

Resiliency as a Service

Extreme weather events, aging infrastructure and ambitious commitments to emission reductions are challenging grid operators in executing on their number one task: keeping the lights on. Strategic management of distributed energy resources (DERs) can help support network reliability and where an outage is inevitable, customer-sited backup solutions can enable local resiliency, giving repair crews more time to respond without compromising power-needs and customer satisfaction.

GENERAC'S COMBINED BENEFITS

By leveraging Generac Grid Services' Concerto™ software to aggregate customer-sited Generac backup hardware solutions into virtual power plants (VPPs) that function as a generation solution during critical grid events, grid operators can maximize grid stability and customer satisfaction.

- **Before Events:** Forecast operations and DER actions and communicate with customers to let them know what to expect.
- **During Event:** Enable customers to keep the lights on with backup solutions, continue communications and monitor DER fleets to ensure support is delivered as needed.
- **After Events:** Review auditable data and post-event reports to understand virtual power plant performance and prepare for monitoring and verification services.

A Win⁴ Solution

- **The Regulator:** Able to drive carbon-free energy
- **The Utility:** Provides a more reliable and stable grid
- **The Customer:** Achieves higher value, outage defense, and contributes to grid stability
- **The Backup Hardware Dealer:** Delivers more value to their customers

Qualification	Installation and VPP Enrollment	Normal Operations	Emergency Operations	Recovery
Identification of participants; critical communities	Generac Grid Services' execution is supported by an unequalled network of over 7,000 certified Generac installation and service partners.	Monitoring, net-metering/ solar self consumption; ToU incentivization, and more.	Optimized control, providing backup power, communications and critical support	DERs support return to normal operations

INTEGRATED HARDWARE AND SOFTWARE USE CASES

Mitigate Wildfire Risk

- Increase system hosting capacity
- Manage grid assets in real-time
- Make locationally targeted interventions
- Enhance customer resiliency in the case of an outage

Non-Wires Alternatives

- Defer or avoid costly transmission and distribution upgrades
- Improve customer satisfaction and diversify the energy mix
- Achieve clean energy targets
- Leverage customer-sited distributed energy resources

Defend Against Severe Weather

- Distributed and system-level control
- Make and implement real-time decisions
- Real-time telemetry and situational awareness
- Enhance customer resiliency in the case of an outage

Reduce Utility Costs

- Pre-position fleets to capture low costs
- Leverage DER flexibility in response to price signals (arbitrage)
- Participate in wholesale markets, where applicable
- Minimize access fees with a single pane of glass solution

Generac Grid Services' Concerto Platform

Generac Grid Services' Concerto Platform gives grid operators, distribution utilities, energy retailers, energy traders, and large energy consumers the ability to maximize value from the flexible capacity made available by the growing number of DERs interconnecting to the grid.



MONITOR

Maintain Situational Awareness



CONTROL

Operate for Increased Reliability



OPTIMIZE

Reduce Costs and Improve Results

GENERAC HARDWARE INTEGRATIONS

Generac hardware solutions meet customers' backup power needs while providing the ability to seamlessly join Concerto VPPs to enable grid operator control. Work with Generac's dealer network to grow your install base and enroll backup power devices in your demand-side management programs.



	PWRcell Solar & Storage	Home Standby Generators	C&I Generators
Type	Solar + Storage	Natural Gas or LPG Generation	Natural Gas Generation
Electrical Connection	Grid-paralleling	Islanded (future: grid-paralleling)	Open Transition First then Grid-paralleling
Grid Services Capability	<ul style="list-style-type: none"> Demand Response Resource Adequacy Wholesale Markets Intraday Shifting Frequency Regulation (Primary/Secondary) Local Capacity Relief Dynamic Site Export Limits VVO/VWO 	<ul style="list-style-type: none"> Demand Response Resource Adequacy (+future: Wholesale Markets) Intraday Shifting Local Capacity Relief 	<ul style="list-style-type: none"> Demand Response Resource Adequacy Wholesale Markets Intraday Shifting Frequency Regulation (Primary/Secondary) Local Capacity Relief
Power	7.6 kW (10 kW peak) (max includes solar + solar)	approx. 1-4 kW (future: 10-24 kW)	15 kW - 1 MW

ABOUT GENERAC GRID SERVICES

Generac Grid Services is a group of Generac, a leading designer and manufacturer of energy technology solutions and other power products. Generac Grid Services is changing the way the world generates and uses electricity. From turnkey solar + storage solutions, to backup generators, additional distributed energy resources and virtual power plant software, Generac Grid Services is accelerating the world's transition to a cleaner, more reliable power grid.