

# RUNREADY™

## GO WITH THE FLOW

Treatment plant keeps running with Cat® C18 genset

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**TOROMONT**  
Power Systems

**CAT**

# SHAKE IT UP



## Seismic certification for generator sets makes good business sense

When considering the type of generator set features and components to select for a particular application, specifying engineers probably don't immediately think of seismic certification and wind load requirements.

That is, of course, unless their project happens to be in an active seismic zone. But they should.

Few places, if any, around the globe are immune to natural disasters. Whether it's earthquakes, hurricanes, floods,

volcanic eruptions, tsunamis, or anything else, they threaten the ongoing operations of any business or mission-critical facility. In turn, increased scrutiny is being placed on ensuring that standby generator sets will perform in any type of emergency situation, regardless of location.

### Seismic Compliance

North America is seeing a sharply focused market for seismic certification, especially in mission-critical facilities like hospitals. This is being driven

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primarily as a result of California's OSHPD (Office of Statewide Health Planning and Development) Seismic Compliance Program, a building standards plan designed for hospitals. This voluntary program for review and preapproval of Special Seismic Certifications to be used in health facilities construction in California was initiated because of the loss of life incurred due to the collapse of hospitals during the Sylmar earthquake of 1971.

The ultimate public safety benefit is to have general acute care hospital buildings that are not only capable of remaining intact after a seismic event, but can also demonstrate continued operation and provision of medical services after a seismic event.

In parallel, the International Code Council publishes the International Building Code (IBC) as part of its mission to develop a single set of national model construction codes. These codes specifically address the design and installation of building systems—including emergency power systems—with an emphasis on performance.

The IBC certification is required for the entire electrical system including generator sets, ATS, transformers, motor control centers and other onsite power gear. It also requires that all equipment must endure expected acceleration levels set by the U.S. Geological Survey where the equipment is installed, whether it is located below ground, at ground level, or on a roof top.

The only way for a building to remain operational after wind and seismic events is to design the critical power generation equipment to withstand the same impact as the building itself.



Regarding flooding, specifying engineers need to ensure critical equipment is not located in areas of the building that could be damaged by floods. Additionally, snow loads need to be considered in certain regions of the country for equipment installed outside.

Wind and snow certification, along with enclosure and sub-base tank certification, can be done through analysis, whereas seismic certification must be done primarily through shake table testing.


The IBC clearly states that it is the responsibility of equipment manufacturers, suppliers, installers, design team managers, engineers and inspectors to ensure their respective component remain “on line and functional” after the emergency has occurred.

### Global Acceptance

While IBC and OSHPD seismic certifications are required primarily in North America, an increasing number of regulatory agencies around the globe are referencing these standards as well. These certifications are becoming a required standby electrical generation specification, especially at mission-critical facilities, as they provide a quantitative proof of

quality and a standard that has been measured and tested.

In a natural disaster, engineers and customers alike take great comfort knowing the standby generator sets specified to provide backup power for administering emergency services will have the ability to continuously run their operations. Generator sets that have met the strict criteria set forth by the IBC and OSHPD certifications offer a greater value proposition by providing an energy solution that has been proven to have a high level of quality, and have been documented to perform to exact test specifications.

Whether customers are located in an active seismic zone or not they appreciate that manufacturers have gone above and beyond supplying just a standby power solution. Providing a wide range of diesel generator sets that have been certified to meet the seismic provisions of all published editions of the IBC and OSHPD seismic preapproval offers customers added peace of mind, and makes good business sense. 

**For information on how these certifications encompass Cat® power solutions from 36 kW to 4 MW, visit [cat.com/powergeneration](http://cat.com/powergeneration).**

# READY *to* ROLL

C18 genset kept treatment plant online for 5 days



Nestled in a wooded valley about 30 miles south of Cleveland, the Hinckley Wastewater Treatment Plant provides a tranquil setting for ongoing sewage treatment.

Originally constructed in 1976, the inconspicuous plant is set back from Ridge Road, processing an average of 1.7 million gallons of sewage per day. The facility is fed by 50 miles of sewer lines that come from the suburban communities of Brunswick, as well as parts of North Royalton, Strongsville, and Broadview Heights.

“In keeping with the somewhat out-of-the-way nature of our facility, we like to maintain a low profile,” says plant superintendent Robert Elmerick, adding that he can’t recall an instance where sewage has backed up into the basements of the plant’s customers.

