A Caterpillar® publication for Power Professionals SPRING **2020**

RUNREADY™

Lake Louise, Canada

VITAL LINK
CAT® DEALER SUPPLIES LONG-TERM RENTAL POWER TO NATIONAL PARK

MARKET HEDGE
Public utility manages energy demand with Cat® G3520H gensets

STRONG PARTNER
Navy Federal Credit Union call center supports military personnel

RELIABLE GAS POWER SOLUTION
Cat G3520H high-efficiency genset

CAT®

The Roaring Twenties

In recent years there has been debate about when a decade begins and ends. For some people, the next decade started on Jan. 1, 2020, and will end on Dec. 31, 2029. For others, it won't start until Jan. 1, 2021.

As ***RunReady*** enters its second decade, indicators suggest that this will be the Roaring Twenties for the growth of renewable power and distributed energy resources.

Just as the 2010s represented a defining decade for distributed energy, that trend will only accelerate in the 2020s as alternative energy and localized, onsite generation continue their advance into the mainstream. Over the last decade, renewable energy costs dropped due to advancements in technology innovation and design, materials and manufacturing of wind turbines and solar panels.

As a result of various factors, including increasingly stringent environmental regulations and cheap natural gas, the market is opening to other technologies. The main beneficiaries of this market shift are natural gas-powered technologies. Distributed energy resources are poised for explosive growth across the United States over the next four years, according to GTM Research. Navigant Research expects the distributed natural gas generation market to reach $6 billion in annual revenue and roughly 18,000 MW of annual capacity additions by 2028.

But we will leave those dizzying market forecasts to the analysts. Our mission is to highlight examples of people who are applying these emerging sources of energy to run their businesses more efficiently.

Our first issue of 2020 features an interesting mix of power applications, including:

- Natural gas-fueled Cat® G3520H generator sets are utilized by a Massachusetts municipal utility to help manage energy demand and keep prices low for ratepayers.
- In the Florida Panhandle, a battery of Cat 3516 diesel generator sets back up the call center and entire corporate campus of the world's largest credit union.

If you have an interesting power application, please let us know.

John Rondy, Editor
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DID YOU KNOW?

The number of small-scale distributed solar photovoltaic (PV) systems, such as those found on the roofs of buildings, has grown significantly in the United States during the past several years. The U.S. installed 2.6 gigawatts (GW) of solar PV capacity in Q3 2019 to reach 71.3 GW of total installed capacity, enough to power 13.5 million American homes

According to the Solar Energy Industries Association, total installed U.S. PV capacity will more than double over the next five years, with annual installations reaching 20.1 GW in 2021.

FLEXIBLE POWER

Foreign companies have been actively investing in combined heat and power (CHP) projects in Mexico. According to an industry report, it is estimated that Mexico will require a total investment of $123 billion (U.S.) in electricity infrastructure over the next 15 years to achieve the goals set by the government. Out of the total investment, 75 percent will correspond to investment in power generation infrastructure.

Flex Ltd. is a leading Sketch-to-Scale® solution provider that designs and builds intelligent products globally with approximately 200,000 employees across 30 countries.

Located in Guadalajara, Mexico, the Flex Norte manufacturing facility was established in 1996. The facility today has more than 11,000 employees, and produces routers, switches, set-top box, servers, fiber optics, smart grids, appliances, controllers, complex PCBA's, scanners, outdoor/indoor cabinets, 3G/4G mobile technology and more.

Commissioned in February 2016, Flex's cogeneration plant has two Cat CG260-16 gas gensets that produce a total of 8 MW of electric power, and one absorption chiller which produces 988 tons of chilled water for air conditioning. The CHP plant was planned in two stages and has a net energy efficiency of 80 percent with the addition of the absorption chiller. The plant has operated with 99 percent availability while accumulating 33,000 hours in 45 months of operation.

"Caterpillar has become a strategic ally for Flex in terms of power generation," said Carlos Figueroa, a senior director for Flex. "And this is extremely critical for our business because the power plant generates around 70 percent of our consumption."

Payback on the Flex Norte CHP project is anticipated in less than 48 months. Based on this outcome, Flex commissioned its second CHP plant at its Tijuana facility.

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Caterpillar is proud to be a sponsor of International Data Center Day, which is intended to inspire the next generation of data center professionals.

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MARKET HEDGE

PUBLIC UTILITY MANAGES ENERGY DEMAND WITH CAT® G3520H GENSETS

Located at the intersection of two major highways 12.5 miles north of Boston, Wakefield, Mass. is a bedroom suburb of 30,000 people that is considered a desirable place to live. A focal point of the community is its town common and iconic yesteryear bandstand, with 247-acre Lake Quannapowitt in the background.

