are precisely the infrastructure most likely to be damaged when disaster strikes. Relief typically waits on vessels and aircraft mobilised from outside the affected area, arriving after the critical first hours and dependent on fuel and intact port facilities on arrival.

A scheduled inter-island packet fleet changes this calculus. Vessels that serve the islands every week already hold the route knowledge, port relationships, communications links and operating rhythm that emergency response requires — and a fossil-fuel-free vessel needs neither bunkers nor shore power to keep operating when both have failed. Disaster capability is therefore designed into the Alpha Zulu class as a resilient extension of normal commercial service, not as a standby asset activated only after an emergency.

2. Built in from first drafting

- Shallow draft and beach landing capability — evacuation and supply delivery from remote shores where no working port exists.
- Up to 100 evacuees in emergency configuration, including 64 in modular stretcher berths, with the vessel’s insulated compartments available for medical supplies and temperature-sensitive relief cargo.
- Night and low-visibility search: thermal imaging, X-band radar processing and sonar, with machine-vision assistance for detecting persons and small craft in the water.
- Force multiplication: integration with aerial drones and autonomous underwater vehicles for wide-area search and damage assessment.
- A floating communications hub: dual satellite links relaying live situational data to responders and authorities when island infrastructure is down.
- Renewable self-sufficiency: wind primary propulsion, solar generation and large energy storage sustain extended operations independent of shore fuel or power.
- Hazard tolerance: able to operate where rough seas would endanger human rescuers — and, as the IMO MASS autonomy pathway matures, to enter uncrewed the zones no rescuer should: hurricane aftermath, volcanic exclusion zones, biohazard and radiological contamination areas. The vessel searches, relays and delivers; humans supervise from beyond the danger.
- Extended endurance: a green fuel payload sized for up to 200 hours of sustained auxiliary and hotel operations, independent of shore supply — with green hydrogen systems to follow when cost-effective.

3. A working ship, not a waiting ship

International experience shows that dedicated emergency vessels decay between emergencies: crews rotate away, systems age unexercised, budgets erode. The packet-service model inverts this. Every Alpha Zulu earns its keep in weekly commercial service, meaning its machinery is proven, its crew is current, its route library is live and its relationships at every port of call are active on the day they are needed.

Schooner RUTH has already demonstrated the model in practice, carrying hurricane relief alongside her regular produce trade.

The network design adds depth: six complementary routes mean multiple vessels within a day's sail of any point in the Southeastern Caribbean, and the Barbados hub provides a staging point with the fleet's support infrastructure behind it.

4. Operating principles

- Alpha Zulu vessels work alongside — never instead of — regional SAR authorities, coast guards and civil protection agencies, under the coordination frameworks of the Eastern Caribbean Search and Rescue Regions.
- SOLAS Chapter V obligations are designed in: every vessel underway is a SAR asset, and the class's autonomy pathway explicitly preserves this — remote-supervision operations are sequenced only with regional SAR coordination in place.
- A human crew always in the loop — always — with unconditional override; search sensors and AI assist judgement, they do not replace it.
- Relief operations produce the same verified operational record as commercial voyages, supporting transparent post-event review and climate-resilience reporting.

Bottom line

The Alpha Zulu class treats search and rescue as a native capability of scheduled maritime infrastructure. The same shallow draft, cold chain, sensing suite, renewable energy independence and weekly presence that make the packet service commercially reliable make it the region's most available emergency asset — already at sea, already crewed, already known in every port, on the day the weather turns.

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