But this spring, the plant’s stellar performance history was put to the test during a 114-hour unscheduled power outage.

On a Monday evening in March, the Hinckley facility lost incoming power from its utility provider, Ohio Edison. The utility feed was disconnected after 143 homes in the area lost power due to an unspecified mechanical problem.



But the Hinckley plant was prepared, having installed a 600 kW Cat® C18 diesel generator set in October 2014 that is capable of providing more than enough power to the entire facility.

“The Cat generator automatically fired up, the switchgear switched power over, and it ran for nearly five days,” Elmerick recalled.

“Once they disconnected us, we ran the Cat generator for 114.2 hours until we could schedule electricians to come in and work on our high voltage equipment and get it back up to snuff,” Elmerick said.

“And the generator performed great,” he continued. “All we had to do was add fuel to it, and it ran flawlessly. We never had to phase it, it ran smooth. We just had our fuel supplier come in once a day and fill up our tank.”

The Hinckley facility was prepared because it learned several years ago that Ohio Edison planned to remove one of the two utility feeds coming in to the plant. Prior to the acquisition of the 600 kW Cat generator, the Hinckley plant had a trailer-mounted generator that was only large enough to run just one of the facility’s raw sewage pumps.

“We knew we had to institute some type of backup power system, so we talked with several generator companies,” Elmerick said. “We discussed what our power needs were with Mark Gibson at Ohio Cat, and he suggested we utilize a cooperative contract through the National Joint Powers Alliance® (NJPA).”



**“In hindsight, it’s clear that we made the right choice in purchasing the Cat® genset, both from a standpoint of reliability and dealer support.”**

**ROBERT ELMERICK**  
Plant Superintendent  
Hinckley Wastewater Treatment Plant

### Leveraging NJPA

NJPA is a municipal contracting agency serving nearly 50,000 member agencies across the country. NJPA establishes and provides nationally leveraged and competitively solicited purchasing contracts from industry leading vendors. These cooperative contract opportunities offer both time and money savings for their users by consolidating the efforts of numerous individually prepared solicitations to one national, cooperatively shared process.

“The reason it made sense for us is that we didn’t have to go out for bid,” Elmerick says. “The contract was already done through NJPA. We spec’d out the Cat generator, and it gave us what we needed. By going with NJPA, it didn’t take us weeks to go through that process. It saved us time and gave us the equipment that we wanted.”

The C18 generator set has a 1,000-gallon diesel fuel tank mounted directly underneath the elevated generator enclosure. Running at full load, the genset is specified to run for 24

hours before refueling is necessary. (The generator ran at 45 percent of its total capacity during the power outage.)

As part of routine testing, Hinckley facility personnel will run the genset under no load once a week for at least an hour. Once a month, staff transfers the generator load to run the plant anywhere from one to four hours.

“We have a key that we can turn on the switchgear that will simulate a power outage,” Elmerick says. “We have a countdown of 15 seconds for our generator to fire up, then it comes up to speed and the switchgear transfers the facility load to the C18.”

“Our relationship with Ohio Cat has been great,” Elmerick adds. “If I have any questions about our C18 generator, I just call up our sales rep and he always answers the question, or he will transfer me to someone who knows the answer. And when we need parts, they have them ready for us that day or the next day.”

“In hindsight, it’s clear that we made the right choice in purchasing the Cat genset, both from a standpoint of reliability and dealer support.”

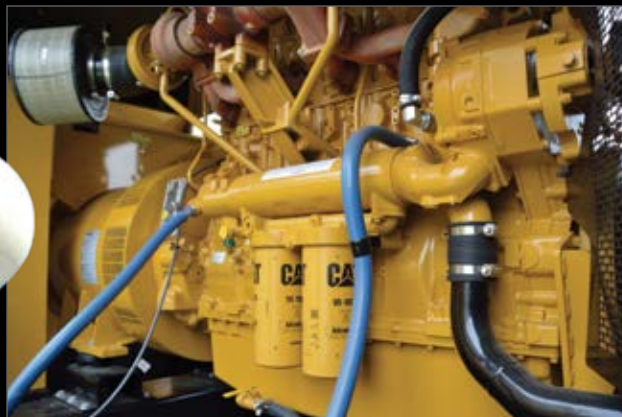
### CUSTOMER PROFILE

#### Hinckley Wastewater Treatment Plan

Location: Hinckley, Ohio

Application: Standby power

Cat® Equipment: C18 diesel generator set



# WEATHERING THE STORM

## Remote Ontario hospital reboots with mobile power solution

**F**inding itself without backup generator power following switchgear failure in the fall of 2013, a hospital in a remote region of northern Ontario required an immediate solution.