Founded in 1894, Wakefield Municipal Gas & Light Department (WMGLD) is a distribution utility responsible for supplying power to approximately 13,000 residential and commercial customers, and natural gas to 7,000 customers.

Wakefield operates in a challenging environment, as New England's energy customers incur higher energy costs than the national average. Massachusetts remains a high-cost energy state, fourth among all U.S. states for residential gas heating costs and for average residential electricity costs, according to the U.S. Energy Information Administration.

The state's high-cost energy environment continues to pose challenges for economic growth and energy affordability. Massachusetts remains among the most price-sensitive natural gas markets in the nation due to limitations on its infrastructure capacity.

Against this backdrop, WMGLD has taken a series of steps to hold the line on rate increases while delivering reliable power. Within the last four years, the municipal utility has added a second substation, a ring station and several transmission lines. These electrical infrastructure improvements have greatly increased both capacity and reliability.

Managing energy demand

During the last two years, Wakefield installed two Cat® G3520H generator sets to help manage periods of peak demand. Wakefield is the second of five Boston area municipal utilities to install distributed generation as a tool to better manage energy costs.

Depending on the system load, WMGLD's generator sets run five to six times a month for three to four hours at a time. Because the Cat gensets start fast and load fast, electrical demand can be managed more effectively at the local level to help minimize the demand from large industrial users, says Pete Dion, general manager at WMGLD.

"To minimize or lessen their demand on the system, the use of these Cat generators give us a little bit more control," Dion says. "We can manage demand in the town at a higher level and not worry about having to convince individual customers how they can contribute to lowering the demand on the system."

The Cat gensets also serve as a hedge for the utility's gas supply. In the winter months, WMGLD will contract for a specified amount of natural gas at a set price.

"On some days during those winter months, we're not using what we've contracted for," Dion says. "So we'll use the generators to use up some of that gas.

"If we contracted for a specified amount and we're forecasting that based on mild temperatures we're going to use less than that, we can run the generators to use up some more of that gas that we've already contracted for rather than buying electricity on the open market," Dion says. "And we've done that a good number of times based on the mild winter we've had."

As a municipal utility that distributes energy it receives from outside sources, WMGLD is a member of the Massachusetts Municipal Wholesale Electric Co. (MMWEC), which provides hedging and portfolio management services for Wakefield's bulk power supply. As a joint action agency, MMWEC enables Wakefield to take advantage of pooled transactions resulting in lower rates for its customers.

Wakefield has a multi-layered energy portfolio that includes natural gas, nuclear, hydro, wind and solar. Those

CUSTOMER PROFILE

Wakefield Municipal Gas and Light Dept.

Location: Wakefield, Mass.

Application: Demand management, firming

Cat® Equipment: Two G3520H gas generator sets (2.5 MW each)

"The key to a unit like our Cat G3520H gensets is that you don't have a long startup and a long cool down. You can run these units in short increments and offset the peaks when necessary."

PETE DION
General Manager
Wakefield Municipal
Gas & Light Dept.

layers include some partial ownership in nuclear power plants, long-term energy contracts, short-term contracts as well as relying on spot prices on the open market.

"We're always layering our portfolio so that we're covered for all the different obligations and needs," Dion says. "So there are capacity needs and also supply needs. And depending on the pricing, we'll layer in long-term capacity, medium-term capacity, and short-term energy around times of peak demand. There are all kinds of power supply modes that you can use, and we have a little bit of each."

WMGLD needs to control peak loads that occur between 4 and 8 p.m., and the Cat G3520H generators are well-suited to provide power during times of peak demand.

"When I first started in the industry, with all the commercial load from

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business, the region always peaked between 1 and 4 p.m.," Dion says. "Now the region peaks between 6 and 8 p.m., and that's all been driven by the installation of so much solar power. Solar energy is taking care of the peak between 1 and 4, but now the new peak occurs later, and solar power is not going to add any value between 4 and 8 p.m. So, if we don't have our own generating units to fill in, then we're not going to get the full value from that solar power.

"It's very similar out west, where they have giant solar and wind farms," Dion continues. "If the wind stops blowing and the sun stops shining, they bring those generating plants online to smooth that out."

After the second Cat genset was installed in June 2018, WMGLD was well positioned when a combination of weather conditions on Labor Day 2018 caused the price on the spot market go through the roof.

"We were able to run the generator to help solve that crisis, as well as save our customers money, because we were running very inexpensive generation at the time," Dion says.

Upping the ante

In January, Massachusetts Gov. Charlie Baker upped the ante when he announced he wants the state to adopt a goal of net-zero greenhouse gas emissions by 2050—a target also included in comprehensive legislation that was introduced in the Massachusetts legislature.

