

ELECTRIC POWER GENERATION

MILITARY GRADE POWER FOR EVERY MISSION



THIS IS **CATERPILLAR DEFENSE.**

All around the world, people put their lives on the line to ensure others get the energy, security and aid they need.

For those people, we work.

We deliver steadfast reliability with power solutions and services to meet the challenges of their diverse and demanding operations.



POWER GENERATION

Count on continuous power.

Uninterrupted energy is essential to the collection and security of information in the largest data centers, the well-being of patients in Veteran's Affairs hospitals and personnel stationed in extremely remote areas. For all those people who count on continuous power to carry out their duties every day. Caterpillar Defense designs and builds globally-leading power generation solutions that are secure, resilient, and reliable.

Types of Facilities

Embassies

Data Centers

Pumping Stations

Arsenals

VA Hospitals & Medical Centers

Military Bases & Facilities

Radar Sites

Federal Projects & Buildings

National Guard & Coast Guard Facilities

ELECTRIC POWER GENERATION SOLUTIONS

| Gas and Diesel Generator Sets | Prime Power Modules |
|--|--|
| Generator Paralleling Systems | Switchgear and Automatic Transfer Switch |
| Mobile Electric Power | Emergency Back Up Power |
| Hybrid Microgrid and Energy Storage Systems | Lower Carbon Intensity (LCI) |



WHERE THERE'S DEMANDING WORK, THERE'S CAT' SUPPORT.

Whenever and wherever the operation goes, Cat[®] dealer location is never far away offering world-class support and ensuring our solutions are always ready to perform.

For the most urgent demands of contingency and wartime operations, Caterpillar Defense employs a parts priority system so orders for these operations are moved to the front of the line.



- **Local Service Operations**
- **Parts Support**
- Remanufactured Parts

• Component Repairs

WORLDWIDE CAT DEALERS

156 dealerships and over 2,000 branch stores located in 192 countries all ensuring service and support is readily available for the most time sensitive operations.



- Over 5,200 parts distribution employees worldwide
- Supporting over 750,000 unique Cat parts
- Distribution facilities strategically located on 6 continents
- Over 96% availability rate
- Over 99% of customer orders shipped same day

POWER SYSTEMS

Powering forces to move missions forward.

Caterpillar has decades of experience and unmatched expertise in the area of Defense. Whatever your operation, our experts are ready to help you design a system to your specifications and stand by your side for the life of your equipment.

You'll have the support of the global Cat dealer network and all the products, coverage, financing options, parts, maintenance, and anything else to meet the objective.

CAT System Products

AUTOMATIC TRANSFER SWITCH (ATS)

OPTIMIZED GENERATOR SET CONTROLS FOR EMERGENCY POWER SYSTEMS

- Supervisory Control Panel (SCP)
- Master Control Panel

PARALLELING SWITCHGEAR

- EXL Emergency Load Transfer Manager
- Engine Paralleling & Integration Control (EPIC)
- Engine Generator Integrated Switchgear (EGIS)



SOLUTIONS

Adapting to the needs of a complex world.

No application is too challenging – from complex control systems to extreme ambient conditions – we have what you need. Cat experts work with you to design a system to meet your individual power needs. We tailor each component to develop a system with attachments and performance options to match your specific application and regional standards. It's a fully customized, field-tested power generation package with a full Caterpillar warranty.

Custom Enclosures

Continuous Power Module (CPM)

Custom Control System and Switchgear

Custom Voltage Generators

Ancillary Equipment

Cooling Equipment



DIESEL GENERATORS 50 - 60 Hz



| MODEL | KILOWATT | CYLINDER |
|-------------|----------------|----------|
| C1.1 / C1.5 | 5.4 - 8.8 kW | 3 |
| C2.2 / C3.3 | 10 - 40 kW | 3 |
| C4.4 | 40 - 100 kW | 4 |
| C7.1 | 125 - 200 kW | 6 |
| C 9 | 180 - 300 kW | 6 |
| C13 | 320 - 400 kW | 6 |
| C15 | 400 - 500 kW | 6 |
| C18 | 500 - 600 kW | 6 |
| C27 | 591 - 800 kW | 12 |
| C32 | 830 - 1200 kW | 12 |
| 3500 | 890 - 2750 kW | 12, 16 |
| C175 | 2500 - 4000 kW | 16, 20 |



