

July 31, 2009

Honorable Senators
United States Senate
Washington, DC 20510

DRAFT

Re: Opposition to repeal of first inventor's priority rights under S. 515, The Patent Reform Act of 2009.

Dear Senators

On behalf of the undersigned companies and organizations whose survival and job creation depend on patent protection, we are writing regarding the patent reform legislation, S. 515. Although we remain concerned about several provisions of the bill even after the recent "compromise" improvement on damages, we write today to draw renewed attention to a proposed rewrite of 35 U.S.C. § 102, which fundamentally redefines patentability and changes the American invention-date-based priority system to that based on filing date. This issue has been overshadowed by the debate on other provisions of S. 515, but it may be more disruptive to the technology investments fostered by the patent system. The proposed filing-date-based rewrite of § 102 ("new § 102") is another issue where some large, "incumbent" firms are seeking a change to the detriment of small companies, new entrants, startup innovators, independent inventors, and future businesses.

Although some of you may have heard us before on this topic, you have not heard much concerns about "new § 102" from established organizations who vocally oppose other provisions of S. 515. Although we strongly concur on the need to protect the strength of *issued* patents, we are just as concerned about the ability to *obtain* strong patents *in the first place*, access to the patent system for *future* innovators, and capital formation opportunities for *future businesses*. Importantly, no one has evaluated available data to predict the likely effects of "new § 102." We address only a few points below and elaborate further in the attached list of Detailed Concerns following our signatory list below.

"New § 102", including the provisions conferring patent priority based on filing date rather than invention date, will create a race to the patent office, flooding it with hastily submitted applications that will result in weaker, harder-to-understand patents. The pressure to establish filing date priority will require applicants to file at every stage of development without perfecting their invention and to file more frequently, leading to higher costs. Such effects of "new § 102" will be felt most strongly by early-stage innovators, small entities, research organizations, and startups, in the form of more frequent invention reviews, earlier hiring of outside attorneys, and new patenting costs. Expected additional costs are not merely pecuniary - the time spent patenting instead of attending to key R&D functions will be disruptive. In contrast, large entities often have on-staff patent attorneys who have working knowledge of the company's field of business and can file multiple applications at each stage of their invention process at about half the cost per patent compared to startup companies.

Under "new § 102", filings with the patent office will increase substantially, causing a significant increase in the application workload and backlog. All patentees will lose patent protection due to longer pendency. "New § 102" will also saddle U.S. innovators with higher product-development costs arising from the need to invest R&D resources to develop non-infringing solutions, "designing-around" the clutter of patents and applications that would never have been applied for or issued under current patent law.

The main purported justification for the change from first-to-invent to first-to-file is "judicial efficiency" in resolving priority disputes, as interferences (a process of determining priority) are repealed. Such potential benefit under U.S. legal procedures is speculative myth. First, under current law, out of more than 460,000 patent applications filed per year, only about 70 disputes reach the stage of determining the party entitled to priority. Second, S. 515 will simply shift some (or many) of the 70 priority disputes from the "interference" context to invention "derivation" disputes. Contrary to proponents' assertions, in proving derivation under U.S. law, one **must include** the substantive inquiry and determination of the *first to invent*, just as now done in interferences. Third, S. 515 provides that an inventor may not be able to challenge an alleged deriver until after the patent for the derived invention issues, years later. With the presumptions that attach to issued (allegedly derived) patent, an invention misappropriator will then have the right to drive the original first inventor out of the market, well before

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commencement of a derivation proceeding. Such aspects “stack the deck” heavily against small entities and new market entrants.

