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Paper 7
Entered: October 2, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GRIDCO, INC.,
Petitioner,

v.

VARENTEC, INC.,
Patent Owner.

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Case IPR2017-01134
Patent 9,293,922 B2

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Before WILLIAM V. SAINDON, JUSTIN T. ARBES, and FREDERICK C. LANEY, *Administrative Patent Judges*.

LANEY, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
*37 C.F.R. § 42.108*

Petitioner Gridco, Inc. filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claims 1–3, 8–10, 15, and 16 of U.S. Patent No. 9,293,922 B2 (Ex. 1001, "the '922 patent") pursuant to 35 U.S.C. § 311(a). Patent Owner Varentec, Inc. filed a Preliminary Response (Paper 6, "Prelim. Resp.") pursuant to 35 U.S.C. § 313. Pursuant to 35 U.S.C. § 314(a), the Director may not authorize an *inter partes* review unless the information in the petition and preliminary response "shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." For the reasons that follow, we have decided not to institute an *inter partes* review.

## I. BACKGROUND

### *A. The '922 Patent*[1]

The '922 patent relates to the optimization of a power distribution grid network. Ex. 1001, 1:30–31. The '922 patent addresses new requirements for regulating (i.e., controlling) line voltage that were being "driven by distribution renewable energy penetration and the need to increase grid capacity without building new lines or infrastructure." *Id.* at 5:37–40. Generally, to address these regulation concerns, the Specification describes "[s]ystems and methods for an edge of network voltage control of a power grid." *Id.* at 2:26–27.

A volt-ampere reactive ("VAR") device is placed near loads that receive power on the grid to individually regulate the line voltage to quickly

[1] Case IPR2017-01135 involves the same parties and another patent, U.S. Patent No. 9,014,867 B2, in the same family as the '922 patent. *See* Pet. 1.

and independently react to events or changes along the power grid and avoid centralized control, wherein centralized control requires knowledge of a complete state of the grid, including all variables that affect load and input. *Id.* at 7:45–56. Multiple VAR devices are "deployed along the length of a typical distribution feeder to flatten the required voltage and respond to network conditions." *Id.* at 9:25–28.

The Specification describes the VAR device as including a processor configured to control a relay and semiconductor switch that enables or disables a capacitor based on the line voltage. *Id.* at 9:49–57. The VAR processor provides the additional ability to control the switching of the VAR device in a manner that prevents "fighting" between multiple VAR devices. *Id.* at 5:67–6:3. Infighting results from the VAR devices constantly correcting and re-correcting the line voltage. *Id.* at 19:51–53. To avoid this infighting, the VAR processor is configured to control the timing of the switching (or the point at which VAR compensation is engaged/disengaged) to ensure it is different between the various VAR devices. *Id.* at 6:52–56. The Specification states that the disclosed regulation scheme results in flattening the overall voltage range along the distance from the substation, "thereby saving energy, increasing responsiveness, and improving overall control along longer distribution feeders[, as well as avoiding infighting]." *Id.* at 6:48–52.

### *B. Illustrative Claim*

Claim 1 of the '922 patent recites:

> 1. A system comprising:
> a distribution power network;

a plurality of loads at an edge of the distribution power network, each load configured to receive power from the distribution power network; and

a plurality of shunt-connected, switch-controlled Volt-Ampere Reactive ("VAR") sources, wherein each VAR source is located at or near the edge of the distribution power network, is configured to non-continuously monitor and detect a proximate voltage at or near the edge of the distribution power network, and comprises a processor and a VAR compensation component, the processor configured to enable the VAR source to determine, after a delay, whether to enable the VAR compensation component based on the proximate voltage and adjust network volt-ampere reactive by controlling a switch to enable the VAR compensation component based on the determination;

wherein the delay associated with each VAR source extends for a predetermined length of time that is not equal to the delay associated with any other of the plurality of VAR sources.

*C. The Prior Art*

Petitioner relies on the following prior art:

U.S. Patent No. 5,402,057, issued Mar. 28, 1995 (Ex. 1003, "D'Aquila");

ELECTRIC UTILITY ENGINEERING REFERENCE BOOK, VOLUME 3: DISTRIBUTION SYSTEMS, Westinghouse Electric Corporation (1965) (Ex. 1004, "Green Book");

*Static Var Compensator Models for Power Flow and Dynamic Performance Simulation*, 9 IEEE Transactions on Power Systems 229–240 (Feb. 1994) (Ex. 1005, "IEEE SVC"); and

NOMAX INSTRUCTION MANUAL 900 SERIES SWITCHED CAPACITOR CONTROLS, HD Electric Company (2007) (Ex. 1006, "NoMAX").

*D. The Asserted Ground*

Petitioner challenges claims 1–3, 8–10, 15, and 16 of the '922 patent on the following grounds:

| References | Basis | Claim(s) Challenged |
|---|---|---|
| D'Aquila and the Green Book | 35 U.S.C. § 103(a)[2] | 1, 2, 8–10, 15, and 16 |
| D'Aquila, the Green Book, and IEEE SVC | 35 U.S.C. § 103(a) | 3 |
| The Green Book and NoMAX | 35 U.S.C. § 103(a) | 1, 2, 8–10, 15, and 16 |
| The Green Book, NoMAX, and IEEE SVC | 35 U.S.C. § 103(a) | 3 |
| D'Aquila and NoMAX | 35 U.S.C. § 103(a) | 1, 2, 8–10, 15, and 16 |
| D'Aquila, NoMAX, and IEEE SVC | 35 U.S.C. § 103(a) | 3 |

*E. Claim Interpretation*

The Board interprets claims in an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b); *see also Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard).

[2] The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA"), amended 35 U.S.C. § 103. Because the challenged claims of the '922 patent are presumptively entitled to at least the filing date of the '922 patent, which is before the effective date of the applicable AIA amendment, we refer to the pre-AIA version of 35 U.S.C. § 103.

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