

LONGEVITY CATEGORY

Port of Canaveral: North Cargo Piers Cathodic Protection 10 Years Later

CAPE CANAVERAL, FL

SUBMITTED BY VECTOR CORROSION TECHNOLOGIES

The North Cargo Piers at the Port of Canaveral consist of four wharves that handle bulk cargo such as cement, slag, salt, automobiles, and lumber. Each wharf consists of square prestressed concrete piles, cast-in-place concrete pile caps and beams, and prestressed hollow-core deck units with a cast-in-place topping slab.

After years of exposure to the corrosive saltwater environment, a major rehabilitation was conducted

concrete deck units were protected using activated arc sprayed zinc applied to the deck soffit.

Completing this project on an operating port facility on the ocean created many unique challenges to overcome, including having the piers remain operational at all times; dealing with tides; and at times, moving work areas or delaying work to avoid impacting marine life such as manatees, pelicans and sea turtles in the Port.



Over the last 10+ years, the North Cargo Piers have continued to be subjected to the corrosive marine environment and the portions of the structure that were repaired and received the galvanic cathodic protection are showing no signs of corrosion-related deterioration. Other areas which were not repaired and protected have continued to deteriorate and are now in need of repair. Accordingly, the repairs and cathodic protection systems are meeting the owner's goals of providing a long-term, operator-free, maintenance-free protection to the piers in the Port.

during 2005-2006 to extend the service life of the busy piers. The scope of work included concrete repair and galvanic cathodic protection for the piles, pile caps, and the prestressed deck units with an estimated design service life of 20 years. The original repair program consisted of: galvanic pile jackets to protect 668 piles; the lower portion of the cast-in-place pile caps were removed and activated distributed galvanic anode strips were installed; and, the undersides of the pre-stressed



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