No benefit to U.S. innovators can come from enacting “new § 102” for the sake of international “harmonization,” a second purported justification. First, U.S. patent laws allow inventors a “grace period,” so that they can perfect their invention and begin commercialization for up to a year before filing a first patent application. Other nations have been reluctant to “harmonize” with this important feature of U.S. patent law. The predecessor of S. 515 in the last congressional term, S. 1145, made the “first to file” section change effective only if major foreign nations reciprocated by adopting only the limited public disclosure “grace period” into their patent law. This condition was removed from S. 515. The resulting one-sided “harmonization” will only benefit other countries, to the detriment of U.S. inventors. Second, the U.S. will lose R&D jobs under “new § 102,” because small business and new market entrants, who now contribute the most to domestic U.S. job creation, will be at a disadvantage compared to large firms that export a growing share of R&D jobs. Third, due to the loss of effective “grace period,” U.S. inventors will be forced to publicly disclose their developments earlier, up to one year before they would otherwise do so under current law. Aside from gaining competitive advantage from such earlier disclosure, foreign competitors will benefit by filing earlier floods of patent applications to “surround” U.S.-originated patented products in foreign markets, thereby further impeding American innovators’ ability to compete abroad. Fourth, upon a probing analysis, it is evident that the priority and validity rules in “new § 102” are unlike the rules of any other country – S. 515 is not a “harmonization,” it is simply a *sui generis* statute with no “harmonization” benefit. Due to vastly differing legal systems and civil procedures, the goal of a single application that can be patented throughout the world is illusory, and S. 515 does nothing material to advance this goal.

Under “new § 102’s” legal redefinition of prior art, many U.S. patentees who are diligent in reducing their invention to practice will lose valuable priority rights, weakening or invalidating their patents by “prior art” that is actually after their invention dates. This effect applies well beyond the interference context and is likely to damage large numbers of applications and patents. Other patentees’ attempts to overcome priority loss by hastily filing premature applications will likely result in substantial increase in patent invalidity litigation due to increased uncertainty surrounding skimpier disclosures.

Finally, although some will disagree over the degree of harm due to the above-discussed factors, no party can point to any *beneficial* impact of the filing-date-based system of “new § 102.” No party has evaluated the economic costs to Americans that will arise if the U.S. abandons the carefully tuned balances codified in current § 102, and the incentives to invent, to invest, and to disclose that it provides. We urge Congress to study and establish a factual record of likely economic effects of any § 102 rewrite *before* enacting sweeping changes to America’s 200 year-old invention-date-based patent priority law. If there are any purported benefits from the “new § 102,” they must be clearly identified, quantified, and balanced against the harm identified in this letter.

We urge the Senate to replace the portion of S. 515 amending § 102 priority law with language that instructs the Small Business Administration and the U.S. Department of Commerce to conduct a study in consultation with the Department of Justice and the U.S. Trade Representative. Such an interagency study should assess and report to Congress on the likely effects of changing U.S. patent priority laws. The report should examine the effects on U.S. small businesses and the U.S. economy as a whole and should include at least the factors we address in the attached Detailed Concerns section.

Thank you for your consideration of our views and concerns

Sincerely,

[Signatories below]

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ORGANIZATIONS

CONNECT San Diego

Professional Inventors Alliance

COMPANIES

ActiveVideo Networks, Inc.
San Jose, CA

AIS Productions, Inc.
New York, NY

Aero Marine Co.
Port Townsend, WA

AltheaDx, Inc.
San Diego, CA

ArtisTech Media LLC.
San Diego, CA

Astroleap, Inc.
San Diego, CA

Aurora Networks, Inc.
Santa Clara, CA

Automotive Technologies Int'l, Inc.
Denver, NC

Bi-Level Technologies
Encinitas, CA

BioLaurus Inc.
San Diego, CA

Breach Security, Inc.
Carlsbad, CA

Bulldog United, LLC
Mountain View, CA

Clarinova, Inc.
San Diego, CA

Collar Free, Inc.
San Diego, CA

Cornerstone Pharmaceuticals, Inc.
Cranbury, NJ

Defense Technology Analysts, Inc.
San Diego, CA

Eatoni Ergonomics, Inc.
New York, NY

Einstein Industries, Inc
San Diego, CA

Express Ventures
San Diego, CA

Fallbrook Technologies Inc.,
San Diego, CA

Firewire Surfboards, Inc.
San Diego

FONAR Corporation
Melville, NY

Gemini Strategies, LLC
San Diego, CA

General Nanotechnology, LLC
Berkeley, CA

Hale BioPharma Ventures, LLC
San Diego, CA

Heritage Woods
Alto, MI

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Histogen, Inc.
San Diego, CA