"Right now, there is no clear path to zero emissions because wind, solar, and hydro power only work when they work," Dion says. "So, I think you're going to need some distributed generation like our Cat units provide. You want the most efficient and environmentally friendly energy, but you're still going to need power generation units like this to back it up at peak times.

"The key to a unit like our Cat G3520H gensets is that you don't have a long startup and a long cool down," Dion adds. "You can run these units in short increments and offset the peaks when necessary."

"Having our own distributed generation offers a lot of flexibility. We've seen increased use of the generators by some of the municipal utilities in our area, so they are seeing the benefits as well."

DAVE POLSON
Engineering and Operations Manager
Wakefield Municipal Gas & Light Dept.

In addition to leveling out energy demand, the gensets help stabilize the rate WMGLD charges its customers.

"By now, we probably would have been forced to have a rate increase, but we haven't had a base rate increase since 2009," Dion says. "Utilizing tools like the generators have enabled us to maintain and stabilize our rates. We're running them more frequently to firm up the overall capacity and level the load a little bit more."

Based on the frequency with which the generator sets have been running, payback on the gensets will be realized in about five years, which is less than the initial estimate of 7.5 years, says David Polson, engineering and operations manager for WMGLD.

"Having our own distributed generation offers a lot of flexibility," Polson says. "And we have found it helpful to talk to other communities that have them. You find out how they use it, and what the challenges and the benefits are. We've seen increased use of the generators by some of the municipal utilities in our area, so they are seeing the benefits as well."

Cat dealer understands the market

Wakefield started preparing for the installation of the generator sets with the construction of the second substation along with other system improvements. The project was put out for bid, and the utility selected Milton CAT based on Caterpillar's reputation for quality and reliability, as well as first-rate dealer support.

Massachusetts has some of the most stringent emissions regulations in the country, on a par with California. In order to streamline the construction and permitting process, Milton CAT installed a selective catalytic reduction system (SCR) on top of both generators, which enabled Wakefield to avoid the time-consuming process of securing an air permit from state regulators.

"When it comes to reducing emissions, Milton CAT's expertise made it easy for us to go through the process of installing the generator sets and avoid a lengthy permitting process with the state," Polson says.

The Cat dealer's experience installing and servicing generators in several other Boston area public utilities, including nearby Reading, made the decision easy.

"We were looking for a company that would be responsive and understand our needs—how we planned to use the generators—and we found that Milton CAT was that company," Polson says. "It was great to see that Milton understood how we use them and was able to respond to that need.

"It's a long-term commitment by both parties," Polson adds, "and Milton CAT is committed to a partnership with us to make sure the units are operating optimally. They're there when we need service, they've been very responsive.

"They're a local company that can dispatch service techs in a short amount of time. And they're all seasoned employees at Milton CAT—they know their job."

G3520H enclosure

RELIABLE GAS POWER SOLUTION

CAT® G3520H HIGH-EFFICIENCY GENSET

From natural gas-fueled combined heat and power (CHP) systems and emergency power for facilities, to renewable biogas energy to support the local grid, and electricity generated from coal mine gases, we provide a wide range of reliable gas power solutions.

The Cat G3520H gas generator set is field proven in these and other demanding applications.

You'll benefit from a robust, high-speed block design that provides prolonged life and up to five percent lower owning and operating costs. Higher electrical efficiency paired with extended maintenance intervals increase uptime and reduce costs.

For more information, contact the power systems experts at our dealership.

