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# Insights

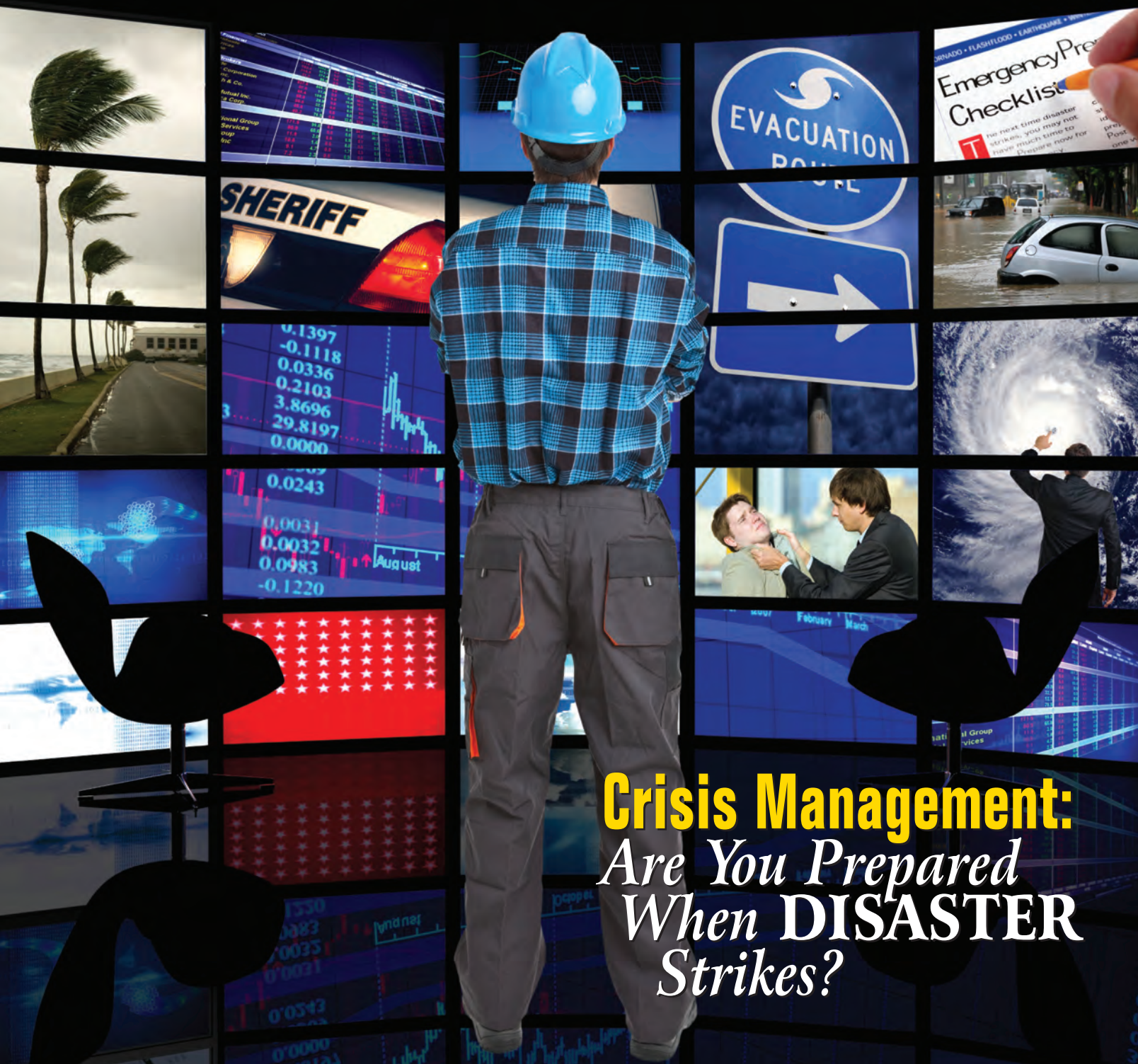
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**Crisis Management:**  
*Are You Prepared*  
When **DISASTER**  
*Strikes?*



# HURRICANE *Preparedness*

## A Great Opportunity to Install Back-up Power

By Dan Carazo

**E**mergency preparedness is a critical component to the public utilities industry.

Year in and year out, from coast to coast we are reminded how absolutely dependent we have become on the underlying infrastructure that delivers the clean water, electricity, and communications we Americans have come to take for granted.

It is in moments such as when a hurricane, tornado, flood, ice storm, or earthquake suddenly knocks out our community's utilities that we realize the implications of losing our access to these fundamental services.

Emergency back-up power generation must be at the heart of emergency planning as a key to safeguarding quality of life, including quick post-emergency recovery. This is true regardless of whether a community's utility services are damaged or completely lost due to a natural disaster, or because of an accident.