HuTribe, Inc.
San Diego

ICU Medical, Inc.
San Clemente, CA

iMerchantAdvance Holding, Inc.
San Diego, CA

Indyme Solutions, Inc.
San Diego, CA

Inogen, Inc.
Goleta, CA

Intelligent Technologies Int'l, Inc.
Denville, NJ

IQ-Analog Corporation
San Diego, CA

Lauder Partners, LLC
Atherton, CA

Livescribe, Inc.
Oakland, CA

Mailshooter, LLC
San Diego, CA

Marketcore, Inc.
Westport, CT

Metadigm, LLC
Covelo, CA

Micromet, Inc.,
Bethesda, MD

Mission Ventures
San Diego, CA

MyKidisSafe, LLC
Rancho Santa Fe, CA

Neurelis, Inc.
San Diego, CA

Newsforce, Inc.
La Jolla, CA

Nextivity, Inc.
San Diego, CA

Nigel Power, LLC
San Diego, CA

NiteTrip, LLC
Carlsbad, CA

Nuvocom, Inc.
West Jefferson, NC

OnLive, Inc.
Palo Alto, CA

Orion Creative Group
San Diego, CA

Paisano Industries LP
Austin, TX

Polestar Capital Associates
New York, NY

Product Concepts Co.
Vienna, VA

Promptu Systems Corporation
Menlo Park, CA

PT Motion Works, LLC
Atherton, CA

Rancho Santa Fe Investments, LLC
Rancho Santa Fe, CA

Rayspan Corporation
San Diego, CA

Real Phone Card Corporation
La Jolla, CA

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Rearden Companies
San Francisco, CA

RGB Networks, Inc.
Sunnyvale, CA

RR Enterprises, Inc.
Grand Blanc, MI

Riley Enterprises, LTD.
Grand Blanc, MI

San Diego News Network
San Diego, CA

Santrio, Inc.
Solana Beach, CA

Sanuk USA, LLC
Irvine, CA

Sezmi Corporation
Belmont, CA

Shaw Management Advisors, Int'l, LLC.
La Jolla, CA

ShotSpotter, Inc.
Mountain View, CA

Silicon Kinetics, Inc.
San Diego, CA

SilverSky Group, LLC.
Reno, NV

SkinMedica, Inc.
Carlsbad, CA

Software Partners, LLC
Encinitas, CA 92024

Solar Hydrogen Energy Co.
La Mesa, CA

SolutionEngineers Enterprises, Inc.
Surprise, AZ

Somaxon Pharmaceuticals, Inc.
San Diego, CA

StaticOff LLC
South Portland, ME

Stress Indicators, Inc.
Bethesda, MD

TAG Networks, Inc.
Mountain View, CA

The 3D Source, Inc.
Westbury, NY

Variant, Inc.
Saint Louis, MO

Verimatrix, Inc.
San Diego, CA

Viryd Technologies Inc.
San Diego, CA

Windward Ventures
San Diego, CA

WiSpry Inc.
Irvine, CA

WRA&A, Inc.
San Diego, CA

ZuumCraft, Inc.
San Diego, CA

[More signatories to be added here]

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DETAILED CONCERNS

Senate bill S. 515, Sections 2(b) and 2(c) rewrite 35 U.S.C. §§ 102 and 103, the two sections of the Patent Act that define conditions for patentability, in particular the relation between patent filing date vis-à-vis the “prior art.” These changes, termed here “new § 102”, were drafted to favor the interests of large, incumbent, entrenched, multi-national companies, to the detriment of small companies, disruptive innovators, new entrants and companies based primarily or solely in the U.S. “New § 102” is far more than what its proponents characterize as a carefully-tailored amendment to 35 U.S.C. § 102(g) and § 103 directed to possibly-legitimate public policy purpose of “harmonizing” U.S. law with foreign law, by shifting from “first-to-invent” to “first-to-file.” Rather, “new § 102” sends patentability standards off in radical and new directions, by redefining one of the most fundamental issues in patent law, what *prior art* means.

