

**DOCKETED**

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**Generac Comment on Lead Commissioner Workshop on Clean Energy Alternatives for Reliability**

*Additional submitted attachment is included below.*



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November 10, 2022

California Energy Commission  
Docket Unit, MS-4  
715 P Street  
Sacramento, CA 95814

Re: Docket No. 21-ESR-01-Comments of Generac Power Systems, Inc. on the Lead Commissioner Workshop on Clean Energy Alternatives for Reliability

Dear Vice-Chair Gunda, Commissioners and Staff:

Generac Power Systems Inc. (Generac) is pleased to submit these comments to the October 28 California Energy Commission (CEC) Workshop in Docket No. 21-ESR-01. We offer the following comments regarding the Clean Energy Reliability Investment Plan (CERIP) (SB 846), the Demand Side Grid Support Program (DSGS) (AB 205), and the Distributed Electricity Backup Assets Program (DEBA) (AB 205). Our comments focus on how the CEC can accelerate the development of distributed energy resources (DERs) that can support reliability, and make better use of existing DERs. Generac looks forward to submitting additional comments to the Request for Information (RFI) issued on November 7.

The legislation adopted in 2022 is incredibly significant because it expresses the legislature's intent that California make further progress on DERs and utilizing DERs to support the grid, while providing a huge investment. The CEC therefore has an incredible opportunity before it to make ambitious and prudent investment decisions while fostering new DER programs across California.

### **Company Background**

Generac is a leading energy technology company providing advanced power grid software solutions, backup and prime power systems for home and industrial applications, solar + battery storage solutions, and virtual power plant (VPP) and distributed energy resource management system (DERMS) aggregation and control platforms. We have a long history of providing power generation products across a variety of applications, and maintain a leading position in the power equipment market in North America, with an expanding presence internationally.

Generac recently formed an Energy Technology organization focused on supporting the next-generation grid with a comprehensive energy ecosystem comprised of solar and battery storage systems, energy monitoring, smart devices for intelligent energy management, as well as an extensive portfolio of grid services. Generac offers a wide array of power products suitable as grid-tied distributed energy resources (DER) assets, controllable and dispatchable by way of the Concerto™ VPP/DERMS software platform. These products include ecobee smart thermostats, PWRcell energy storage systems, ARA load control switches, and CTA-2045 smart water heater modules, among several other smart energy solutions.



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Generac's talented team includes experts in the fields of product management, power systems engineering, distribution engineering, distribution control, optimization and control, power systems design, software engineering, building management systems, load control, and information technology.

Generac is committed to sustainable, cleaner energy products poised to revolutionize the 21st century electrical grid. Our corporate purpose is to lead the evolution to more resilient, efficient, and sustainable energy solutions around the world, and we are excited to offer a range of sustainable solutions to improved energy resiliency in California.

With this background, Generac offers the following comments to the Workshop regarding the Clean Energy Reliability Investment Plan (CERIP) (SB 846), the Demand Side Grid Support Program (DSGS) (AB 205), and the Distributed Electricity Backup Assets Program (DEBA) (AB 205).

### **General Comments Applicable to All Three Programs**

Generac appreciates the CEC staff's robust presentation of potential options for each program. In considering the investments under each program, the CEC should consider technology that:

- 1) Improves energy resilience and independence by increasing power reliability through onsite behind the meter generation and storage solutions that provide resiliency for homes, businesses, and communities.
- 2) Optimizes energy efficiency and consumption by enabling sustainable and more efficient power generation and consumption through monitoring, management, and lower-carbon solutions.
- 3) Protects and builds critical infrastructure by offering innovative solutions that aggregate and optimize next-generation power, communications, transportation, and other critical infrastructure.

These goals are consistent with the legislative direction set out below as well as existing state laws regarding clean energy investments in the electricity sector.

### **Clean Energy Reliability Investment Plan**

Sec. 12 (b) of AB 846 (Dodd 2022) creates the Clean Energy Reliability Investment Plan (CERIP), allocating \$1 billion over the next three years and directs the CEC, in consultation with other relevant agencies, to support programs that a) accelerate the deployment of clean energy resources, b) support demand response, c) assist ratepayers, and d) increase energy reliability. (Sec. 12(a)). By March 1, 2023, the CEC must submit the plan to the legislature, taking into account: the state's electricity supply and demand, the needs for grid reliability, advancement of policies towards 100 percent zero-carbon and renewable energy resources, and greenhouse gas (GHG) emissions reduction targets for the electric sector. (Sec. 12(a)-(b)).



The CEC’s investment plan should also contain an energy loading order that includes investments in preferred resources, including demand response and energy efficiency, reduce demand during the net-peak load, and support near-and mid-term reliability and the state’s greenhouse gas (GHG) goals. (Sec. 12(c)).