GAS GENERATORS 50 - 60 Hz



| MODEL | KILOWATT | CYLINDER |
|----------------|----------------|------------|
| Propane | | |
| DG Series | 30 - 150 kW | 8 |
| Standby | | |
| DG30 | 30 - 150 kW | 4 |
| G3400 | 150 - 500 kW | 6, 12 |
| G3500 | 750 - 2000 kW | 12, 16, 20 |
| Continuous Use | | |
| G3300 | 68 - 143 kW | 6 |
| G3400 | 107 - 453 kW | 6, 12 |
| CG132 | 400 - 800 kW | 8, 12, 16 |
| G3500 | 615 - 2519 kW | 12, 16, 20 |
| CG170 | 1000 - 2000 kW | 12, 16, 20 |
| CG260 | 3000 - 4500 kW | 12, 16 |
| GCM34 | 6518 - 9700 kW | 16, 20 |

Our gas generator sets are made to run on your most abundant gas sources, with tailored designs for natural gas, biogas, coal gas, and alternative fuels. New engine technologies deliver power, heat or cogeneration with world-class electrical and thermal efficiency. Factory-sourced containers, heat-recovery modules, control systems, and turnkey containerized systems are available.

MICROGRID TECHNOLOGY

Tackling global challenges with smart solutions.

Cat Microgrid technology offers fully integrated power systems with photovoltaic panels, energy storage, monitoring and control systems, Cat generator sets, switchgear, and ATS.

Smart energy storage can also be added for short duration grid stabilization or longer duration renewable time shifting, enabling the renewable power generated during the day to be used when sunlight is not present.

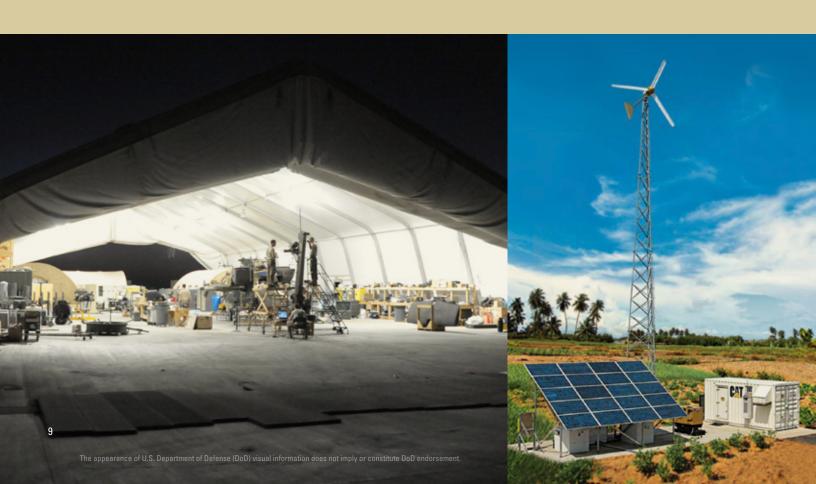
A Cat Microgrid system provides custom, cost effective power for on- and off-grid communities/bases and governmental installations.

COMBINED HEAT & AIR (CHP)

ENERGY STORAGE

MICROGRID MASTER CONTROLLER (MMC)

BI-DIRECTIONAL INVERTERS



DATA CENTERS

Missions powered from the source.

Caterpillar is a leading developer of highly efficient source operating on medium speed generator set technology. We can support output capacities ranging from 2 to more than 200 MW and operate on a variety of fuel options.

Caterpillar delivers medium speed natural gas alternatives in 4 to 5 MW building blocks with combined heat and power options. Cat Modular power is delivered quickly with construction in as few as 12 days.

PROVEN SOLUTIONS

Utah Data Center

The U.S. Army Corps of Engineers and National Security Agency constructed the first Intelligence Community Comprehensive National Cyber-security Initiative (CNCI) Data Center at Camp Williams.