Not only had the circuit breakers within the switchgear experienced catastrophic failure, but the controls were obsolete, rendering the backup power system null and void.

Adding to the sense of urgency, the First Nations Indian reserve just south of James Bay is prone to severe weather that can knock out power from the grid for days at a time.

Faced with a dire situation, the Weeneebayko Health Authority turned to its Cat® dealer, Toromont, for both a temporary and permanent fix.

The first order of business was to provide a rental generator to the hospital in Moose Factory, Ontario—an island just north of Moosonee that is only accessible by ferry, helicopter, or ice road in the winter. Technicians from Toromont Power Systems in Sudbury arrived within a day to connect a 500 kW generator set.

Once backup power was restored, representatives from Toromont Power Systems worked with hospital facilities staff to devise a flexible solution.

According to Doug Doiron, a product support sales representative for Toromont, the concept of a mobile power plant in three components was deemed the the best solution because:

- Movement of containerized components would be easier to handle
- Existing equipment could remain in place until logistical plans were worked out
- Installation labor would be minimal
- It will offer the customer the ability to move the entire power plant to another site if required



**The solution**

Two Cat C27 generator sets with on-board paralleling controllers were placed on trailers in a semi-permanent installation adjacent to the 58-bed hospital. The generator sets are enclosed in containers mounted on the trailers, which are retrofitted with hoods to protect against the ingress of snow.

The electrical controls are in a separate electrical distribution house containing two Cat 600A and 1200A Automatic Transfer Switches. The ISO container is equipped with 2000A switchgear, along with ventilation and heating designed for extreme climate conditions.

Due to the modular nature of the installation, the complexity and cost of the project were dramatically reduced.

“They liked our proposal for a mobile plant,” recalls Chris Doreleyers, a systems retrofit engineer with Toromont Power Systems.

The generator sets are outfitted with on-board EMCP 4.4 controllers.

“In the past, you had to have all different levels of controls, but now they are right on board and part of the generator,” Doreleyers says. “You reduce the complexity because another piece of gear is not required with all of the additional hardware. It’s easier for the technicians, too.”

Once Toromont brought the C27 units to Brampton, they were outfitted with snow hoods.



**“When it comes to our customers, we take a consultative approach to provide them with the best possible solution.”**

**CHRIS DORELEYERS**  
Systems Retrofit Engineer  
Toromont Power Systems

“Toromont does a lot of work in the Arctic, and the weather in northern Ontario can get pretty nasty, too,” Doreleyers says. “The hoods prevent the snow from getting inside the trailers.”

Toromont Power Systems drew upon its extensive resources, which include both retrofitting and advanced electrical services, to provide Weeneebayko with a turnkey solution. Working on a tight schedule before ferry season ended in 2014, the new standby system was delivered in September and commissioned in mid-October.

“When it comes to our customers, we take a consultative approach to provide them with the best possible solution,” Doreleyers says. “We have the ability to draw on many facets within our organization, and I think this is what made the project successful.”


When it came to financing the generator sets, the Weeneebayko Health Authority turned to Cat Financial, which made for a fast turnaround on the project.

General maintenance of the generator sets is handled by Weeneebayko

facilities staff, while preventive maintenance and repairs are done by Toromont Power Systems technicians as part of a Customer Support Agreement.

Built in 1949 as a tuberculosis sanitarium, Weeneebayko General Hospital is the only island-based hospital in Ontario, and provides regional medical coverage to coastal communities as well as Moose Factory and Moosonee.

Within five years, the hospital could move from the island to the mainland in Moosonee, so the current installation in trailers will allow for an easy transition when the time comes to move. Installation and labor costs will be minimized by the containerized setup, and will allow for movement of the entire backup power plant.

The Cat C27 (725 kW) gensets were selected with future backup power needs in mind for a new hospital that will be twice the size of the current facility. 