MAXIMUM CONTINUOUS RATING

2519/ 2500EKW @ 1.0PF

FUEL TYPE

NATURAL GAS

MAXIMUM ELECTRICAL EFFICIENCY

45.30%

LOWER LUBE OIL CONSUMPTION

Leading to lower service costs and extended maintenance intervals

UP TO

52%

SAVINGS ON SERVICE

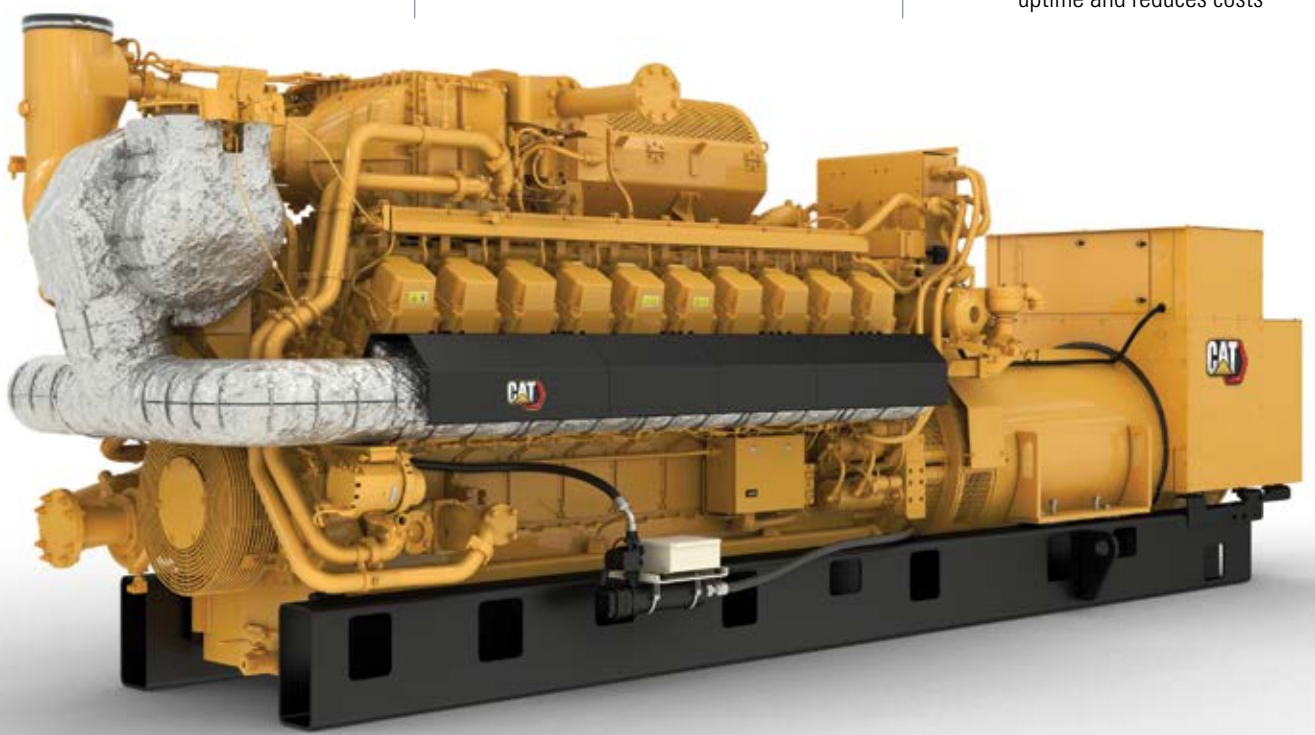
Extended maintenance intervals leading to lower service costs

UP TO

5%

SAVINGS ON OWNING AND OPERATING COSTS

Higher electrical efficiency paired with extended maintenance intervals increase uptime and reduces costs



For more information, visit **cat.com/en_US/products/new/power-systems/electric-power/gas-generator-sets/1000003143.html**

Banff National Park, Canada

VITALINK

CAT® DEALER SUPPLIES LONG-TERM RENTAL POWER TO NATIONAL PARK

As one of Canada's leading electricity transmission companies, AltaLink is responsible for the maintenance and operation of approximately 13,000 kilometres of transmission lines and 300 substations in the province of Alberta—which make up more than half of Alberta's high-voltage transmission infrastructure and serves more than three million Albertans.

Beginning in 2016, AltaLink began the process to rebuild an aging power transmission line in Banff National Park—Canada's first national park and the flagship of the nation's park system. Banff is part of the Canadian Rocky Mountains, and a popular tourist destination.

Lake Louise and everything west of the town of Banff is fed by only one transmission line. The 69 kilovolt (kV) line serves all of the residents and business west of Banff, including recreation properties along the Bow Valley Parkway, the village of Lake Louise, as well as both the Sunshine Village and Lake Louise ski areas.

The line (551L) was built in the 1960s and many of the structures had reached the end of their useful life—which impacts power reliability—so it was necessary to replace it, said Brent Sandhu, senior project manager with AltaLink, which is headquartered in Calgary.

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CUSTOMER PROFILE

AltaLink

Location: Calgary, Alberta, Canada

Application: Temporary 12 MW power station

Cat® Equipment: XQ2000 rental generator sets (6)

ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

"Danger trees along the right-of-way contacting the line in storm events are the biggest cause of outages in the area," he said, noting there have been numerous power outages caused by interference on the line in the past 12 to 14 years.

During the summer of 2019, the project entered an important stage involving the replacement of the structures and conductor in the mountainous terrain that did not allow for the construction of a temporary line to keep the lights on for the loads west of Banff while the crews rebuilt the line. This created a unique opportunity for Finning's power systems rental division.

"It's really quite important with this being a fairly remote site to maintain a constant supply of fuel."