Officially named the Utah Data Center, the facility's role in aggregating and verifying huge volumes of data for the intelligence community.

The data center is designed to be capable of generating all of its own power through backup electrical generators and will have both fuel and water storage. Construction is designed to achieve environmentally significant LEED Silver certification.

The solution was the Caterpillar C175-16 (2,500 kW prime rated) diesel generator. Sixty (60) units have been shipped, with thirty (30) units installed, with support from the Caterpillar Defense.

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STANDBY FOR NUCLEAR POWER

Guaranteed readiness.

For more than 90 years Caterpillar has been providing emergency and standby power generator sets. Decades of experience and the industry's broadest product range allow us to customize emergency and standby power to fit the specific needs of your nuclear power plant. Our nuclear industry experts advise, plan, engineer, deliver, install, and ensure continuous support. To ensure operation before and after a seismic disturbance, we perform certified tests and analysis to meet your most stringent nuclear standards. And we'll provide any necessary documentation and witness testing opportunities.



UTILITY POWER

Operations have no time for downtime.

You supply power to meet life's needs — lighting barracks, powering homes on bases, keeping offices/facilities running. Cat stationary or temporary generator sets are cost-effective, reliable power to meet spikes in demand and keep power affordable for your agencies and organizations.

PROVEN SOLUTIONS

Fort Knox

Army energy systems are vulnerable to cyber attacks, sophisticated enemy weapons, and increasingly frequent severe weather.

At Fort Knox, the conclusion was that four of six gas-fired Cat G3520C generator sets supply power to the base 24/7 through a combined heat and power (CHP) system. The installation also includes ten Cat 3516 diesel gensets that are used primarily for backup power.



WATER MANAGEMENT

Resilience and reliability when disaster strikes.

Gas generated by wastewater digesters used in the water treatment process can be captured and used to provide the plant with electricity and heat for the digester or other thermal loads. Methane-to-energy increases energy efficiency, reduces electricity costs, and decreases environmental impact. Cat low-energy fuel generator sets have a specialized tolerance to the contaminants in sewage gas fuels and your Cat dealer will help you design, install, and maintain your power plant.

PROVEN SOLUTIONS

U.S. Army Corps of Engineers

In the aftermath of the widespread damage caused by Hurricane Katrina, federal, state, and local authorities have undertaken numerous infrastructure projects to bolster defenses against flooding and storm damage in and around New Orleans.

To mitigate flood risk, engineers developed a system of three permanent canal closures and pumps (PCCP) as the final significant post-Katrina improvements to the regional levee system. To ensure operations in even the fiercest of storms, each station was designed with a standby power system, including diesel generator sets that can supply multiple redundancies independent of the utility grid. Additionally, all of the generator sets were required to meet seismic regulations.

Project leaders selected Cat to supply 33 Cat diesel generator sets, switchgear, and Automatic Transfer Switches (ATS) across the three facilities to power the pump systems and support basic life safety operations. The selection of Cat for this facility was a combination of economics with longterm reliability for generators and engine packages have proven throughout the overall flood control system.

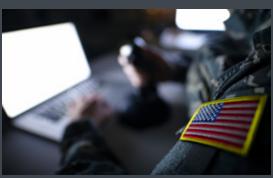
Following project completion, technicians from Cat have trained personnel from the New Orleans Sewerage & Water Board on the operation/maintenance of the generator sets, the ATS, and switchgear.

GOVERNMENT FACILITIES

Power and protection on your turf.

With the United States operating government facilities worldwide, each must have reliable, durable power to maintain performance at the highest levels and fail-safe protections when challenges arise. Caterpillar Defense experts' legacy of proven performance, support, and know-how support every mission and beyond.





VA HOSPITALS & MEDICAL CENTERS

Life saving reassurance.

You power the machines that sustain lives. Cat generator sets are powering some of the world's largest hospitals. It's essential to have a backup generator you can trust when the power goes out. We'll configure a power system to match the ongoing demands of your facility or additional temporary power in emergencies.







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