**CUSTOMER PROFILE**

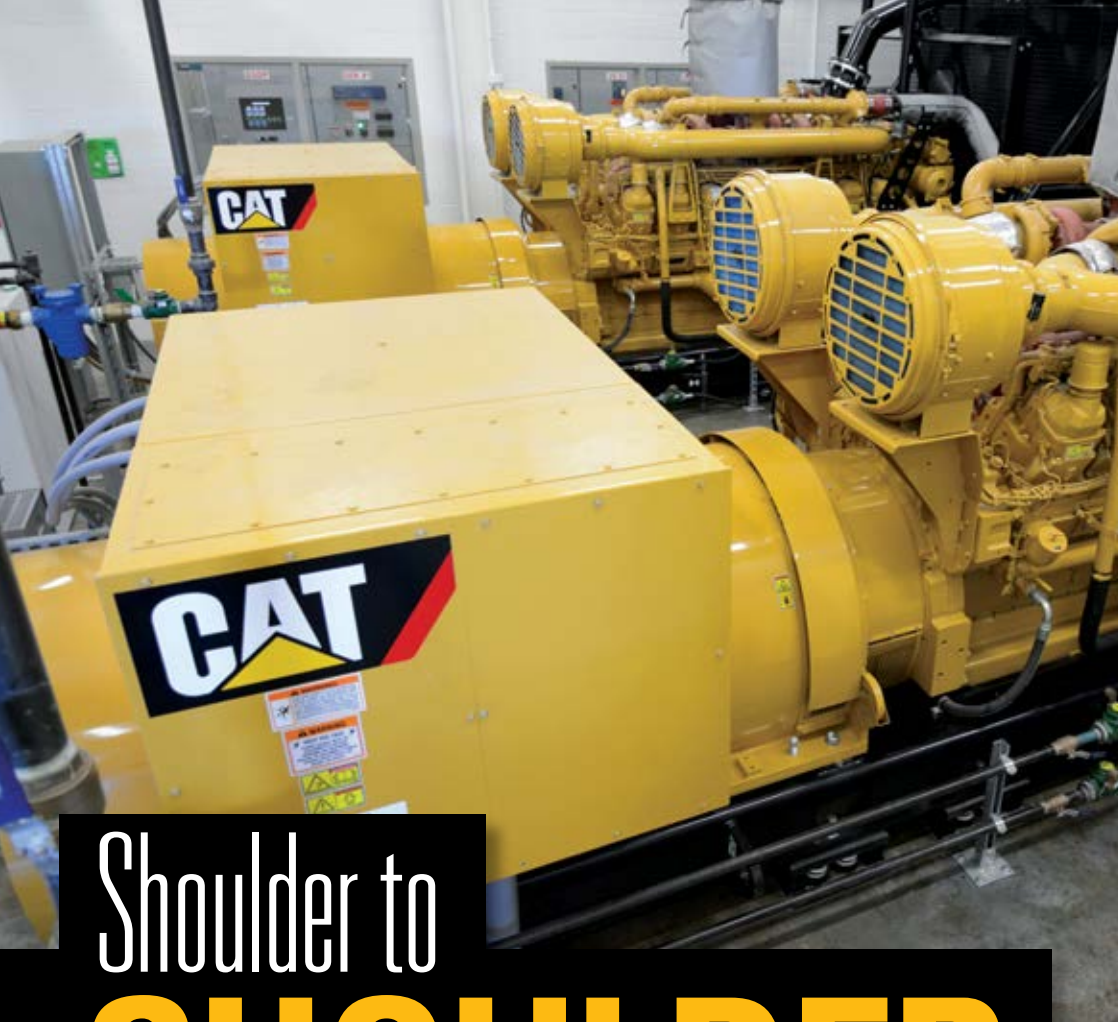
**Weeneebayko General Hospital**

Location: Moose Factory, Ontario

Application: Standby power

Cat® Equipment: C27 ACERT™ diesel generator sets (2), 600A and 1200A Automatic Transfer Switches, ISO 2000A Switchgear





# Shoulder to SHOULDER


The case for paralleling generator sets

**W**ith a growing need for clean, reliable power in the digital age, having enough reliable power for critical loads can quickly outpace a facility's system.

In today's environment, facility managers have to design flexibility and reliability into their electrical systems, while also planning for future expansions.

When you identify potential growth onsite, your options are limited unless you've planned for it. Using multiple paralleled units gives you more flexibility in sourcing the size of standard generator sets, which may be more readily available than larger custom systems. This means faster turnaround time so you complete the power distribution portion of your project sooner.