BRIAN SAVILAAKSO
Regional Sales Manager
4Refuel

Finning delivers turnkey power plant

While the power line was being rebuilt, the area required an alternate source of power from July 1 until September 30 to provide power to hundreds of customers, including residents, hotels and restaurants in the Lake Louise area. AltaLink called on Cat® dealer, Finning Canada to supply 10 megawatts (MW) of power at a temporary plant set up just north of the Trans-Canada highway outside of Lake Louise. The installation included six Cat XQ2000 diesel rental power generator

sets, which ran 24/7 and were connected to an AltaLink substation.

The turnkey solution provided by Finning included the engineering and design, as well as operating and maintaining the plant for the duration of the project. To ensure reliability, the generator sets were monitored via remote at Finning's Edmonton headquarters by a team of condition monitoring analysts using Cat Connect Remote Asset Monitoring technology. In order to minimize the sound emanating from the site, shipping containers were positioned around the perimeter.

"AltaLink wanted us to supply power and not have to worry about it so they could concentrate on rebuilding the power line," said Mike Kuzminski, an industry manager in Finning's rental power division. "It was our responsibility to do the front-end engineering to ensure that we could manage all of the electrical loads. There were a lot of varied loads with the ski hills—large gondola motors starting and stopping within the system that we took into account with our design.

"We needed to provide a power plant that would run 100 percent of the time for a three-month period," Kuzminski added. "So, with the power generation equipment that we provided through Caterpillar, our on-site refuelling system provided by Finning industrial service company 4Refuel, and with operators on-site 24/7, we were really able to bring a complete turnkey solution together to provide AltaLink exactly what they wanted."

Given its size and complexity, the planning phase of the project began two years ago, said Nathan Biederstat, field service supervisor for Finning Canada. The entire rollout and commissioning of the temporary power plant took a month to complete.

"We had multiple contractors at site helping with the rollout of electrical equipment and the installation and placement of our gensets, transformers, and all of our spill containments," Biederstat said. "So it was a combined effort of quite a few groups and a lot of minds that came together."

Maintaining a constant source of diesel fuel was critical for 24/7 operation of the power plant, which consumed 25,000 litres daily. This was handled by Finning's subsidiary, 4Refuel. Acquired by Finning at the start of 2019, 4Refuel is the largest on-site mobile refuelling company in North America, operating in eight provinces across Canada and in Texas.

"It would be a disaster if the town, the hotels and all the other tourist areas in Lake Louise ran out of power," said Brian Savilaakso, a regional sales director for 4Refuel. "It's extremely important with this being a fairly remote site they could rely on our ability to provide a constant supply of fuel."

Satellite monitors placed on the diesel fuel tanks alert 4Refuel via e-mail or text how much fuel is in a tank at any given time.

"Finning is provided with instant insights on fuel usage so they know exactly how much fuel they use in a day, a week, or a month," Savilaakso says. "And with our Certified Refuelling Professionals providing the service, they can be confident in our ability to maintain appropriate fuel levels for the generators.

"With our monitors on the tank, they don't have to call us out for delivery. We just show up when the tank requires fuel. We brought in 50,000 litres every other day to the site to keep the tanks full."

The Lake Louise project for AltaLink served as a showcase for the Finning Power Systems Rental Group to deliver a complete solution.

"We determine your particular needs," Kuzminski says. "And we can come in and provide a turnkey solution. Our team is built around providing solutions for our customers in a multitude of geographical areas and applications."

STRONG PARTNER

NAVY FEDERAL CREDIT UNION CALL CENTER SUPPORTS ACTIVE DUTY MILITARY PERSONNEL

Located in the western Florida Panhandle, Pensacola is sometimes referred to as the cradle of naval aviation.

Naval Air Station Pensacola (NASP) was the first naval air station commissioned by the U.S. Navy in 1914. Tens of thousands of naval aviators have received their training there, including John H. Glenn, USMC, who became the first American to orbit the earth in 1962, and Neil Armstrong, who became the first man to set foot on the moon in 1969.

The Navy's Flight Demonstration Squadron, the Blue Angels, is stationed there, as is the National Museum of Naval Aviation.

