



Generating a Backup Plan

Gas backup generators can keep you running



by Tom Stroozas - CFE, RCGC, CFSP
Stroozas & Associates
GFEN Consulting Editor

Being able to operate your restaurant during electric power interruptions is becoming more of a reality today as many chains and independent operators throughout North America are adding on-site power generating systems fueled by natural gas as backup systems for those "just in case" situations. As a restaurateur you understand that losing power for even a few hours can mean thousands of dollars in lost revenue to your business.

Today's manufacturers of on-site gas power generators have made great strides in technology improvements, with standby generators powerful enough to backup your entire business. Generators have become smaller, less expensive and designed with one thing in mind – keeping your business open

which gives you a competitive advantage. As an added plus, employing an on-site power generating system in cooperation with your local utility electric peak demand load shedding programs can even return some dollars to your bottom line.

About "Peak Shaving"

The definition of peak shaving, much like beauty, is in the eye of the beholder. To some it means limiting demand to a predetermined level. To others it means eliminating peak demand charges altogether. To the electric utilities that purchase power off a grid, peak shaving, load shedding, or demand response all mean finding ways to reduce electric consumption in order

to limit their own purchases of much higher priced peak power.

Despite the differences in definitions, peak shaving always means reducing the amount of electricity purchased for a specified period of time. Sometimes this is accomplished by curtailment (shutting down loads), and sometimes by load shifting (to self-generation). By peak shaving and lowering demand, a customer can help reduce the utility's need to spend money on the infrastructure that would otherwise be required to meet peak demands. These voluntary plans may entitle the customer to a reduction in electric costs.

The Natural Gas Advantage

With customer growth of around 3% annually over the past 30 plus years, natural gas has posted the most impressive gains of any fossil fuel. According to the International Energy Agency, it may grow by more than 50% by 2030. Gas has a number of advantages that explain its growing popularity both as a primary and a backup energy source. Its abundant known domestic reserves, estimated at 284 trillion cubic feet, should cover nearly 100 years of consumption at the current rate of demand. And, since most restaurants use it for cooking, water heating, and space conditioning, it just makes sense to use it for "backup" power needs as well.

Restaurant Chain Reaps Benefits

The Carolina Ale House is an award-winning sports-themed restaurant currently with 13 locations throughout the Carolinas, Georgia and Florida. The restaurant chain is widely known for its varied menu, large portions, family-friendly atmosphere and flat screen televisions everywhere you look. And, they are continuing to grow by adding more locations throughout the southeastern United States — an area often subjected to power outages from severe storms and hurricanes. Although their preference is to use natural gas for cooking, water heating and space conditioning, they still need electricity for kitchen ventilation, lighting and all those televisions! Installing a gas-fired backup generating system was an easy choice since natural gas was already in use on the property.

Their flagship restaurant is located in Wake Forest, NC, a city which operates its own municipal electric company. The owner, Lou Moshakos was approached

back in 2007 to be a model restaurant for a load shedding project for the city and installed two 94kW natural gas-fired generators for this purpose. A well-known national integrator of backup power systems, Generac Power Systems, Inc., was in charge of the project design, generator sets, service disconnects and automatic transfer switches. The chain's own private contractor completed the installation and handed "the keys" to Moshakos in October 2007.

Whenever the unit is scheduled for peak shaving service, the City of Wake Forest informs the restaurant 24 hours in advance so that they are aware that the units will be running. The entire process is fully automated as the units receive "a call" from the utility which starts them up for the duration of the peak shaving period. These peak shaving periods are generally called for during extreme cold or hot weather and typically last two to three hours. However, during the summer months the peaks can last upwards of eight hours or more.

The Carolina Ale House generators typically operate approximately 200 hours per year to shave peak load. This not only "generates" some income from the local utility in excess of what the restaurant would typically pay per kilowatt, it also helps offset the overall costs of the system in the long term. So the restaurant is able to stay open during power outages and generate income from sales, plus it gets paid from the local utility for the peak shaving. It's a WIN-WIN for everyone and Moshakos has peace of mind that he never has to be shut down!

The success of any dining establishment depends upon the satisfaction of its customers, and their desire to return. Anything that disrupts their visit will disappoint them, and will affect the restaurant's business and reputation. That's another reason why Moshakos invested in the system; to keep the restaurant humming in the event of a utility power outage, and make certain that customer visits are not impacted by such deceptions.

More Generators Planned

According to the Edison Electric Institute, severe weather accounts for 62% of unexpected power outages in the United States. "Before we installed the generators, outages were very disruptive to our business," says Moshakos. "Working with the City of Wake Forest gave us additional incentive to move forward with this technology. It has worked out great for us and we are very happy with the automatic



performance of the system. We plan to install another gas backup system in a new restaurant we will be opening later in the year."

The generator system providing backup power at Carolina Ale House is located outside at the rear of the building. The transfer switch senses when utility power is lost and starts up the generator automatically. Within about ten or fifteen seconds, the genset is up and running, and the transfer switch connects the generator to the electrical load of the restaurant, bringing lights, equipment, refrigerators, freezers, exhaust systems, televisions and computer systems back to life. The disruption is minimized, and activity resumes throughout the restaurant after a brief interval.

When utility power comes back, the transfer switch automatically returns the load to its normal source and shuts down the generator. Whether the interruption lasts for minutes or hours, the restaurant is able to continue serving its customers, thus preserving its reputation and minimizing the impact of power outages on its bottom line.

Backup Power Makes "Cents"

"Our commercial products are designed for a wide

variety of applications," says Terry Strange, Generac's senior product manager. "Models are available that operate on natural gas or LP gas, with outputs ranging from 22 to 150 kilowatts. They're clean, quiet and affordable, making them ideal for restaurants, convenience stores and other types of retail businesses."

The economics of income protection and loss mitigation are simple, according to Strange. "It's easy for a business owner to determine how quick the payback might be simply by computing the hourly loss of income and adding it to the cost of perishable inventory, then comparing that to the installed cost of a generator."

The peace of mind that comes from knowing that you can be fully operational during a power outage is a compelling reason to invest in a backup power generator especially when you consider the additional benefits of reducing your electric costs, retaining customers and keeping employees safe during an outage.

To learn more about how natural gas can benefit your foodservice operation, visit the Gas Foodservice Equipment Network at www.gfen.com.

