

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

---

**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

---

Halliburton Energy Services, Inc.,  
Petitioner

v.

The United States of America  
represented by the Secretary of  
the Navy,  
Patent Owner

U.S. Patent No. 7,030,971

---

*Inter Partes* Review Case No. IPR2017-02109

---

**PATENT OWNER PRELIMINARY RESPONSE**

## TABLE OF CONTENTS

I.	Introduction.....	1
II.	Summary of Petitioner’s Bases for Requesting Institution of IPR: .....	4
III.	Patent Owner’s and Licensee’s Preliminary Comments Regarding Petitioner’s Bases for Requesting Institution of IPR .....	4
IV.	Discussion.....	6
	1. Petitioner’s Proposed Construction for “Light Source” Is Incorrect and Renders the Petition Insufficient .....	6
	2. Everard Fails to Provide an Enabling Disclosure of the Claimed Invention.....	8
	3. Kersey teaches away and does not provide an enabling disclosure....	11
V.	Conclusion .....	14

## I. Introduction

Patent Owner, The United States of America represented by the Secretary of the Navy, (“Patent Owner”) and licensee Adelos, Inc. (“Licensee”) (a Bayh-Dole Licensee; *see* 35 U.S.C. § 207) represented by Lane Powell PC, respectfully submit this Preliminary Response in accordance with 35 U.S.C. § 313 and 37 C.F.R. § 42.107. This Response responds to the Petition for *inter partes* review (the “Petition”) filed by Halliburton Energy Services, Inc. (“Petitioner”) regarding claims 1-3, 6-16, and 18-22 of U.S. Patent No. 7,030,971 (“the ’971 Patent”). The Petition’s grounds argue that certain claims of the ’971 Patent are anticipated by UK Patent Application GB 2 190 186 to Everard (“Everard”) or rendered obvious by Everard or US Patent No. 6,285,806 to Kersey (“Kersey”).

The ’971 Patent is a pioneering patent to a sensor that uses the innate properties of natural optical fiber to sense lightwave signals stemming at least in part from the incidence of external physical signals such as acoustic pressure waves on the natural optical fiber. The claimed invention describes a time-domain reflectometer that includes signal processing components that take advantage of the “natural, or innate, properties of commercial grade optical fiber cables” of the fiber. *See, e.g.*, Ex. 1001, (the ’971 Patent) at 2:52-58; Claim 1 (at 34:9-13). The inventive sensor’s ability to use natural fiber is an advantage over acoustic sensors that required Bragg gratings to be irradiated into the optical fiber, resulting in fiber spans

costing hundreds of thousands of dollars. *See, e.g.*, '971 Patent at 1:51-62; 2:9-15. Instead of relying on fixed position fiber Bragg gratings, the invention allows for sensors to be established at a continuum of positions along the length of the natural fiber. *See, e.g.*, '971 Patent at claim 1 (at 34:9-25), claim 21 (at 37:22-24), claim 22 (at 38:12-17); 11:35-58; Fig. 2 (reproduced below).

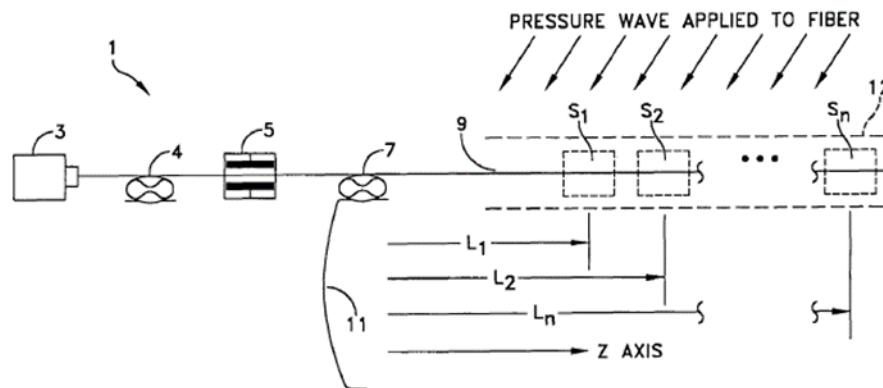


FIG. 2

In fact, the different structure and operation of sensors using natural commercial grade optical fibers, as opposed to fibers irradiated to form Bragg gratings, distinguishes the claimed invention from Petitioner's Kersey reference. And because Kersey represented the conventional understanding of those in the art at the time, Kersey actually reinforces the innovative nature of the '971 Patent. Moreover, the specificity provided by the disclosure and claims of the '971 Patent stand in stark contrast to the thin disclosure of Petitioner's Everard reference, which fails to provide an enabling description of the features claimed in the '971 Patent.

For the reasons detailed herein, it is respectfully submitted that the Board should decline to institute *inter partes* review of the requested claims of U.S. Patent No. 7,030,971. By statute, the Board must decide whether to institute review based on “the information presented in the petition” while also determining whether to “reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. §§ 314(a), 325(d). In particular, the Petition should be denied because it:

- (1) Improperly relies on a proposed construction of the term “light source” that is inconsistent with the intrinsic evidence;
- (2) Improperly relies on Everard despite its lack of an enabling disclosure of features expressly recited in the challenged claims of the '971 Patent; and
- (3) Improperly relies on Kersey despite its express teaching away from the claimed invention and the lack of providing a disclosure (much less an enabling disclosure) of features expressly recited in the challenged claims of the '971 Patent.

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.