



CASE STUDY

New AtoN Solution Enhances Maritime Safety

Anguilla (British Overseas Territory), Eastern Caribbean Sea



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Project Overview



Application

Increase Navigation Safety at Main Ports



Product

- 1500mm Buoys (SL-B1500)
- 2-3NM Solar LED Marine Lanterns (SL-60) in Red and Green with GPS Synchronization



Location

Anguilla (British Overseas Territory),
West Indies in the Caribbean Sea



Date

2020



Lightweight Sealite Buoys are easy to deploy and retrieve.



The SL-60 Solar LED Marine Lantern has a range of 2-3NM, a service life of 12+ years, and optional GPS sync.

Background

Anguilla, the most northerly of the Leeward islands, is a tourist destination located in the Eastern Caribbean. The flat, sandy island is only 35 square miles, and 3.5 mi (5 km) at its widest point. It is renowned for its majestic beaches, crystal-blue water, and tropical weather. Anguilla's highest point is only 210 ft. (64 m) above sea level. Anguilla's population is approximately 15,000 inhabitants. The main island is surrounded by several small, uninhabited islets.

North Atlantic hurricane season occurs annually in the Caribbean from June to November, delivering the possibility of high winds, large waves, and storm surges. The damage resulting from these storms can cripple the island's economy and heavily limit or restrict tourist travel to Anguilla before, during, and after the storm.

Challenge

Anguilla's hurricane and tropical storm casualties include aids to navigation (AtoNs). Floating AtoNs, including buoys and marine lanterns, have been lost while other AtoNs detached from their moorings and floated away.

As a result, some channels and port approaches were left unmarked, posing a maritime safety risk to fishing and recreational vessels, cruise ships and their passengers, and most importantly, supply and cargo ships delivering food, water, and other essential supplies.

The Anguilla Maritime Administration is committed to maintaining rigorous levels of maritime safety for local and international vessels that call at its ports and harbours. Maintaining maritime safety is also required to ensure important economic drivers for the local economy are protected.



Solution

The UK Government [through the Foreign & Commonwealth Office and the Maritime and Coastguard Agency, administered funds through the Conflict, Stability and Security Programme] assisted the Ministry of Infrastructure, Communications, Utilities, Housing, and Tourism with the purchase and installation of new AtoNs at Road Bay, an active port for hundreds of fishing, pleasure, and cargo vessels.

Sealite's collaboration with the Anguilla Maritime Administration resulted in the identification of the best AtoN combination for Road Bay. Sealite's SL-B1500 Buoys along with their SL-60 2-3NM Solar LED Marine Lanterns were deployed to provide visual demarcation of Road Bay's main channel. Smaller pleasure and fishing boats can now identify the channel exclusion zone so large cargo vessels can approach without collision risk.

High traffic areas like Road Bay benefit from the stability of the SL-B1500's large float section. The rotational molding process used to produce all Sealite buoys ensures a uniform wall thickness for excellent strength and durability. UV stabilized polyethylene helps keep the IALA-compliant buoy color robust throughout its service life, even in areas with strong UV profiles like the Caribbean. Closed-cell polyurethane foam deters water from leaking into the buoy if it is punctured from vessel impact. Internal, stainless steel bracing connects the SL-B1500's topside lifting ring and mooring eye for exceptional lifting strength on deployment or retrieval. Options include IALA-compliant top marks, theft deterrent lantern cages, radar reflector, internal access hatch, and solar power supplies.

The SL-B1500 Buoys installed at Road Bay are equipped with unique detachment mechanisms at their mooring points. These mechanisms enable the Anguilla Maritime Administration to retrieve the buoys when major storms are forecasted, protecting their navigation assets.

SL-60 Solar Marine Lanterns were installed on the SL-B1500 Buoys. Their 2-3NM range ensures that the buoys are visible at night and in foul weather. The lanterns were designed using energy-efficient, LED technology, making them practically maintenance-free, as the life expectancy for LEDs is 100,000+ hours. The SL-60s are powered by a high grade, NiMH battery which is easily user-replaced.

The SL-60 Marine Lanterns include GPS synchronization that enables all lanterns to flash in unison. Unified flashing increases visibility for the Road Bay channel, enhancing safety for all vessels. With an expected life expectancy of 12 years, the SL-60 provides a low cost of ownership and excellent marine lantern value.

Outcome

The new Sealite AtoN solution successfully enhanced the safety of navigation at Road Bay. The Anguilla Maritime Administration will soon install an identical marking solution at Blowing Point, a passenger port. Blowing Point offers daytime ferry service to the neighboring island of French Saint Maarten and Dutch Saint Maarten. Coral reefs border the channel, limiting ferries and tourist travel to daytime, fair-weather operation only.

The new AtoNs located at both ports are easily retrievable and deployable before and after hurricanes. Vessels can safely navigate after major storms, delivering important supplies to residents and visitors. The new AtoNs at Road Bay, and their future installation at Blowing Point will help increase maritime safety at two of Anguilla's busy ports, adding value to the island's important maritime and tourism industries.



UV stabilized polyethylene used to manufacture Sealite's SL-B1500 Buoy will keep the color vibrant for optimal channel identification.

"Sealite Aids to Navigation delivered the maximum benefit and value for our AtoN requirements. Sealite assisted us with developing a suitable layout for our port navigation requirements and went above and beyond to meet our deadlines. We look forward to working with them for Anguilla's future marking requirements."

—Kendell Richardson
Quality Assurance and Compliance Manager
Ministry of Infrastructure, Communications, Utilities and Tourism





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