### **Demand Side Grid Support Program**

This year, the Legislature created the Demand Side Grid Support System (DSGS) (with a goal of incentivizing dispatchable customer load reduction and backup generation operation as on-call emergency supply and load reduction from the state’s electrical grid during extreme events. (Sec.4 at Art. 3, Sec. 25792(a)). The legislature created as eligible recipients all customers in the state. (Sec. 25792(b)(1)-(3)).

AB 205 directs the commission and CEC to prioritize, to the maximum extent feasible to ensure electricity reliability, cost-effective demand response and efficiency resources, then feasible, cost-effective renewable and zero-emission resources, and then feasible, cost-effective conventional resources. The guidelines shall also consider the anticipated useful life of the resources in relation to the state’s climate and air quality requirements. (Sec. 25792(e)).

### **Distributed Electricity Backup Assets Program**

The legislature also created the Distributed Energy Backup Assets Program (DEBA) via AB 205, which is aimed at incentivizing DERs for on-call emergency supply. We recommend that the CEC focus at the outset of this process on first understanding the quantity and quality of distributed backup assets currently in California. We believe that there are many more distributed resources than the state is aware of.

As a first step, we recommend the CEC assess what currently exists behind the meter—what technologies currently exist BTM and how much potential is there for a program operator to dispatch and/ or control the use of these resources in an emergency.

Generac believes that there is a significant role for distributed batteries and existing generators to play, by being counted as emergency supply. CEC can play a role in determining the best role for these resources and how to develop programs to utilize them, both as flexible clean resources and for emergency purposes.

Generac looks forward to submitting additional comments to the Request for Information (RFI) issued on November 7.

### **Generac-Recommended Attributes for CEC’s Consideration in the CERIP and the DSGS, to Meet the State’s Goals and Advance Reliability**

CEC staff identified the following valuable resource attributes during the Workshop:



Attribute	Definition
Readiness	Technological readiness and maturity
Permitting	Ease of permitting processes (e.g., local, CEQA) required to implement the option
Interconnection	Ease of interconnection and availability of infrastructure (e.g., transmission line access) for successful implementation of the option
Supply Chain	Efficiency and effectiveness of manufacturing and supply chains to support implementation of the option
Customer Acceptance	Operator and end-user acceptance of the technical aspects and value proposition of the Option
Attribute	Definition
Cleanliness	Low GHG emissions and low criteria pollutant emissions
Dispatchability	Certainty and firmness of an option, including number of events, frequency of events, and event duration
Policy Alignment	Availability of supportive policies and incentives, current and expected
Equity	Equity considerations such as impacts on Low Income and Disadvantaged Communities

Generac generally supports these identified attributes, and provides the following additional comments:

***Eliminate Enrollment Barriers:*** Staff should consider technology options that eliminate barriers to enrollment for customers in order to increase ratepayer penetration, thereby supporting the goals of ensuring more equitable access to technology. Currently, third party providers like ecobee can enroll customers into the CPUC’s Emergency Load Reduction Program (ELRP) which requires that they be registered with CAISO by completing a complex and high friction Green Button Connect third party authorization process. This significantly limits achievable participation. In implementing the programs, the CEC should remove this enrollment barrier to allow ecobee customers to easily participate using an opt-out emergency demand response model. This model was successfully demonstrated this summer through a San Diego Gas and Electric (SDG&E) pilot and meets the goals of near-and mid-term reliability.

***Support Program Flexibility:*** When the DSGS program is developed, the CEC should consider programs that allow for flexible arrangement, including automated programs and customer opt-out, which is



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especially important for residential customers. The legislative language could be interpreted to require assets to be deployed during a Flex Alert.

During this summer's Flex Alerts, the state used its emergency authority to send Flex Alerts to ratepayers' phones and emails. To respond to the state's request for support, most residents had to manually adjust thermostats take other actions to reduce electricity consumption. Thankfully, enough customers responded to the Flex Alert and rolling blackouts were avoided. This may not always be the case.

Current programs and technology that rely solely on customer behavior during Flex Alerts likely will not always meet peak demand reduction requirements. In considering supply and demand programs, the CEC should consider programs and technology that allow for auto-enrollment and automated consumption adjustments (on the supply and demand-side) using automated technology, which exists today.

***Create a Statewide Smart Thermostat Program:*** As envisioned by the legislature, the CEC should consider creating an implementation path that allows for third parties to deliver automatic demand response (DR) programs across the state, eliminating the need for separate contracts by utilities currently required by the DSGS program guidelines. We expect that the simplest and most valuable DR programs will come in the form of automatic thermostat control programs. Creating this new structure and allowing for third-party program design and administration will increase speed to market and reduce the need to address customer eligibility by each separate utility. The CEC should create enable programs that provide up front (purchase) incentives for smart thermostats and ex post incentives for performance; supplemental rebate for the thermostat—there may be a lot of price sensitivity. To the extent any performance evaluation is considered, the CEC should also consider using participants' thermostat telemetry data as a proxy for performance.

