

Tampa Bay Steps into the 21st Century

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ST. PETERSBURG, Fla. -- Many Americans appreciate improvements in technology such as hybrid vehicles, global positioning satellites and portable internet devices. These gadgets and gizmos aid in transportation, navigation, and communication throughout the world. Now, new technologies are working on Florida's West Coast to improve the quality of the aids to navigation marking the approaches to Tampa Bay.

Tampa Bay is Florida's largest port encompassing the Ports of Manatee, St. Petersburg and Tampa, Fla. More than 50-million tons of cargo passes through Tampa each year. The Tampa Port Authority's Security Operation Center is home of the Cooperative Vessel Traffic Service. The CVTS is comprised of a series of computers, cameras, sensors and signals that "watch" vessels transiting in and out of the port. The CVTS also informs, recommends and when necessary, directs vessel traffic to keep vessels from getting into dangerous situations.

The CVTS's monitoring area consists of the navigable waters within a 35-mile radius of Tampa Bay. That area includes the waters surrounding the Sunshine Skyway Bridge, as well as Old Tampa Bay, Hillsborough Bay, and also the ports of Manatee and St. Petersburg.



TAMPA, Fla. - A CVTS watchstander logs an incident that occurred within Tampa Bay's shipping channel March 5. The CVTS gives watchstanders a "birds-eye view" of vessel traffic in the channel allowing them to monitor the bay for any possible dangerous situations. Coast Guard Photograph by PA3 Sondra-Kay Kneen.

Unlike the Coast Guard and port authority watchstanders, who continually monitor the CVTS, vessel masters, pilots, and operators transiting the Tampa area do not have a bird's-eye view of the vessel traffic. A vessel operator's radar can pick up only what is in the immediate vicinity, compared to the CVTS, which can pick up a broader picture of up to 60- to-70 miles off shore.

In order for navigators to transit safely in and out of the port, they must determine their position or "safe course" relative to good waters, established channels, fairways, and approaches of other vessels by using the areas aids to navigation.

ATON can be placed on shore such as day boards and lighthouses or on water such as buoys and range markers to assist mariners in determining their location. They mark

navigable waterways and channels, help identify land or positions on subtle coastlines, warn of hazards to navigation, and also serve as reference points.



ST. PETERSBURG, Fla. -- A red and green lighted buoy line up the channel in Tampa Bay, Fla., in order to assist mariners in determining their location. Buoys mark navigable waterways and channels and also serve as reference points. Coast Guard photograph by PA3 Sondra-Kay Kneen.

“ATON is extremely important to all mariners,” said Petty Officer 2nd Class Gregory A. Bruzik, a Sector St. Petersburg ANT team member. “It’s kind of like stop lights, but on the water, it organizes vessel traffic to help keep boaters safe.”

Most ATON is lighted and equipped with automated controls programmed to light at dusk and extinguish at dawn. Solar-powered, solar censored, Light-Emitting Diode (LED) test lanterns have currently been installed around Tampa Bay. Only certain channels are able to convert to LED’s due to the three nautical mile range at which the light can be seen. Other test lanterns can only be visible up to two nautical miles.

“The lanterns are being tested to ensure that they can support the mariners’ visibility and common nautical knowledge of the ATON in the area,” said CWO Troy A. Dillman, Coast Guard Sector St. Petersburg’s ATON officer.

An LED light is located atop the lantern, which is mounted on top of a buoy. The light spins in a circle at a complete 360 degrees. LED’s have an extremely long life span, ranging between 100,000 and 1,000,000 hours, and they produce more light per watt than incandescent bulbs.

The incandescent bulbs have six separate pieces that form the lantern, unlike the new LED’s which are self contained. Before the LED lights are permanently placed, they must be approved by the Seventh Coast Guard District in Miami, Fla. Coast Guard Aids to Navigation Teams are testing several manufacturers and models to see which are more beneficial in terms of performance, service, maintenance, and price to ensure the best return on taxpayer investment.

Another advancement in Coast Guard technology is the command, control and communications system known as Rescue 21. Comprised of towers, receivers and hand held radios; it provides Coast Guard watchstanders with more accurate information including a diagram of the geographic area of a possible search and rescue case.

Rescue 21 is especially helpful for search and rescue cases, but it also allows the Coast Guard to communicate and perform marine environmental protection and homeland security missions. When a distress call is heard, signals from radio towers give lines of bearing or a position that narrows the area from which the call could have been made.

The system further reduces coverage gaps along Florida's west coast between Yankeetown, Fla., and Fort Myers, Fla., and increases the ability of watchstanders to pick up distress and Mayday calls. For watchstanders, it means more accurate information. For boaters, it could mean faster response time.

The system allows those standing the watch enhanced recording and playback capability, which ensures watchstanders the ability to decipher poorly-understood transmissions. These technological advancements in the maritime transportation system, ATON and communication in the Tampa Bay area will help the Coast Guard better serve its customers, the American people, as well as help make several of the Coast Guard's missions safer and more efficient for those in distress and need of the Coast Guard.

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