If the variation in load demand between peak demand and off-peak is great, the ability to drop power generation units offline will help optimize fuel consumption, giving you more available hours of operation for your tank size. With a parallel system, you'll have the choice between simple, advanced and custom methods to integrate units that meet your expansion needs.

Using multiple small units to cover the peak load demand can allow for critical load redundancy, maximizing your operation's efficiency. 

*For more information about paralleling systems, contact our dealership.*

## 3 PARALLELING OPTIONS:

### OPTION 1

#### On-Package Paralleling

- Generator set package controller with paralleling features
- Supports simple island mode operation only
- Low voltage application (600v or less)

### OPTION 2

#### Paralleling Controls Only (off-package)

- Remote-mounted paralleling controls (wall mounted or floor standing)
- Include system level controls and operator interface
- Supports more applications than Option 1
- Low voltage application (600V or less)
- Load add/shed and generator priority controls are available
- Can make use of cost effective package-mounted circuit breakers
- Scalable and flexible design

### OPTION 3

#### Traditional floor standing generator paralleling controls/switchgear (off-package)

- Paralleling controls are combined with switchgear
- Designs provide complex system-level controls and graphical operator interface
- Various configurations support applications ranging from simple to the most complex (including paralleling with multiple utility sources)
- Low and medium voltage variations (600V or less through 15 kV and higher)
- Standard, configurable and fully customized designs
- Includes generator paralleling breakers and can provide electrical distribution schemes that closely integrate with site electrical systems
- Full site monitoring and communication capability are available

Remember, the more one source can provide, the more integrated your system will be. The power systems specialists at our dealership offer the expertise and equipment to keep your operations running smoothly. Providing complete integration of Cat products and support ensures that your electric power needs are met.



# PEAK SAVINGS

Municipal utility realizes monetary gain from standby gensets

**A**s the largest municipal utility in South Carolina, the Orangeburg Department of Public Utilities (DPU) provides all utilities to approximately 30,000 customers.

As the electric utility, Orangeburg DPU buys wholesale power generated by South Carolina Electric & Gas and distributes it via 22 electrical substations over a 340 square-mile area.

Demand for electric power is at an all-time high due to population increases and the explosive growth of digital devices. To deal with ever-rising demand, many utilities are finding it necessary to increase investment in transmission and generating facilities to deliver reliable power to their customers.

Orangeburg DPU utilizes its own fleet of backup generator sets for standby power to its water and wastewater treatment plants. Two Cat® G3520 gas generator sets provide emergency backup power during

an outage—which is rare—or during severe storms, or even a hurricane.

The generators were called on during Hurricane Hugo, and also during ice storms in 2014 and 2004, when grid power was lost for an extended period.

“Sometimes the utility will call on us to run to boost the voltage up when they lose a generating plant,” says Steve Tant, power delivery superintendent for Orangeburg DPU. “We have a feature on these units called ‘override to standby,’ so if we have a hurricane alert or some kind of anticipated weather event, we’ll go ahead and crank the units up and let them feed power to the water plants and keep them running through the storm and not worry about the utility power cutting out.”

**Significant savings**

Like the majority of public power systems that do not generate their own electricity, Orangeburg instead purchases

it on the wholesale market for distribution to its customers.

Because securing competitively priced and reliable wholesale power

*Continued on page 10*

**CUSTOMER PROFILE**

**Orangeburg Department of Public Utilities**

Location: Orangeburg, S.C.

Application: Standby power and peak shaving

Cat® Equipment: Two G3520C gas gensets, ISO Switchgear



**“We save approximately \$2.4 million a year. That’s why these units can pay for themselves in four or five years.”**

**STEVE TANT**  
Power Delivery Superintendent  
Orangeburg DPU



is a priority, the municipal utility practices peak shaving, operating its generators during times of high power demand on the grid. Combined, the two Cat gensets produce up to 4 MW of power.

“The way our contract works, we peak shave for South Carolina Electric & Gas whenever they request us to do so,” says Tant. “We can peak shave up to 400 hours per year—it’s whenever they request us to run the generators, and that’s usually when it’s real hot outside, or real cold. Typically we run around six to eight days per year.”

With a 200 MW electrical network demand in Orangeburg, the Department of Public Utilities can only generate 26 MW for the emergency areas of DPU, Tant says.

Two Solar Titan Taurus 7000 gas turbines previously used for drying sludge at the wastewater plant can also be called on to peak shave, and supply an additional 5 MW each.

