



## CASE STUDY

# Sealite Aids to Navigation Help Oil Terminal Reopen After Hurricane Dorian

*Grand Bahama Island, Bahamas*



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We believe technology improves navigation™

## Project Overview



### Application

Marking channel access for safe vessel entrance to terminal



### Product

- 10 Degree LED Sectored Port Entry Light (SL-PEL-10)
- 2-3NM Solar LED Marine Lantern with optional GPS Synchronization (SL-60)
- 2-3NM Solar LED Marine Lantern with optional GPS Synchronization (SL-70)
- 3-5NM Bluetooth Enabled Solar LED Marine Lantern with optional GPS Synchronization (SL-75)
- SL-B1250 Buoys in starboard/port configurations for IALA Region B
- SL-B1750 Buoys in starboard/port configurations for IALA Region B



### Location

South Riding Point, Grand Bahama Island, Bahamas, Caribbean Sea



### Date

September 2019



## Background

In September 2019, the Commonwealth of the Bahamas was hit by Hurricane Dorian, a category 5 storm. Targeting Grand Bahama Island and its 380,000 residents, the hurricane left more than 25% of the population homeless. The islands' electrical grid and cell towers were destroyed, leaving it without power and almost no communication infrastructure. The airport was almost completely submerged making rescue and recovery extremely challenging. The hurricane left several oil and gas terminals badly damaged.



SL-60 Solar LED Marine Lanterns were positioned along the waters' edge to temporarily mark the outer channel.

After initial rescue and recovery efforts, support vessels needed port access to deliver critical cleanup supplies. Ports needed to reopen quickly.

## Challenge

One oil and gas terminal was greatly impacted by Hurricane Dorian. Navigation buoys, shore-based Aids to Navigation (AtoNs) and long-range port entry lights were lost or sustained significant damage. Clean-up vessels could not safely enter the terminal's channel. This prohibited the delivery of recovery equipment and other infrastructure support that was critically needed for recovery efforts.

Sealite project partner Navmoor Ltd. in the United Kingdom arrived on Grand Bahama Island shortly after Hurricane Dorian. Assisted by local harbor pilots, Navmoor assessed the channel from buoy to berth and identified:

- The original channel access (before Hurricane Dorian)
- How it had shifted
- Which critical AtoNs needed to reinstate safe vessel access to the terminal
- Where the IALA compliant AtoNs needed to be deployed



## Solution

Working in 104°F/40°C temperatures, driving rain, frequent water spouts, and with minimal repair equipment, the contractor re-installed two spar buoys at the channel entrance. These buoys served as a high-visibility gateway for entering vessels. SL-60 Solar LED Marine Lanterns were positioned along the waters' edge to mark the outer channel. Their 2-3NM range provided temporary marking for shallow drafted vessels until the inner channel could be charted.

Next, the mast-mounted Port Entry Light (PEL) was repaired. The PEL-10 directs larger vessels on long distance approaches, helping them to navigate to the newly laid out channel.

Sealite's PEL-10 provides a range of 3.5NM (daytime)/19+NM (nighttime) range. It gives mariners a clear line-of-sight to the oil terminal approach. The PEL was easily repaired since it uses no moving parts. It draws a mere 30 watts, and is highly energy-efficient. Sealite's PEL was the optimal solar long-range lighting solution since mains power was unavailable due to hurricane damage to the electrical grid.

Two Sealite SL-75 Bluetooth® enabled Solar LED Marine Lanterns were mounted to the newly reconstructed mast to further enhance safety around the newly shifted sandbars and navigation hazards. The SL-75's feature a 360° horizontal output and 3-5NM range, adding visual reference for vessels not yet on-bearing to the PEL. Installation and maintenance personnel remotely programmed the lantern using the Bluetooth feature. Remote programming eliminates the need to climb the mast and increases safety for personnel.

Sealite's SL-B1250 and SL-B1750 navigation buoys in can and nun configurations were deployed to mark the new channel. All of Sealite's buoys are made from lightweight polyethylene, enabling them to quickly and easily be towed on-station via the molded-in stainless lifting eye.

Sealite's SL-70 Solar LED Marine Lanterns were added to the SL-B1250 and SL-B1750 buoys for optimal visibility at night and in foul weather. The SL-70 utilizes a high-intensity LED, is made from long-lasting, durable, and UV stabilized polycarbonate, and offers more than 30 days of autonomy.

Sealite's optional GPS synchronization was incorporated into all the lanterns. This feature enables the PEL-10, SL-75, SL-70, and SL-60 to flash in synchronization, helping to identify the channel and distinguish a safe line of passage. Sealite's optional GSM cell phone monitoring was also incorporated into all of the AtoNs. GSM monitoring provides a convenient, remote way for the local maritime authorities to continuously observe the operational health and status of all Sealite marine lanterns.

## Outcome

Sealite's shore-based and floating Aids to Navigation helped re-establish vital vessel entry into the oil and gas terminal on Grand Bahama Island. Urgent deliveries of supplies and equipment were enabled to help the rebuilding and recovery efforts in the disaster-stricken area following the worst natural disaster in the country's history.

*“With manufacturing facilities in the USA, Sealite was able to meet the urgent delivery requirements for this project. The team was able to get this severely damaged, critical navigation system functioning for the customers' needs.”*

**– Luis Velasquez, Business Development Manager  
Sealite USA / LATAM**



Sealite's SL-B1750 Buoy can be easily deployed with molded-in stainless lifting eyes.



Every Sealite Marine Lantern, including the SL-70 (shown on the SL-B1750 buoy), flashes in unison with optional GPS sync.



- ✓ Experienced & Trained Personnel
- ✓ Precision Construction
- ✓ Worldwide Distribution Team
- ✓ Total Quality Management
- ✓ Agile Manufacturing
- ✓ ISO 9001:2015
- ✓ Product Innovation
- ✓ Rapid Turnaround

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