In light of experience over two centuries, Congress and the courts have carefully tuned § 102 of the Patent Act to balance the interests of incumbents and new innovators, of patentees and infringers. The result provides incentives to invent and disclose new technologies, to invest and to turn those inventions into useful products. “New § 102” disrupts all those long-proven balances, based (as far as we can tell) on *no* empirical evidence, and only one-sided considerations. These shifts will cause many U.S. inventors to lose the ability to adequately protect their inventions and to compete. It will have other far-reaching adverse consequences, some of which are enumerated below.

The following are a few of the substantive changes in new § 102:

- S. 515 abandons references to invention dates, instead focusing on filing dates. It redefines the operative date for disclosure by others in § 102 and for “obviousness” in § 103 from the *date of invention* with a one-year limit, as under current law, to the *filing date* of a patent application. Relying on invention dates and the existing strong one-year grace period is crucial to give the inventor time to perfect the invention and advance in commercialization. Therefore, current law ensures that patent applications need only be filed on valuable inventions, and the applications that are filed describe a mature, complete invention. S. 515 changes that and renders the grace period so fragile that it is effectively repealed – *no* patent attorney will be able to advise an inventor to defer filing.
- S. 515 § 2(i) proposes to replace “interference” proceedings under § 135 of current law with “derivation proceedings.” Where an interference proceeding requires each of the two parties to show *what they themselves did*, based on evidence *in the parties’ own possession*, so that a neutral adjudicator decides which was earlier, a derivation proceeding requires a party to show *what the other party did*, based on evidence *in possession of that other party*, to be obtained in adversarial discovery.

S. 515 favors market incumbents and large companies at the expense of new entrants and small companies

(1) “New § 102” was drafted without sufficient consideration of its unique adverse impact on startup companies, new entrants and small companies. Its adverse effects on access to the patent system for *future* innovators, and capital formation opportunities for *future businesses* have been largely ignored. Not *a single witness or representative* of a startup company, new market entrant or individual inventor was given an opportunity to testify in senate committee hearings on S. 515 (March 10, 2009). Nor was there testimony given by such representative during Senate patent hearings on S. 515 predecessors in the prior sessions of Congress over the last three years. Even the July 26, 2005 senate hearings on patent harmonization, that specifically addressed the patent priority issues, were held without any participation or testimony of a representative from a startup company, new market entrant or individual inventor. Thus, the interests of market incumbents dominated the legislative process at the expense of startups, new entrants and small

patenting entities that have not been heard. One need only look north of our borders to a similar transition from an invention-date-based system to a filing-date-based system, as implemented in Canada two decades ago. A detailed empirical study of this Canadian transition shows evidence that after the transition to a filing-date-based system, small businesses and individual inventors have been disadvantaged compared to large corporate entities.¹

(2) We are concerned about the chilling effects that “new § 102” provisions will have on startup companies’ ability to forge strategic partnerships and obtain related investments during the most critical phase of their development. Startup inventors will be reluctant to disclose their inventions to potential strategic partners/investors, because the proposed statute has no protection against loss of patent rights due to *private* disclosure. The one-year grace period in “new § 102” is dramatically weakened as it applies only to *public* disclosure, selectively benefiting large entities who are more likely than small startups to announce inventions when they make them. Moreover, new market entrants will have much more difficulty replying to Request For Proposal solicitations due to concerns that private disclosure of their technical approach may trigger a filing race for result-oriented “paper inventions” by others, who may attempt similar approaches.