“When it comes to peak shaving, our demand charge is reduced by 26,000 kilowatt hours, and it comes out to \$200,000 a month that we save on our energy bill from South Carolina Electric & Gas,” Tant says. “Just by having that generation capability here, whether it’s used or not, we save approximately \$2.4 million a year. That’s why these units can pay for themselves in four or five years.”

### Dealer support

While the generator sets can be started remotely from Orangeburg’s SCADA system, startup is done manually by DPU personnel for routine testing and peak shaving. Staff can also monitor the electrical load on the units from the SCADA system.

In the event of an outage on the grid, an automatic transfer switch relays power to the generators, which pick up the electrical load within 60 seconds. It takes about three minutes for the generators to fully restore power to the water and wastewater plants.

“We have had a relationship with our Cat dealer since 1993, when we bought some Solar Turbines,” Tant says. “We



(L) A Cat G3520C genset backs up Orangeburg’s wastewater treatment plant. (R) Monthly load test.

purchased the G3520 generators from Blanchard Power Systems in 2004 and 2014.

Orangeburg DPU performs a majority of the preventative maintenance, and operates the generators once a month for an hour-long duration as part of regular testing.

“We check all the fluids and do a visual check during these monthly tests, says Bob Salley, a mechanic for Orangeburg DPU. “We are transferring the load to make sure everything works the way it should.”

Orangeburg utilizes S•O•S™ Fluid Analysis from Blanchard to test oil and coolant samples from the generators.

“It helps us stay on top of oil changes and know when we need to change it out,” Salley says. “We go by Caterpillar’s preventative maintenance program.

“We’ve been using all Cat products as far as the oil, antifreeze and other fluids, and we’ve had very little trouble with these generators,” he adds.

If Orangeburg DPU staff has a question, they can all their Blanchard technician anytime, Salley says. “If we

have an issue, he’s good about trying to talk us through it on the phone. If it’s not resolved, he’s on the way from Greenville.”

When it comes to parts and support, Tant knows he can count on his Cat dealer, day or night.

“Blanchard has a good group of people at their company, and they provide plenty of technical support whenever we need it,” Tant says. “And when it comes to parts, they have what you need—we can always get it quickly, within the next day.”

## ORANGEBURG, S.C.

Located halfway between Charleston and the capital city of Columbia, Orangeburg, South Carolina derives its name from William, the Prince of Orange, the son-in-law of King George, II, of England. The city was first settled in 1704 on the banks of the North Edisto River by an Indian trader, George Sterling.

Also known as “The Garden City” for the Edisto Memorial Gardens, which feature past

and current award winning roses from the All-American Rose Selections, the population of the greater Orangeburg area is 67,326.

The city is enlivened by yearly additions of college students at two major universities. Claflin University was ranked as the best liberal arts college in the state in 2014 and the top historically black college and university in the country by Washington Monthly. South Carolina State University is noted for having the only undergraduate nuclear engineering program in the state,

and the only masters of science degree in transportation in the state.

In the 1960s, Orangeburg was a major center of Civil Rights Movement activities by students from both colleges, as well as black residents of the city.

South Carolina Gov. Nikki Haley from neighboring Bamberg County was educated at Orangeburg Preparatory, and is the state’s first female governor, as well as its first minority governor.

# BACKUP PLAN

## Gas genset keeps propane supplier up and running in an emergency

**E**stablished in 1928, Suburban Propane distributes propane, fuel oil and refined fuels to residential homes and businesses in 41 states.

With 710 locations throughout the U.S. that serve the energy needs of more than 1.2 million customers, the central hub at Suburban Propane can't afford to be down.

The Suburban Propane locations that spread from the headquarters in New Jersey all the way to the Pacific coast need to stay online with the data center to ensure dependable delivery of propane and fuel oil.

"If we lost power completely, our 475 service centers around the country would be impacted, because they all are funneled through our data room," says Al Pierce, senior facility manager for Suburban Propane in Whippany, N.J. "If this goes down, everything goes down,

because everything comes in through our data center."

While the company had a generator sized only for powering the data center, the experience gained by going through a seven-day outage following Superstorm Sandy convinced management that more backup power was required to maintain a fully operational building in the event of a prolonged power interruption.

"We needed something to run one building including our data center so that it could house our disaster recovery and

### CUSTOMER PROFILE

#### Suburban Propane

Location: Whippany, N.J.

Application: Standby power

Cat® Equipment: G3412 gas genset



all of our business units,” Pierce says.

