

# GENERAC®

## INDUSTRIAL POWER

### RED VENTURES

Charlotte, NC

## CASE STUDY

### CHALLENGE:

Integrate a backup power solution to keep a global headquarters facility operating during a power outage.

### SOLUTION:

Three, 1 MW Gemini® gen-sets delivering up to 3,000 kW in less than 10 seconds.

### RESULT:

Generac's paralleled gen-set system design increases redundancy, reliability and scalability, ensuring continuous global operation.

***“The combination of price, N+1 backup, and a modular design made it an easy decision to select the Generac MPS system. To date, it's proven to be a solid solution.”***



## Backup power that ensures global operations around the clock.

Red Ventures is the country's largest technology-enabled platform for growing sales using multi-platform customer experiences. When embarking on a 180,000 square foot expansion to its Charlotte, N.C. global headquarters, management knew operational capability was essential. The company serves the needs of customers worldwide and has seen tremendous growth, doubling its workforce in the past five years. Today its impressive headquarters and campus now serve as a data center, call center, and mission critical office environment. Uninterrupted customer service around the clock means continuous business operation—even in the event of an extended power outage.

“This is a high-profile facility with global reach that requires standby power for operational capability in the event of a utility outage,” said Andy Shadrick, president of Charlotte N.C.-based PowerWorks Electric, the electrical contractor on the project. “We were instructed to provide a power solution capable of carrying the entire building load without interrupting the normal business environment.”

Dale Lancaster, chief technology officer of Red Ventures, elaborated on its importance. “Given that downtime costs thousands of dollars per minute, we needed a backup power solution that was guaranteed to work without any single point of failure.”

The PowerWorks team was engaged through Greg Wiley, PE, at Optima Engineering in Charlotte, N.C. Wiley recognized the importance of a reliable, cost-effective source of backup power that could also accommodate the design-build nature of the plan. “The initial design made provisions for a single 2,750 kW diesel-fueled generator,” said Wiley. “We understood the value of revising the initial plan to accommodate the client's need for reliability, but we had budget realities. What's more, the option had to fit within the footprint of the preliminary backup power solution.”

“A generator is like an insurance policy. If utility power dies, you need that policy to kick in—that's why reliability is paramount,” said Shadrick. “A single-source power solution is completely out-of-service during periods of routine maintenance. And the potential of wet-stacking issues associated with not being able to adequately exercise the equipment under load prompted us to explore alternatives.”

Given the mission-critical nature of the project, the advantages of a paralleled gen-set approach were clear. In addition to increased redundancy—which equates to enhanced reliability—operating the backup power systems in parallel gives the benefit of scalability. This is significant if Red Ventures maintains its current, consistent growth rate.



**APPLICATION:**

Data Center

**SYSTEM CONFIGURATION:**

3 MW MPS

**MODELS:**

3 x 1 MW Gemini®



“Based on research, we were convinced that paralleling gen-set technologies had come a long way since the days when traditional systems were prone to failures in providing redundant backup power,” said Lancaster. “Generac’s Modular Power System (MPS) with onboard paralleling appeared to be a great solution and helped us get comfortable with this advanced approach to backup power.”

“From previous experience, the PowerWorks team had great success with Generac’s MPS,” said Shadrick. “It’s a modular approach to standby power without the need for costly paralleling equipment required by legacy systems. Essentially, it’s a simple, plug-and-play standby power solution that brings the advantages of multiple gen-sets into an era of new technology.”

Scott Collins of Generac distributor National Power Corp., Charlotte, N.C., was asked to design an alternative backup power system. “My recommendation consisted of three, 1 MW Gemini® systems, delivering a total of 3,000 kW of backup power that fit into a footprint that was similar to the preliminary single gen-set unit. There were no changes in the way the transfer system functions,” he said.

Each Gemini® system features two 500 kW gen-sets housed in a single enclosure. When the need for power is triggered, the first

1,000 kW of power is available within six seconds. The entire 3,000 kW system will be available and synchronized in less than 10 seconds.

“When Red Ventures realized the MPS system can provide N+4 for the critical load and N+1 for the entire load—all at the same price point and within the same footprint—the choice became apparent,” said Collins. “Most important, the facility is never without access to power, even during system maintenance. And when you’re following the standard quarterly maintenance system, especially at a mission critical facility, four days of exposure over the course of a year is unacceptable.”

The design-build nature of the project created a fast-moving timeline. The system was installed in January 2014, so there was only a 9–12-month span between initial discussions and the point where equipment was applied.

Although the timeline was tight, this was not atypical for an MPS solution. “Using smaller, high-volume engines often results in time efficiencies, shaving weeks or even months off turnaround compared to large, single-engine gen-sets above 2 MW,” Collins said.

Now that the system is installed, Red Ventures also realizes maintenance-related benefits beyond continuous power availability. In particular, the oil capacity of the three installed Gemini® units is about 40% less than a comparable single unit, which represents a significant cost savings.

“The combination of price, N+1 backup, and a modular design made it an easy decision to select the Generac MPS system and to date, it’s proven to be a solid solution for us,” said Lancaster. “It is likely we will use this system in other parts of our corporate campus as we expand and add additional buildings in the coming year.”

“The team at National Power Corp. was informative and enjoyable to work with,” said Wiley. “There’s certainly more growth ahead for Red Ventures, and we’ll definitely consider Generac.”