IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of:	J. Carl Cooper	Attorney Docket No. 58936-0002IP2
U.S. Patent No.:	11,967,857	
Issue Date:	April 23, 2024	
Appl. Serial No.:	16/952,007	
Filing Date:	November 18, 2020	
Title:	POWER SOURCE LOAD CONTROL	

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

PETITIONER'S SEARCH DISCLOSURE DECLARATION FOR ITS PETITIONS FOR *INTER PARTES* REVIEW OF UNITED STATES PATENT NO. 11,967,857

Petitioner Generac Power Systems, Inc. respectfully submits this Search Disclosure Declaration pursuant to the November 17, 2025 Memorandum issued by Director Squires.

On October 10, 2025, Petitioner filed three petitions challenging all claims of U.S. Patent No. 11,967,857. While the number of claims, their diversity, and their verbosity limited Generac to a single primary ground in each petition, the same combination of two references served as the basis for each ground of the three petitions. The primary ground was a combination of U.S. Patent Appl. No. 2006/0208574 ("Lasseter") and J.A. Peças Lopes et al., *Defining Control Strategies for MicroGrids Islanded Operation*, 21 IEEE TRANSACTIONS POWER SYSTEMS 916 (May 2006) ("Lopes"). Petitioner asserted the primary ground against all independent claims of the '857 Patent.

In addition to the primary ground, Petitioner asserted grounds including combinations of additional patent documents against various dependent claims of the '857 Patent. These grounds included combinations of: Lasseter and Lopes with U.S. Patent No. 7,274,975 ("Miller"), U.S. Patent Publ. No. 2010/0019574 ("Baldassarre"), and U.S. Patent Publ. No. 2007/0222294 ("Tsukida").

Petition	Asserted Claims	Art in Asserted Grounds
IPR2026-00022 ("Petition 1")	• 1-16; 39-44; 61-65	• Lasseter • Lopes • Miller • Baldassarre
IPR2026-00023 ("Petition 2")	• 17-38	• Lasseter • Lopes • Baldassarre • Tsukida
IPR2026-00024 ("Petition 3")	• 45-60; 66-71	• Lasseter • Lopes • Baldassarre • Tsukida

I have investigated and been informed of the search process detailed in the following sections.

I. THE DATABASES AND REPOSITORIES IN WHICH THE ASSERTED PRIOR ART WAS LOCATED

Lasseter, Lopes and Miller were identified using Google research tools, including Google Patents and Google Scholar. Google's Gemini and pqai (https://search.projectpq.ai), an open-source AI powered patent search tool, were used in additional searching.

Petitioner's third-party contractor located Baldassarre and Tsukida while completing searches using Google Patents and Questel Orbit.

II. THE GENERAL SEARCH APPROACH, SEARCH TERMS, FILTERS, QUERIES, OR CLASSIFICATION PATHWAYS EMPLOYED

A. Primary References Lasseter and Lopes

The examiner cited a patent and two patent applications by Dr. Robert H. Lasseter during the prosecution history of the ’857 patent, and explained that one of the patent applications was among the closest prior art. The examiner did not cite the Lasseter application relied upon in the Petition. Using Google Patents it was determined that Dr. Lasseter had other previously published patents and patent applications in the relevant field. The Lasseter application that was cited in the Petition was readily identified from Dr. Lasseter’s other, uncited patents and patent applications.

Lopes was identified by conducting keyword searches in Google Scholar based on terminology from the technology. The keywords were words used in other known patents and articles from the field and were not limited to language in the ’857 Patent’s specification or claims. The keywords were: “microgrid”; “frequency control”; “droop”; and “load shedding.” The date filter of the search was set to exclude results published after the priority date of the ’857 Patent. The top results from the initial keyword search were reviewed, and references cited by those top results were also reviewed. Then, additional keyword searches were performed on Google Scholar on forward citations of the most pertinent results.

B. Secondary References Miller, Baldassarre, and Tsukida

Miller was identified using Google Gemini. Gemini was asked to search for patent documents from before 2011 where a "battery is a discrete microsource on a microgrid."