In August of 2005, Hurricane Katrina delivered a brutal reminder to the City of Gretna, Louisiana, just how critical it is to have a robust emergency back-up power solution in place.

When Katrina hit the New Orleans region, the City of Gretna experienced wind speeds in excess of 120 MPH. As a result of the hurricane, the city saw its potable water plant, wastewater treatment plant, and network of fourteen sewer lift stations go completely without electrical power, bringing down the entire system, which operates and controls the potable water supply and sewer system serving over 17,700 residents.

Grant that was approved by the State of Louisiana and the Federal Emergency Management Agency (FEMA), the City of Gretna contracted engineering firm Burk-Kleinpeter Inc. (BKI) to upgrade and modernize the pump stations. This included designing a cost-effective emergency backup electrical power solution that could be easily managed by the four-person Public Utilities sewer collection department.

According to Bart Mullis, Associate-Electrical

wastewater treatment plant. An important part of the project included replacing one failed permanent generator and installing a second generator for redundant power at the two primary lift station facilities. A critical design choice was adding the Manual Transfer Switch to eleven sewer lift station pump sites and to the raw water intake location.

Mullis noted that BKI had previously worked with similar systems for seaport/shipyard electrical power projects. When he contacted ESL about the City of Gretna project, Mullis emphasized the need for a very cost-effective manual transfer switch system that delivered fool-proof operation without the future need for a professional electrician or extensive employee training. Because very basic training is required to operate ESL's StormSwitch™ once the system has been installed by a certified electrician, the product provided an ideal solution.

BKI turned to Sharp Electric, an electrical contractor based in Metairie, Louisiana, to handle most of the electrical upgrades for the City of Gretna. William Appel, owner of Sharp Electric, and his team were directly involved with the installation of the Manual Transfer Switches to accommodate portable generator hookups at both sewer lift station pump and the raw water intake sites.

Mullis indicated BKI selected the quick-connect transfer switch unit for this project because of its ease of operation – which provides standardization across all lift station locations, and the customer's limited staff size. "It is also very cost-effective – we found the separate pieces alone cost more than ESL's complete pre-wired system," added Mullis.

It's been proven time and again that long-term power outages can be devastating to the residents, businesses, and local economy of an affected area. The use of portable back-up power generators is growing quickly in answer to these widespread natural disasters, but the cost for permanent back-up power can prove prohibitive.

For that reason, pre-engineered solutions such as quick-connect electrical transfer switch units can provide much needed insurance against power outages at a fraction of the cost of a permanent onsite back-up power generator system.

Baudoin's post-Katrina advice after rebuilding the City of Gretna's wastewater facilities is simple, "You can never have enough backup systems."

## INSIGHTS

*As President of Slash Energy, Inc., Dan Carazo has been involved with marketing and branding for the U.S. electrical construction markets for over a decade. The creator of numerous award-winning advertising and marketing campaigns for major technical brands, Dan directed marketing at Cooper Wiring Devices, a division of Cooper Industries, prior to forming his own marketing consulting firm in 2005.*

## Emergency back-up power generation must be at the heart of emergency planning as a key to safeguarding quality of life, including quick post-emergency recovery.

Due to area flooding, wind damage, and generator failures, 75 to 100 percent of the city's water and sewer system were down for more than four days. Working 16-20 hour days, the Public Utilities Division team managed to restore service after a

Engineer for BKI, the fact that the City of Gretna is a small municipality with a modest budget necessitated design of an emergency back-up power solution that could be easily and quickly connected without future reliance on electricians.



very trying week and a half. "The wastewater plant went down and the master lift station generator failed, but we didn't find out about these failures until the storm had passed," recalled Mike Baudoin, director of Public Utilities for the City of Gretna.

"I know what it's like to experience a true catastrophe," noted Baudoin whose own home was totally destroyed by the hurricane. "People can't come back to their homes unless we have city infrastructure up and running. In the hurricane's aftermath, both our wastewater plant generator and the 250KW generator for the master lift station were found to be under-sized and aged, requiring upgraded solutions."

Utilizing a \$1.8 million Mitigation Funding Block

"For wastewater facilities, back-up generators serve the purpose of maintaining a safe flow of wastewater (sewage) not associated with flood control," explained Mullis. "In this case, because of the City of Gretna's limited resources and very small staff, we decided it would be best for our client to rely on quick-connect portable generators which eliminates the cost of permanently installed generators. That's why we specified the StormSwitch™ Manual Power Transfer Switch system from ESL Power Systems, which is shipped pre-wired for very quick installation."

Burk-Kleinpeter's scope of deliverables for the City of Gretna encompassed significant improvements and upgrades to the electrical infrastructure for the