With the need for additional backup power in mind, Suburban purchased a Cat® G3412 generator set two years ago from its Cat dealer, Foley Power Systems.

The Cat genset provides backup power to Suburban’s Plaza 2 building, which primarily houses information technology and human resources. With economies of scale achieved through technological improvements in the data center, the genset is only required to run at 60 percent of its capacity to provide full power to the Plaza 2 building.

A G3412 standby genset is traditionally fueled by pipeline natural gas and delivers power output ratings of 350-500 kW. Suburban’s G3412 is capable of operating when fueled by propane stored in large onsite tanks.

*Continued on page 14*



## SERVING CUSTOMERS NATIONWIDE FOR OVER 88 YEARS

Headquartered in Whippany, N. J., Suburban Propane is a nationwide marketer and distributor of a diverse array of products to meet the energy needs of its customers. Suburban specializes in distributing propane, fuel oil and refined fuels, as well as marketing natural gas and electricity in deregulated markets.

With nearly 3,800 full-time employees, Suburban maintains business operations in 41 states, providing reliable service to approximately 1.2 million residential, commercial, industrial and agricultural customers through 710 locations.

Typically, Suburban’s customer service centers are located in suburban and rural areas where natural gas is not readily available. Generally, Suburban’s customer service centers consist of an office, appliance showroom, warehouse and service facilities, with one or more 18,000- to 30,000-gallon storage tanks on the premises.

As with nearly any successful enterprise, the underpinnings of the business started with a problem that required a solution.

In 1928, Mark and Adele Anton left Newark, N.J., to build a home in nearby West Orange. During the construction, Mrs. Anton discovered there were no gas lines near her new house in the country. She had learned to cook with gas, and the idea of using a kerosene or electric range simply didn’t appeal to her. One day, while thumbing through trade journals, Mark Anton noticed an advertisement by a company named Rock Gas, which sold propane and the equipment for home installation. He placed the order that ultimately made Mrs. Anton Suburban’s first satisfied customer.

Mark Anton realized that others moving to the developing suburbs might enjoy having the same convenience, so he ordered more equipment from Rock Gas and installed several

more systems in the neighborhood. With that, the Suburban Gas Company was born.

From these modest beginnings, the company would expand to the New Jersey countryside, down the coast from Maine to Florida, and eventually reach west to the Pacific.

When Philgas, owned by Phillips Petroleum, opened two local propane distribution plants in New Jersey, Mark Anton became a wholesale customer. As World War II came to an end, the propane industry prepared for a massive post-war expansion. Phillips had shifted its focus on petrochemical opportunities and was ready to move out of the East.

Anton purchased Phillips’ 13 eastern propane properties and all the assets of the Suburban Gas Company, forming Suburban Propane Gas Corporation in 1945.

Anton never strayed from his initial idea of finding a way to fill customer needs. Over the years his vision, and later that of his son, Mark J. Anton, would take Suburban Propane to new horizons.

With the 1971 purchase of Vangas, Inc., a large California-based propane marketer, Suburban completed its expansion to the Pacific. Maryland-based Pargas and Texgas Corporation of Texas, were acquired in 1985 and 1986, respectively.

On August 1, 2012, the partnership successfully completed the acquisition of Inergy L.P.’s retail propane operations. The acquisition effectively doubled the size of the customer base and expanded its geographic reach into 11 new states, while establishing a presence in portions of the Midwest.

Since 1996, the company has traded on the New York Stock Exchange as a Master Limited Partnership.

“We have ample propane reserves, so the generator has to be able to run on propane,” Pierce says.

Not only does having its own fuel supply reduce Suburban’s operating expenses, but, as a standby generator set, the G3412 can accept full load in seconds and run continuously for the duration of an outage. The genset is compliant with EPA New Source Performance Standards (NSPS).

Suburban Propane’s selection of the Cat G3412 generator set reflects a growing nationwide demand for gas-fueled generators, based on abundant supplies of natural gas, which represents a significant long-term cost savings over diesel fuel.

As demonstrated by the impact of Superstorm Sandy along the East Coast, natural disasters and other weather-related events are causing more frequent utility power outages, making it paramount to have a backup source of power for data centers and other critical business functions.

Rather than a fixed enclosure, the genset is housed in a mobile container, which is moved into position and hooked up to the building when it is needed. The mobile container was chosen to help Suburban provide flexibility and meet the needs of its business, Pierce says.