Petitioner's third-party contractor used the following search approach to identify Baldassarre and Tsukida:

Class/subclass-based searching:

IPC/CPC/US CLASS	Definition
H02J1/00	Circuit arrangements for DC mains or DC distribution networks
H02J3/00	Circuit arrangements for AC mains or AC distribution networks
H02J3/007	Arrangements for selectively connecting the load or loads to one or several among a plurality of power lines or power sources
H02J3/14	Circuit arrangements for AC mains or AC distribution networks for adjusting voltage in AC networks by changing a characteristic of the network load by switching loads on to, or off from, network, e.g. progressively balanced loading
H02J9/00	Circuit arrangements for emergency or stand-by power supply, e.g. for emergency lighting
H02J2310/14	The load or loads being home appliances
Y02B70/3225	Demand response systems, e.g. load shedding, peak shaving

Keyword searches:

Platform	Search
Google Patents	(POWER) (LOAD) (CURRENT) (LOADS) (GENERATOR) BEFORE:PRIORITY:20120526
Google Patents	(LOAD SHEDDING) (EXCEEDING THRESHOLD) BEFORE:PRIORITY:20120526
Google Patents	(LOAD SHEDDING) (BACKUP SOURCE) BEFORE:PRIORITY:20120526
Google Patents	(LOAD SHEDDING) (REMOVING BATTERY CHARGER) BEFORE:PRIORITY:20120526

Platform	Search	Hits
Orbit	((((((ADJUST+ OR MODIF+ OR ALTER+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR RECONFIGURATI+) 3D (FREQUENC+)) 6D (+LOAD+))/TI/AB/CLMS/TX AND (BACKUP OR GENERATOR? OR INVERTER?)/TI/AB/CLMS/TX) AND ((H02+)/IPC/CPC AND (Y02B-070/3225 OR Y04S-020/222)/IPC/CPC)) AND (EPRD < 2012-05-26))	66
Orbit	(((((FREQUENC+) 6D ((LOAD_SHED+ OR LOAD_SHAV+ OR OVERLOAD+) OR ((EXCESS+ OR OVER) 3D (LOAD))))/TI/AB/CLMS/TX AND ((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+) 4D (POWER OR GENERATOR OR INVERTER OR SUPPLY))/TI/AB/CLMS/TX) AND (H02J+)/IPC/CPC) AND (EPRD < 2012-05-26))	314
Orbit	(((((ADJUST+ OR MODIF+ OR ALTER+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR RECONFIGURATI+) 3D (FREQUENC+ OR HERTZ OR "HZ"))/TI/AB/CLMS/TX AND (((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)) OR UPS OR UNINTERRUPTIBLE POWER_SUPPLY)/TI/AB/CLMS/TX AND (+LOAD+)/TI/AB/CLMS/TX) AND ((H02J+)/IPC/CPC AND	229

	(Y04S-020/222 OR Y02B-070/3225)/IPC/CPC)) AND (EPRD < 2012-05-26))	
Orbit	(((((UPS OR UNINTERRUPTIBLE_POWER_SUPPLY) OR ((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SOLAR) 4D (POWER OR INVERTER OR SUPPLY)))/TI/AB/CLMS/TX AND ((CHARG+) 5D (BATTER+))/TI/AB/CLMS/TX) AND ((H02J+)/IPC/CPC AND (Y04S-020/222 OR Y02B-070/3225)/IPC/CPC)) AND (EPRD < 2011-05-26))	294
Orbit	(((((ADJUST+ OR MODIF+ OR ALTER+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR RECONFIGURATI+ OR DROP+ OR DECREASE? OR REDUC+ OR LOWER+) 4D (FREQUENC+ OR HERTZ OR"HZ")) 10D ((REMOV+ OR SHED+ OR CUT_OFF OR CUTTING_OFF OR ELIMINAT+ OR STOP+ OR HALT+ OR TERMINAT+) 4D (LOAD? OR DEVICE? OR APPLIANCE?)))/TI/AB/CLMS/TX AND (((ADJUST+ OR MODIF+ OR ALTER+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR RECONFIGURATI+ OR DROP+ OR DECREASE? OR REDUC+ OR LOWER+) 4D (FREQUENC+ OR HERTZ OR"HZ")) 10D (((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)) OR UPS OR UNINTERRUPTIBLE POWER_SUPPLY))/TI/AB/CLMS/TX) AND (EPRD < 2012-05-26))	145
Orbit	(((((ADJUST+ OR MODIF+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR DROP+ OR DECREASE? OR REDUC+ OR LOWER+) 4D (FREQUENC+ OR HERTZ OR"HZ")) 10D ((APPROACH+ OR NEAR+ OR REACHING OR CLOS+ OR HEADING OR ADJACENT OR ARROUND) 4D (THRESHOLD? OR PRE_SET OR PRE_DEFINE? OR LIMIT OR LOWE+ OR HIGH+ OR MAX+ OR MIN+ OR CRITICAL OR CUT_OFF)))/TI/AB/CLMS/TX AND (((ADJUST+ OR MODIF+ OR ALTER+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR RECONFIGURATI+ OR DROP+ OR DECREASE? OR REDUC+ OR LOWER+) 4D (FREQUENC+ OR HERTZ OR"HZ")) 10D (((BACKUP OR	235

	SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)) OR UPS OR UNINTERRUPTIBLE_POWER_SUPPLY))/TI/AB/CLMS/TX) AND (EPRD < 2012-05-26))	
Orbit	((((((ADJUST+ OR MODIF+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR DROP+ OR DECREASE? OR REDUC+ OR LOWER+) 4D (FREQUENC+ OR HERTZ OR"HZ")) 10D ((APPROACH+ OR NEAR+ OR REACHING OR CLOS+ OR HEADING OR ADJACENT OR ARROUND OR BEFORE OR PRECED+) 4D (+LOAD+ OR TOLERANCE? OR THRESHOLD? OR PRE_SET OR PRE_DEFINE? OR LIMIT OR LOWE+ OR HIGH+ OR MAX+ OR MIN+ OR CRITICAL OR CUT_OFF)))/TI/AB/CLMS/TX AND (((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)) OR UPS OR UNINTERRUPTIBLE_POWER_SUPPLY OR BATTER+)/TI/AB/CLMS/TX) AND (H02J+)/IPC/CPC) AND (EPRD < 2012-05-26))	157
Orbit	(((((ADJUST+ OR MODIF+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR DROP+ OR DECREASE? OR REDUC+ OR LOWER+) 6D (FREQUENC+ OR HERTZ OR"HZ"))/TI/AB/CLMS/TX AND (((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)) OR UPS OR UNINTERRUPTIBLE_POWER_SUPPLY OR BATTER+)/TI/AB/CLMS/TX AND (((CONTINOUS+ OR UNINTERRUPTEDLY OR FREQUENT+ OR CONSISTENT+ OR REPEAT+ OR CONSTANT+) 4D (MONITOR+ OR TRACK+ OR INSPECT+ OR ANALYZ+ OR EXAMIN+ OR OBSERV+ OR SUPERVIS+ OR DETECT+ OR RECOGNIZ+ OR OBSERV+)) 6D (+LOAD+ OR DEVICE? OR APPLIANCE?))/TI/AB/CLMS/TX) AND (H02J+)/IPC/CPC) AND (EPRD < 2012-05-26))	245

Orbit	((((((REMOV+ OR SHED+ OR CUT_OFF OR CUTTING_OFF OR ELIMINAT+ OR STOP+ OR HALT+ OR TERMINAT+) 4D (LOAD? OR DEVICE? OR APPLIANCE?)) 6D ((APPROACH+ OR NEAR+ OR REACHING OR CLOS+ OR HEADING OR ADJACENT OR ARROUND OR BEFORE OR PRECED+) 5D (+LOAD+ OR TOLERANCE? OR THRESHOLD? OR PRE_SET OR PRE_DEFINE? OR LIMIT OR LOWE+ OR HIGH+ OR MAX+ OR MIN+ OR CRITICAL OR CUT_OFF)))/TI/AB/CLMS/TX AND (((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)) OR UPS OR UNINTERRUPTIBLE_POWER_SUPPLY OR BATTER+)/TI/AB/CLMS/TX AND (FREQUENC+ OR "HZ" OR HERTZ)/TI/AB/CLMS/TX) AND (H02J+)/IPC/CPC) AND (EPRD < 2012-05-26))	119
Orbit	(((((((CONTROL+ OR MANAG+ OR CHANG+ OR LOW+ OR DROOP+ OR DROP+ OR DEACREAS+) 7D (FREQUENC+ OR HERTZ OR"HZ")) 5D (ups OR BATTER+ OR INVERTER+ OR GENERATOR+ OR NON_UTILIT+ OR BACK_UP+ OR ((SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)))) p ((APPROACH+ OR NEAR+ OR REACHING+ OR CLOS+ OR HEADING OR ADJACENT OR AROUND OR BEFORE OR PRECED+ OR "NOT" OR "90" OR "90%" OR "90 %") 4D (+LOAD+ OR TOLERA+ OR THRESHOLD? OR PRE_SET+ OR PRE_DEFIN+ OR LIMIT OR LOWE+ OR HIGH+ OR MAX+ OR MIN+ OR CRITICAL OR CUT_OFF)))/TI/AB/CLMS AND (ups OR BATTER+ OR INVERTER+ OR GENERATOR+ OR NON_UTILIT+ OR BACK_UP+ OR ((SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)))/TI/AB/CLMS AND ((CONTROL+ OR MANAG+ OR REMOV+ OR SHED+ OR SHRED+ OR ELIMINAT+ OR HALT+ OR STOP+ OR TERMINAT+ OR	66