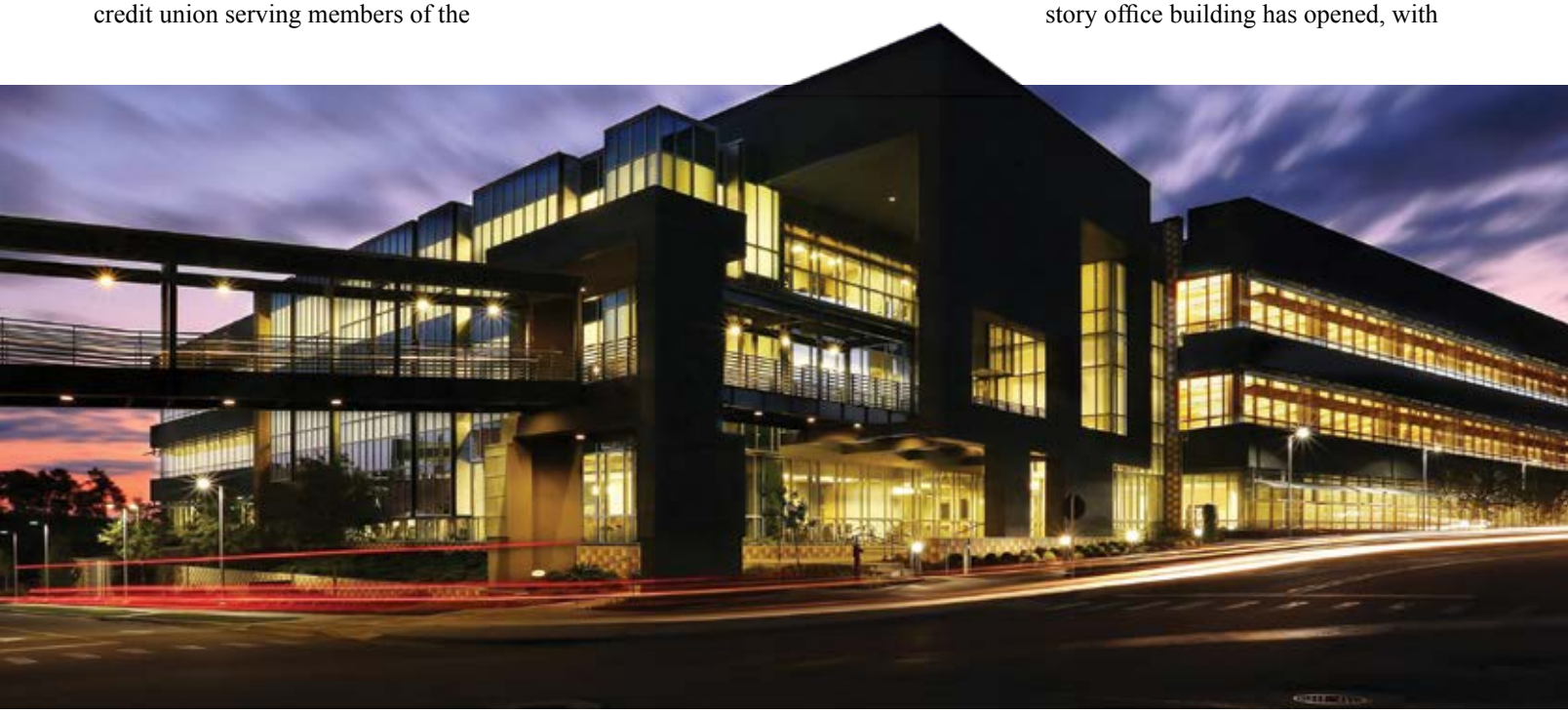
With its strong military legacy, it's only natural that the world's largest credit union serving members of the armed forces would establish a major presence in Pensacola. With a 347-acre campus on the northwest side of Pensacola, Navy Federal Credit Union is the largest employer in Escambia County with approximately 8,200 employees.

Navy Federal Credit Union serves active duty military personnel, veterans, Department of Defense contractors and their families. With $97 billion in assets, over 8.23 million members worldwide and more than 18,000 employees, Navy Federal has three main campuses in Pensacola, Fla., Vienna, Va., and Winchester, Va., and serves members at more than 340 branch offices.

A published report last November said Navy Federal is on track to reach the 10,000-employee mark in Pensacola by late 2022 or early 2023. The jobs range from someone starting their first job in collections, to more skilled roles in information technology or executive leadership.

"There's a little bit of something for everyone here," said Bill Pearson, manager of public affairs for Navy Federal in Pensacola. "It's almost like a small city. So we have needs for a variety of different roles. So whether you are a skilled craftsmen or a trades person that is an electrician or a plumber, we have roles here for those positions as well."

In addition to its burgeoning workforce, Navy Federal's Pensacola campus is also undergoing a massive expansion. The project includes two new office buildings connected by a smaller building that offers amenities. A new six-story office building has opened, with



a second six-story building expected to open later this year. Once completed, the two-buildings will double the current capacity of the Nine Mile Road campus.

Navy Federal's campus will exceed $1 billion in capital investment in 2020, according to the FloridaWest Economic Development Alliance.

"Navy Federal Credit Union has been a transformational project, not just for Escambia County but for the entire state of Florida," said Scott Luth, CEO of FloridaWest said in a published report in the Pensacola News Journal.

