

Louis  
Berger  
Helps  
Lead

# Puerto Rico Recovery

BY GERRY DONOHUE

**THE INSTALLATION OF SMALL,  
TRAILER-MOUNTED, SOLAR HYBRID  
MICROGRIDS QUICKLY PROVIDED  
POWER TO COMMUNITIES THAT WERE  
CUTOFF FROM THE CENTRAL GRID**



A power line tower downed by Hurricane Maria lies on top of a house in San Juan, Puerto Rico, in November 2017.

RICARDO ARDUENGA/AFPI/GETTY IMAGES

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## fter Puerto Rico and the U.S.

Virgin Islands were devastated by hurricanes Irma and Maria in September 2017, numerous ACEC Member Firms were among the first responders on the ground. Operating under on-call contracts with the U.S. Army Corps of Engineers (USACE) and

the Federal Emergency Management Agency (FEMA), the Member Firms set about repairing the transportation system, restoring the water supply, investigating the structural integrity of homes, buildings and infrastructure, and rebuilding the power grid, which was almost completely destroyed.

One of the first Member Firms to arrive on-site following the hurricanes was Louis Berger. “Even several months after the storms, many rural communities in Puerto Rico still have no power,” says Tom Lewis, president of the U.S. Division of Louis Berger. “Poles are down everywhere, and transformers are laying on the ground. The only way you know where there is power was if you hear the sound of a generator.”

Under its on-call contracts, Louis Berger has installed nearly 1,000 generators throughout Puerto Rico and the U.S. Virgin Islands, typically in critical public facilities such as city halls, police stations, wastewater and drinking water systems, clinics and hospitals.

“Under normal circumstances, the generators are only supposed to run for a few weeks, but the scope and scale of the need is unprecedented,” says Lewis.

Work continues on restoring transmission lines and distribution lines, but many communities in the rural and remote areas are difficult to reach. Further complicating the situation is the perilous financial situation in



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One of the more than 1,000 emergency backup generators delivered to restore power in Puerto Rico.

“In storm-prone areas, we believe small, trailer-mounted, solar hybrid microgrids are the wave of the future,” says Lewis. “Distributed power generation offers many advantages over sole reliance on a central grid. It’s cleaner, mobile, resilient and cost-effective.”

To test this belief, Louis Berger is self-funding a distributed solar hybrid power project in Puerto Rico through its Give Back Campaign, which is part of the firm’s corporate social responsibility program.

In partnership with WestGen, AEG and the Zofnass Program for Sustainable Infrastructure at Harvard University, Louis Berger is providing microgrid systems to power the La Perla de Gran Precio shelter for women and the Hogar El Pequeno Joshua shelter

for children in the remote mountain village of Barrio Nuevo, located in the municipality of Bayamon.

The WestGen SolaRover systems provide the power equivalent of a 24kVA gas/diesel generator. They can operate in as low as 30 percent sunlight, yielding a 60 percent charge.

“These systems can have multiple sources of generation:

Puerto Rico as well as plans to scale back federal recovery efforts.

Given this situation, Louis Berger proposed a different strategy to the Puerto Rican government. Rather than putting everything back together and hoping that future storms won’t be as severe, Louis Berger suggested installing new systems that can weather major storms.

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diesel, solar, battery storage and possibly wind in certain locations,” says Lewis. “Because they are redundant, resilient and more localized, these systems are much easier to keep in operation. If they ever do go down, they can be brought back up very quickly.”

Lewis says both USACE and FEMA have expressed interest in the demonstration projects. “These types of systems would be another tool in their toolbox,” he says. “They are open to ways to do things differently.”

The systems could also be a means for attracting private funds to disaster recovery efforts.

“Investors would cover the upfront capital costs of equipment, materials and labor for construction of the new microgrids,” says Lewis. “Their return on funding would be through a long-term agreement with the microgrid power purchaser.” ■

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Louis Berger restored power to Hogar El Pequeno Joshua using mobile solar hybrid power technology.

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TOM LEWIS, LOUIS BERGER

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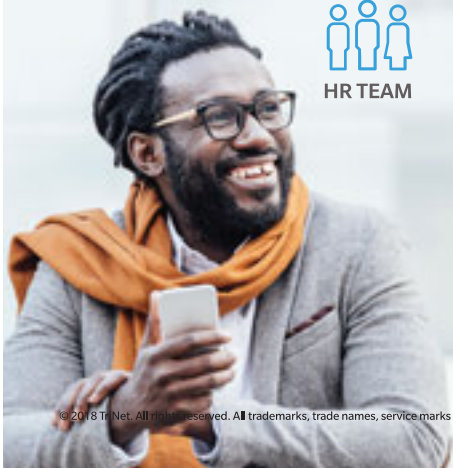
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