***Prioritize Smart-Grid Technology and develop incentives for DERMs:*** Staff should prioritize developing incentives to accelerate the use of smart-grid technology to aggregate and optimize DERs, which exists today.

***Aggregate DERs to Support a Next Generation Grid:*** The CEC should support programs that enable aggregation of DERs, including but not limited to generation and storage technology, monitoring and management devices, and utility and customer-facing platforms and controls

***Support Programs that Increase Penetration and Provide Equitable Access:*** Staff should prioritize solutions that increase penetration, or otherwise drive down the costs of participation, including incentivizing participation. This will advance technology to the point where backup power is more widely affordable to consumers.

***Additional Comments:*** Staff should include technology that supports load management device software at the customer-interface level and support robust grid to customer control programs, support combination technology, such as solar + battery, hydrogen fuel cell generators + batteries, DER management systems



(DERMs) hardware and software, other grid services, energy-as-a-service technology, and remote monitoring.

**Generac’s Comments on Potential Technology Investments**

The CEC identified the following potential investments applicable to all three programs during its Workshop:

Supply Options		Demand Options	
<b>DERs</b>	Solar (Distributed, <1 MW)	<b>End-Use &amp; Enabling Technology Combinations for DR or DF</b>	Electric Vehicle-to-X (V2X)
	Fuel Cells (Natural Gas)		Electric Vehicle Managed Charging (V1G)
	Fuel Cells (Hydrogen)		HVAC Control (Smart Thermostats/EMS)
<b>Renewables</b>	Geothermal		Appliance Load Control
	Hydro (Small)		Water Heating Control
	Solar (Utility-Scale, >5 MW)		Lighting Control
	Solar (1-5 MW Scale)		Commercial Refrigeration Control
	Wind (Onshore)		Industrial Process Load Control
<b>Storage</b>	Wind (Floating Offshore)		Water/Wastewater Treatment & Pumping Control
	Pumped Hydro		Agricultural Pumping Control
	Energy Storage (Short-Duration; <8 hr.)	<b>PLS</b> Energy Storage	
<b>Gas-Fired Generation</b>	Energy Storage (Long-Duration; ≥8 hr.)	<b>EE</b> Energy Efficiency Measures	
	Reciprocating Engines	Existing DR Programs	
<b>Other</b>	Air Cooled Gas Turbines	<b>Mechanisms*</b> New DR/DF Programs	
	Microgrids (Controls and Switching)	Time-Varying Rates, Transactive Energy	
	Imports		

Generac generally supports CEC staff’s preliminary list of technologies, with the following comments and additions. Generally, the CEC should consider both hardware and software solutions. With our additions (in italics), the following list represents Generac and existing company technology that would meet the CEC’s and legislature’s goals under the programs:

<i>Hardware</i>	<i>Technology and Software</i>
<ul style="list-style-type: none"> <li>• Connected Devices, such as smart thermostats</li> <li>• Residential Solar Inverters</li> <li>• Home <i>and commercial</i> Standby Generators</li> <li>• C&amp;I Standby Generators</li> <li>• <i>C&amp;I Load Control</i></li> <li>• Residential Load Control</li> <li>• Smart Electric Water Heaters</li> <li>• Residential <i>and Commercial</i> Battery Storage</li> </ul>	<ul style="list-style-type: none"> <li>• Smart grid services</li> <li>• Grid services (Hardware +Software + Services)</li> <li>• Telecommunications software that support supply and demand side programs.</li> <li>• Utility and customer-facing platforms and controls</li> <li>• Utility and customer monitoring and management software</li> </ul>





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<ul style="list-style-type: none"><li>• Smart Thermostats</li><li>• Monitoring and management devices</li><li>• Utility and Customer-facing platforms and controls</li><li>• Multi-purpose microgrids</li><li>• Advanced generator &amp; microgrid controls</li><li>• Hybrid systems (solar + storage+ <i>back-up generators</i>)</li><li>• Hydrogen fueled generators</li><li>• Microinverters</li><li>• Smart EV chargers</li><li>• <i>Electrified residential chore equipment (lawn mowers, etc)</i></li></ul>	
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**Conclusion**

Generac appreciates the opportunity to provide comments to the Workshop and is uniquely positioned to assist California in meeting its goals. We look forward to providing additional information in response to the recently issued Request for Information, and to collaborating further with CEC staff.

Thank you,

Anne Hoskins

SVP Policy and Market Development