"We see Navy Federal's impact in our area in the amount of payroll (that's) spent in our community, by raising the bar in our community by being recognized as a Forbes' 'Best Place to Work' and by the number of volunteers hours donated by their employees to organizations throughout our community."

Delivering the best customer experience

As a member-owned, not-for-profit credit union, Navy Federal Credit Union's mission is to always put members first while providing a full range of financial products and services tailored to military personnel. Navy Federal offers extra-low auto rates, loan discounts and other products and resources to lighten the load of not only active duty military members, but all veterans.

For the second year in a row, Navy Federal was recognized by KPMG for delivering the best customer experience, taking the top spot over 295 brands across 10 business sectors.

"Our mission is to serve as our members' trusted financial partner for all of life's important decisions," said Mary McDuffie, president/CEO of Navy Federal. "Our entire team is committed to meeting our members' needs and we are always looking for new ways to make the member experience even better."

KPMG ranked brands across six pillars of customer experience excellence to identify the leaders in each category: Personalization; Integrity; Expectations; Resolution; Time & Effort and Empathy. Navy Federal is one of only five brands to receive a score of 8.5 or more.

"KPMG's research shows us that leading organizations have built unique emotional connections with their customers, and continue to deliver impactful experience across the customer lifecycle," said Julio Hernandez, U.S. Customer Advisory Practice Lead, KPMG LLP. "Navy Federal Credit Union once again tops our leaders' table because our research indicates that they have a personal, individualized understanding of their members, allowing them to put their members firmly at the center of their decision making."

New employees at Navy Federal attend an orientation that includes a military experience module to create awareness and empathy for situations faced by their members.

Due to the nature of its membership, which includes actively deployed military personnel in every time zone, Navy Federal maintains 24x7 operations at its three contact centers in Virginia and Pensacola—which is the credit union's largest contact center—as well as round-the-clock online services.

"The men and women stationed overseas don't have ready access to the same type of financial services as they would here at home, so we have to stay up for them," says Tim McClendon, electrical services supervisor for Navy Federal in Pensacola.

Cat® power at the ready

The entire Pensacola campus is backed up by 11 Cat 3516 diesel generator sets that are housed in two separate buildings. Four gensets are

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CUSTOMER PROFILE

Navy Federal Credit Union

Location: Pensacola, Fla.

Application: Standby power

Cat® Equipment: Four 3516B and seven 3516C diesel generator sets (2.4 MW each), ISO medium voltage Switchgear

NAVY FEDERAL Credit Union

located at the first plant that was commissioned in 2006, while the remaining seven were installed at the newer power plant beginning in 2015 (three of those generators were added in 2018). Combined, the two power plants are capable of producing 26 MW—more than enough to power the entire campus.

"One reason we have so many generating units in the new plant is so we can run the entire campus from it," McClendon says. "Navy Federal is big on redundancy, and having two power plants means we can transfer power from one to the next when preventive maintenance is done on the generator sets, or if there is some other issue."

Navy Federal's Pensacola campus includes just under 2.5 million square feet of buildings. Each Cat power plant (CEP 1 and CEP 2) has the capability of suppling power to the entire campus, including the lights for the parking lots.

Two main utility feeds are routed down Highway 90 to two substations at the Pensacola campus. The utility, Gulf Power, has a transfer scheme, so that if power fails at one substation it automatically transfers to the other and maintains power to the entire campus, McClendon says.

"The feed from Gulf Power comes in and hits the Cat ISO Switchgear," McClendon says. "If the generators come on, we don't know the difference between that and the utility for as fast as the power transfers over. The way we know that is we get a lot of email notifications when those generators come on."

While utility outages are rare, there have been several occasions when power was lost due to thunderstorms or car striking a utility pole.

"Based on my experience, the Cat gensets crank fast, and they are very reliable. We have had very few issues."

TIM McCLENDON
Electrical Services Supervisor
Navy Federal Credit Union

"If we know that more bad weather is coming, then we will manually start the generator sets and let them stay on," McClendon says, adding that approach has been utilized about four times over the last 10 years. "Most of the time, we let the generators start automatically, but every now and then we make the decision to step in."

The longest consecutive period where the generators supplied power to the campus was when the second substation was added and the gensets ran for a day and a half.

Reliable performance

"Based on my experience, the Cat gensets crank fast, and they are very reliable," McClendon says. "We have had very few issues with them."

The gensets are tested every month by Navy Federal facilities staff. A load bank test is performed one month for 45 minutes under full load, and on alternating months the load is transferred to the campus, which runs on generator power for 30 minutes.

