

# CONSULTATION SERVICES TO RESPOND, RECTIFY, AND RESTORE

Editor-in-Chief: Dr. Yuhsin Hawig, VP of Applications Engineering

## ON THE JOBSITE



### THE SUBJECT MATTER EXPERT

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### THE MARKET

A large US cargo port that is considered one of the region's economy boosters, creating over 40,000 jobs and generating more than \$100 million in tax revenue annually.

### THE PROBLEM

New medium voltage (MV) cables were not properly sealed during set up and installation, thus were left unprotected. The exposed, unsealed cable ends allowed rainwater to migrate through the entire cable length under the overall PVC jacket due to "Capillary Action."

### SOUTHWIRE'S SOLUTION

**MONEY SAVED, NO DISRUPTION!**

Southwire CableTechSupport™ Services team purged three runs of MV cables and trained on-site electrical contractors to purge the remaining **21** sets of compromised cables. **This service ultimately saved the contractor approximately \$711,000\* in material replacement cost, and minimized the port authority's delay in ship operation.**

\*Approximate material cost savings are based on 2024 standard product costs.



This is one of the busiest ports where ships load and offload containers on an hourly basis.

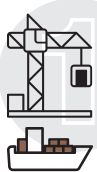


The wet MV power cables were purged using a compressed nitrogen gas tank on-site at the docking station. Three sets of cables were simultaneously purged using a custom-built manifold.



The cables were dried, restored to their original state, and then terminated in the power distribution box. The installed cables also passed Acceptance Testing and are ready to deliver critical shore power for many ships that will dock at the port.

## PROJECT DETAILS



### 1. MARKET SERVED

The end-user is one of the top 10 busiest cargo ports in the United States by container volume. The major imports and exports include automobiles, electronics, industrial machinery, and agricultural products. This port is considered one of the region's economy boosters, creating over 40,000 jobs and generating more than \$100 million annually in state and local taxes to support infrastructure projects.



### 2. PRODUCT USED

The feeder-size MV power cables are rated 15 kV, made of a 500 kcmil copper conductor, 133% No-Lead Ethylene Propylene Rubber (NLEPR) insulation and a 5-mil copper tape shield. This Made-in-America product manufactured by Southwire is installed below-grade via a power distribution box at each docking station to deliver 800 amps of current. The new cable end was exposed to rainwater before energization, rendering the product unusable.



For more information, please contact [CableTechSupport@southwire.com](mailto:CableTechSupport@southwire.com) or visit [Southwire.com](https://www.southwire.com)



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## PROJECT DETAILS CONT.



### 3. PROBLEM DISCOVERED

The construction crew failed to seal the pulling nose when pulling cables in the duct and did not seal the cables after pulling them into the manholes. Thus, the new MV power cables were left unprotected overnight. The exposed cables without a sealable end cap or a heat-shrinkable tube allowed rainwater to migrate through the entire cable length via the interstices of the conductor, the space between the tape shield and the overall PVC jacket due to capillary action. The contractor contacted Southwire to request emergency field support.



### 5. MONEY SAVED

Southwire CableTechSupport™ Services team purged three runs of MV cables and trained electrical contractors on-site to purge the remaining 21 sets of compromised cables. The successful nitrogen purge mitigation prevented approximately 30,000 feet of brand-new cable materials from being scrapped, exceeding a total material cost saving of approximately \$711,000\*. Additionally, it minimized the port authority's delay in ship operation due to the long lead time associated with ordering large quantities of replacement cables.



### 4. SOLUTION EXECUTED

Our engineers traveled to the port and inspected the cable first to ensure that there was no installation damage. Our field experts purged the new cable using compressed nitrogen gas to push out the rainwater. Due to the cable size and length, the purging took a few days to conclude. The complete moisture removal was verified via a color-changing desiccant. The restored dry cable will operate as designed, and the product's manufacturing warranty is still valid.



### 6. SUPPORT REQUESTED

One of the most frequent inquiries for Southwire's CableTechSupport™ Services is emergency field support. We fulfill more than 15 job site requests each month,, from new cable repairs to pulling supervision for data center, renewable, EV & automotive, ports & airports, and utility projects. The mission statement for our consultation services, Re3™, is to respond to end-user challenges, rectify issues, and restore the electrical system.



For more information, please contact  
CableTechSupport@southwire.com or visit [Southwire.com](http://Southwire.com)

To learn more about how Southwire is powering marine operations, visit our webpage  
[www.southwire.com/industries/ports](http://www.southwire.com/industries/ports)

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