

**IN THE 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

U.S. Patent No. 9,293,922 B2

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**PATENT OWNER PRELIMINARY RESPONSE**

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**PATENT OWNER'S EXHIBIT LIST**

Exhibit No.	Description
2001	Declaration of James Kirtley, Ph.D
2002	Curriculum Vitae of James Kirtley, Ph.D
2003	Excerpts from Kirtley, James, 'Electric Power Principles, Sources, Conversion, Distribution and Use', Wiley (2010)
2004	Excerpts from Fink, Donald G. and Wayne Beaty, <i>Standard Handbook for Electrical Engineers</i> , 13th Edition, McGraw Hill (1993)

## **I. INTRODUCTION**

The Board should not institute *Inter Partes* Review (IPR) on claims 1-3, 8-10, and 15-16, of U.S. Patent No. 9,293,922 (“the ‘922 Patent,” Ex. 1001) because petitioner GridCo Inc. (“Petitioner”) has not met its burden of showing it has a reasonable likelihood of prevailing on at least one claim with respect to any of its proposed grounds of unpatentability.

Patent Owner, Varentec, Inc., (hereinafter, “Varentec”) is an innovator at the forefront of power electronics. The ‘922 Patent, titled “Systems and Methods for Edge of Network Voltage Control Of a Power Grid ” to Deepakraj Divan *et al.*, is one of many patents in Varentec’s patent portfolio directed towards improving the operation of the power grid. In particular, the ‘922 Patent is directed towards technology that more efficiently regulates voltage at the edge of the power grid. This problem has become even more challenging in recent years in view of the addition of many different types of power sinks and sources that affect the stability of the power grid at its edge.

In this proceeding, Petitioner has requested that particular claims of the ‘922 Patent be found invalid in view of four different references grouped into three sets of combinations. In particular, Petitioner cites to U.S. Patent 5,402,057 (“D’Aquila”) and three non-patent literature references—a power electronics

reference book referred to as the “Green Book,” a product manual called “NoMAX,” and a journal article referred to as IEEE SVC (collectively, the “Cited References”). Ultimately, each combination suffers from the same fundamental shortcomings when compared with the ‘922 Patent. First, none of the references discloses or teaches locating a plurality of VAR sources at or near the edge of the distribution power network. Second, none of the references discloses or teaches employing non-continuous monitoring of proximate voltage before determining whether to enable a VAR component of a source. And third, none of the references discloses or teaches using different delays for each of the plurality of VAR sources.

Together, these differences are an artifact of a fundamental gap between the respective objectives of the ‘922 Patent and each of the Cited References—namely, the ‘922 Patent claims using VAR sources to regulate voltage at or near the edge of the distribution power network with non-centralized coordination, while still avoiding *infighting*, whereas the Cited References disclose technologies for regulating voltage at or near a power substation using a uniform delay to avoid reacting to transient voltages—a phenomenon referred to in the Cited References as “*hunting*.” For the reasons discussed in more detail below, infighting and hunting are different phenomena.

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