Real Power Engineers of Morganville, N.J. provided engineering design services for the roll-up generator. According to engineer Geoffrey Krenkel, the design included an electrical tap box with cam-lock power cable connections and a service



entrance-rated transfer switch enabling the entire facility to be powered by the G3412 generator.

### Cat reliability


Suburban chose Caterpillar due to its reputation for quality and reliable performance.

“One thing we wanted was a reputable brand name, and Caterpillar certainly fits the bill,” Pierce says. “And Foley Power Systems is nearby—they are about 20 miles away, so the service is close.”

Suburban has a Customer Support Agreement with Foley. Technicians provide quarterly maintenance and inspect the generator set, as well as conduct an annual full-load test. In addition, Suburban conducts its own building load test once a year as part of a disaster recovery drill.



“We have a great relationship with Foley,” Pierce says. “They were excellent in helping us determine our needs and sized the generator to match our requirements. And they are always on time and always call ahead before their PM service.”

“We like Foley because we know we can count on them for prompt service, much like our customers count on us for prompt delivery of fuel.” 



**“One thing we wanted was a reputable brand name, and Caterpillar certainly fits the bill. And we have a great relationship with Foley Power Systems.”**

**AL PIERCE**  
Senior Facility Manager  
Suburban Propane



# POWER WHEN YOU NEED IT MOST

## CAT® GAS STANDBY GENERATOR SETS

**F**rom natural disasters to unexpected outages, Cat gas standby generator sets are engineered to provide power when the grid no longer can. Whether you're responsible for powering an office, data center or city, we have the gas engines, generators and ancillary equipment to protect your operation.

### Accessible

Gas is one of the most accessible fuel sources, as the demand for it decreases during power outages as gas-fired electricity generation goes offline. Another reason is that many compressor stations, responsible for keeping the pressure in the pipelines, are powered by the natural gas in the pipelines themselves. And because gas is supplied by pipeline, storm damage can't impede fuel delivery trucks, so fuel is readily available and demand remains low.

### Reliable

Pipelines are air and watertight, eliminating the risk of fuel contamination. And, unlike a distillate

fuel, a gaseous fuel won't leach into standing water during flood conditions.

### Economical

The low cost of gas fuel can reduce your total operating expenses.

### Industry-leading

Many of our standby generator sets are capable of being ready to accept full load in 10 seconds and running continuously for the duration of the outage. And we've engineered our gas engines to operate successfully at light load or no load for extended periods. To ensure our engines run like we say they will, we rigorously test every one before they leave our factory doors.

### Qualified


All of our gas generator sets are U.S. EPA factory certified and are qualified to meet New Source Performance Standards (NSPS) NOx emissions requirements without the addition of an aftertreatment system. And each is capable of meeting UL2200 and NFPA 110 Level 1 Type 10. Should your

application or area demand stricter standards, our team can tailor a solution to meet those needs.

### Versatile

Our gas generator sets are engineered for any standby application and can be easily equipped for peak shaving, significantly reducing your utility costs. And because maintenance intervals are longer, they're ideal for powering through extended outages without interruption.

### Beyond backup power

Our gas standby engines in many cases can double as power sources for peaking service or utility-based demand response programs when not needed for emergency duty. Their potential dual purpose means more electrical savings for you and a quicker return on your standby investment. 

*Contact our dealership to learn more about how Cat gas generators can meet your standby power needs.*

# YOU HAVE THE POWER OF CHOICE



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- 24/7/365
- Generators 20kW-2000kW
- Load banks
- Transformers
- Distribution equipment
- Transfer switches
- Temperature control equipment

### 1600 DEALER OUTLETS

Delivers the power you need, when you need it, where you need it. Trust Toromont Rental Power to deliver the equipment, manpower, service and confidence you expect from Cat.

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RENTAL HOTLINE  
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**BUILT FOR IT.™**



## OUR EXPERTS WILL HELP YOU GET THE JOB DONE—RIGHT

Whether you're installing a back-up generator for your small business, working with an engineering firm to upgrade your manufacturing plant, or designing a new power station from ground up, our Power Systems experts can provide the right level of support—right when you need it. Depend on our experts to help you:

- Reduce risks and delays that could impact your timeline
- Understand the necessary permits and approvals required
- Manage proper installation
- Provide reliability testing and start-up services
- Supply training to facility personnel as necessary

**Contact our Power Systems experts for more information.**