Sealite®

CASE STUDY

Sealite SL-70 Marine Lanterns Improve Safety on Colombia's Longest Bridge

Barranquilla, Colombia

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Project Overview

Application
Sealite SL-70 Marine Lanterns Improve Safety on Colombia's Longest Bridge

Products
SL-70 2-3NM Solar LED Marine Lantern with GPS Flash Synchronization

Location
Barranquilla, Colombia

Date
2019

Background

The Magdalena River stretches over 950 miles (1528km), from southern Colombia to the large port city of Barranquilla, where it meets the Caribbean Sea. The river has served as a major transportation and commerce route for the import/export of goods, services, and passenger traffic throughout history.

In the 1970s, a bridge was built over the Magdalena River in Barranquilla, which provided a vital transportation link to surrounding areas. The bridge height was only 52 feet (16m), prohibiting larger cargo and passenger vessels from passing underneath.

Challenge

The city of Barranquilla has grown over the decades. Maritime and vehicular traffic has also increased as the city expanded.

Cargo traffic into the port more than doubled over a ten year period, with 10.43 million metric tons handled in 2017. The need to expand inland river navigation and waterway commerce was critical for the future of the port and the city of Barranquilla.

The Pumarejo Bridge Project was commissioned to build a new suspension bridge over the Magdalena River. With a length of 1.4 miles (2.3km), the new bridge would be the longest in Colombia. As the project approached completion in late 2019, a high-risk hazard to navigation was identified. The large concrete abutments and piles used to support the bridge structure posed a safety risk for the safe passage of cargo ships, a distance that spans 164 feet (50m). A solution to the problem needed to be sourced quickly.

When flashing in unison, Sealite's SL-70 with GPS stand out against confusing background lighting on the Río Magdalena.

Two bridge abutments feature Sealite's SL-70 marine lanterns and flash in synchronization under the Pumarejo Bridge.

Solution

Sealite, in conjunction with Colombian distributor Ingeneria Naval Senalizacion Maritima, worked together to supply and install over thirty SL-70 solar marine lanterns. To stand out from background lighting at Barranquilla port, the lanterns were supplied with GPS modules to enable them to flash at the same time. GPS synchronization is an optimal solution for hazard avoidance and to help pilots and captains identify the navigation channel.

The Sealite SL-70 marine lanterns were chosen for their highly efficient monocrystalline solar panels. These panels are angled to maximize sunlight capture and retain a solar charge. This unique, angled-panel design is optimal for low-sunlight areas such as under bridges or other covered areas.

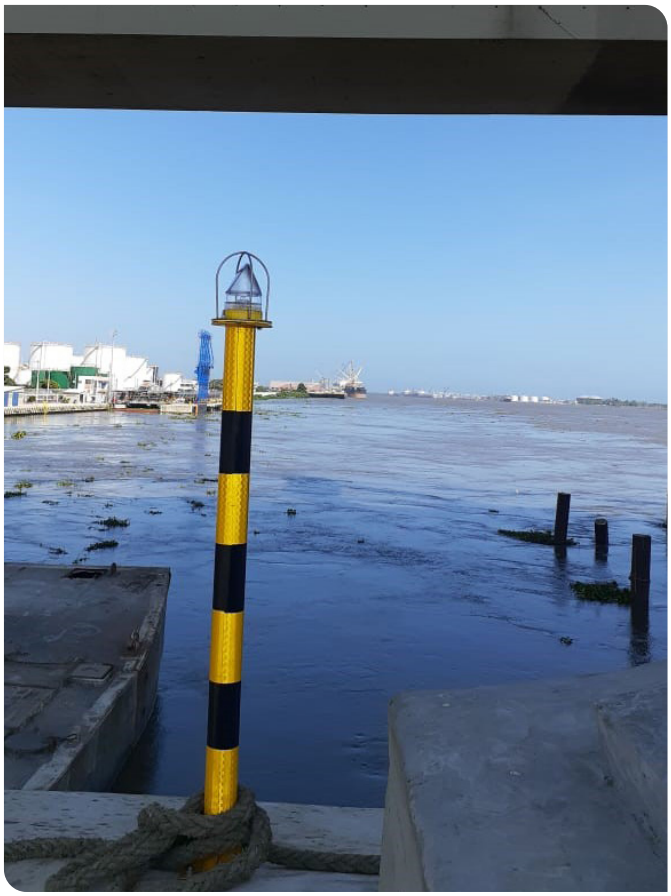
The robust 2-3NM lanterns offer a minimal cost of ownership and a long service life. The lens and base are molded from durable, UV-stabilized LEXAN polycarbonate. The highly efficient LEDs have a life expectancy of over 100,000 hours.

Outcome

Sealite was able to quickly supply SL-70 2-3NM Solar LED Marine Lanterns with optional GPS Flash Synchronization for the Pumarejo Bridge. The GPS Flash Synchronization clearly identifies the hazardous concrete abutments and piles as a navigation hazard and helps enhance safety for passing vessels.

The new bridge allows bulk carriers and tankers (with a capacity of 15,000 to 35,000 tonnes) to reach inland ports. This helps to expand important global and regional trade, commerce and tourism, and stimulate prosperity for the people living along the river.

The dual, high performance solar modules on Sealite's SL-70 provide optimal solar collection, and are ideal for low sunlight conditions like those under bridges.



Piles on the Pumarejo Bridge are illuminated with Sealite SL-70 2-3NM Marine Lanterns for optimal visibility at night or in foul weather.

"With our technical solution using SL-70 Marine Lanterns with GPS Synchronization, Sealite and INSM, will remain in history for their contribution to the construction of the new Pumarejo Bridge, the greatest civil engineering project ever done in Colombia."

– Jairo Arteta
Ingeneria Naval Senalizacion Maritima
Sealite Distributor
Colombia

All Sealite products are manufactured to exacting standards under strict quality control procedures. Sealite's commitment to research and development, investing in modern equipment and advanced manufacturing procedures has made us an industry leader. By choosing Sealite you can rest assured you have chosen the very best.

- **Experienced & Trained Personnel**
- **Worldwide Distribution Team**
- **Agile Manufacturing**
- **Product Innovation**
- **Precision Construction**
- **Total Quality Management**
- **ISO9001:2015**
- **Rapid Turnaround**

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