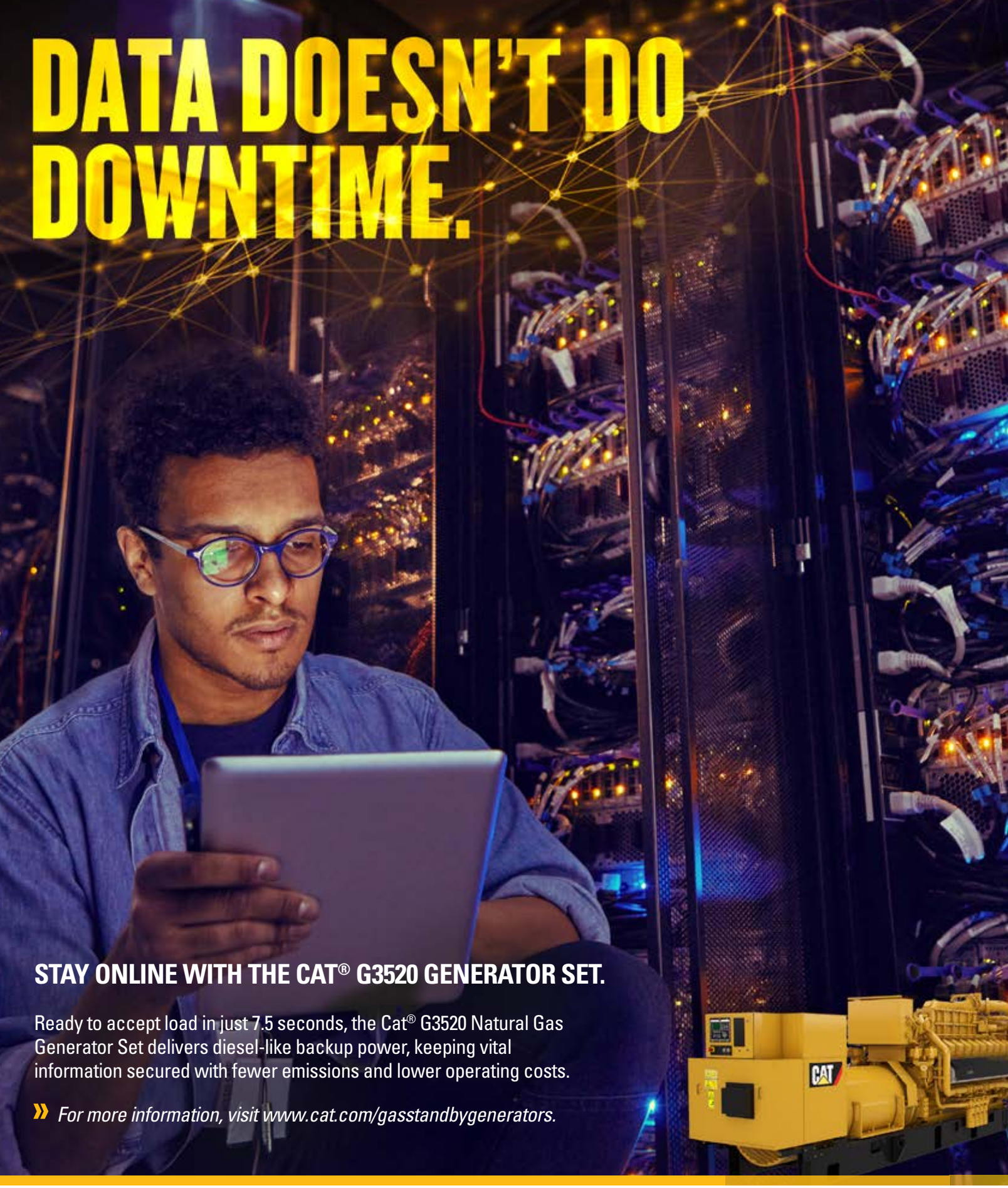
To stay current, McClendon will send two people from his staff every year for two and a half days of switchgear training at the Cat Switchgear facility in Alpharetta, Ga.

"The Cat ISO Switchgear has been pretty much bulletproof—it has been great," McClendon adds. "We upgraded all the PLCs (program logic controllers) and the HMI screens."

Quarterly and annual maintenance is performed by technicians from the local Cat dealer, Thompson Power Systems.

"Our original technician, Baron Breelin, was the generator guru—he handled everything for us, including commissioning," McClendon says. "And our service rep, Cluis Howell, is very helpful with anything we need.

"All of the Thompson guys have been really good," McClendon adds. "Every now and then if we have a little glitch, they are very responsive. They get back to us right away and get out here pretty quick. They've done a real standup job for us."



LET'S DO THE WORK.™

CAT®