	BALANC+ OR OFF OR SHAV+) 6D (LOAD? OR DEVICE? OR APPLIANCE?))/TI/AB/CLMS) AND (H02J+)/IPC/CPC) AND (EPRD < 2011-05-26))	
Orbit	((((ADJUST+ OR MODIF+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR DECREAS? OR REDUC+ OR CONTROL+ OR MANAG+ OR CHANG+ OR LOW+ OR DROP+) 6D (FREQUENC+ OR HERTZ OR"HZ")) P (((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)) OR UPS OR UNINTERRUPTIBLE_POWER_SUPPLY OR BATTER+))/TI/AB/CLMS/TX AND ((YOKOYAMA)/IN/OIN/INH/INV OR (YAMAGUCHI)/IN/OIN/INH/INV) AND (EPRD < 2012-05-26))	283
Orbit	((((ADJUST+ OR MODIF+ OR CHANG+ OR CUSTOMI+ OR REGULAT+ OR DECREAS? OR REDUC+ OR CONTROL+ OR MANAG+ OR CHANG+ OR LOW+ OR DROP+) 6D (FREQUENC+ OR HERTZ OR"HZ"))/TI/AB/CLMS/TX AND (((BACKUP OR SECONDARY OR AUXILIARY OR EMERGENCY OR STANDBY OR ALTERNAT+ OR SUPPLEMENT+) 4D (POWER OR GENERATOR OR SUPPLY OR SOURCE?)) OR UPS OR UNINTERRUPTIBLE_POWER_SUPPLY OR BATTER+)/TI/AB/CLMS/TX) AND (SPA/BNT="GS YUASA CORP-734161" OR SPA/BNE="JAPAN STORAGE BATTERY CO-8882106" OR SPA/BNE="JAPAN STORAGE BATTERY CO-16831769" OR SPA/BNE="JAPAN STORAGE BATTERY CO-16828991") AND (EPRD < 2012-05-26))	131

III. OTHER ANALYTICS OR PUBLICLY ACCESSIBLE RESOURCES CONSULTED

No other analytics or publicly accessible resources were consulted in identifying the prior art used in the Petition.

IV. THE AMOUNT OF TIME SPENT ON THE SEARCH AND AMOUNT OF TIME SPENT REVIEWING SEARCH RESULTS

Lasseter was identified in approximately 4 hours of searching and reviewing. Lopes was identified in approximately 11 hours of searching and reviewing. Miller was identified in less than 0.5 hours.

Tsukida and Baldassarre were identified by Petitioner's third-party contractor as part of its overall search effort, conducted over approximately 40 hours.

V. CONCLUSION

This declaration does not disclose counsel's legal analyses, mental impressions, or internal strategy. Nor were privileged or non-public attorney analysis included in search strings or prompts. Nothing herein should be construed as a waiver of attorney-client privilege or work-product protection. Consistent with the Office's Memorandum, this declaration is offered to assist the Office in understanding the search pathways employed.

All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true. Further, I am aware that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001. I declare under penalty of perjury that the foregoing is true and correct.

Executed on November 26, 2025.

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on November 26, 2025, a complete and entire copy of this Petitioner's Search Disclosure Declaration for its Petitions for Inter Partes Review of United States Patent No. 11,967,857 was provided by email to the Patent Owner, by serving the correspondence address of record as follows:

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