(3) Under current law, company management sets schedules, and the patent attorneys can schedule their patent work around the company’s business priorities, after substantial accumulation of information on new inventive developments and establishment of their significance and technical maturity. “New § 102” will change this: many of a businesses’ most crucial decisions will be taken away from company management, and will be held hostage to specific development events and patent attorney’s schedules, as many more patent applications would have to be filed without delay after each significant development. This will be especially disadvantageous to small entities that do not have in-house patent counsel, and cannot “throw money” at accelerating internal R&D efforts or at outside counsel. Recent studies show that startup companies’ patenting costs per patent are more than *double* that of the average patenting entity.² Thus, small entities and new market entrants will be greatly disadvantaged compared to larger corporate entities by the increased frequency of races to the patent office that “new § 102” creates.

¹ Shih-Tse Lo and Dhanoos Sutthiphisal, Does it Matter Who Has the Right to Patent: First-to-Invent or First-to-File? Lessons from Canada, *NBER Working Papers*, No. W14926, 28, (April 2009), at SSRN: <http://ssrn.com/abstract=1394833>, (regression analysis and other indicators show that the Canadian switch to “the first-to-file principle benefits large corporations and puts small businesses and independent inventors into a disadvantageous position”).

² Stuart J. H. Graham, Robert P. Merges, Pamela Samuelson and Ted M. Sichelman, High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey, 67 (June 30, 2009). Available at SSRN: <http://ssrn.com/abstract=1429049>. (A survey of U.S. startup companies from all industry sectors revealed that the average out-of-pocket cost for a respondent firm to acquire its most recent patent was over \$38,000. A respondent executive stated that startups often pay significantly more than incumbents to their prosecuting attorneys, because startups (i) tend to file for patents on inventions that are more important to the company’s core business model than large firms, (ii) usually use outside instead of in-house counsel for patent prosecution; and (iii) often have difficulty monitoring outside counsel to limit overall costs). This average patenting cost for startups is more than double the reported national average cost across patenting firms, which ranged from about \$11,000 in low complexity applications to about \$20,000 in complex biotechnology applications. See AIPLA, *Report of the Economic Survey*, 72-74, (2007) (Average costs for preparing and filing: \$7,012 – low complexity, \$12,393 – complex biotechnology; Average costs per Amendment/Argument: \$1,920 – low complexity, \$3,680 – complex biotechnology. Assuming two rounds of Amendment/Argument per patent, one obtains a total cost range of \$10,852 – low complexity, to \$19,753 – complex biotechnology).

The loss of valuable patent priority rights will reduce U.S. patent protection

(4) A recent study³ of over 1,000 patent applications compared the dates on which inventors submitted internal invention records to the dates on which the respective priority patent applications were filed with the U.S. Patent and Trademark Office (“USPTO”). It was found that given these internal temporal gaps, under the new priority rules of “new § 102”, at least 13% of applicants would lose more than one year of priority rights and that at least 4% would lose more than two years of priority rights.⁴ Although a minority, these are probably very valuable patents, requiring longer experimentation and development of preferred modes of practicing the inventions. Furthermore, based on USPTO’s estimates, inventors’ affidavits filed under current law to establish earlier priority dates than that of a cited reference, have been submitted in 3% to 5% of applications.⁵ Thus, given present annual application filing rate, some 14,000 - 23,000 applicants may be barred at the outset from obtaining certain patent claims under “new § 102” relative to those available under current law. Taken together, these facts clearly suggest that significant losses of patent value will be incurred under “new § 102.”

(5) Some companies, particularly larger entities, have explained that they already file patent applications as if “new § 102” were in place, because of their international practices and in-house patenting capabilities. They opine that enacting “new § 102” will not make much difference in their operations. That may be so for their operations. However, examination of patent disputes suggests that in many cases this argument is shortsighted, overlooking the role of U.S. patents in international patent portfolios, in which the U.S. patent is often the central pillar. When a U.S. patent is part of a patent family, validity of the foreign counterpart patents in the family is often not litigated. Many disputes settle across the full international patent family, based on analysis of only the U.S. patent, because that is where the dominant economic value lies. Thus, we believe that since the invention date U.S. criterion was effectively controlling, many patentees have had very little actual experience in evaluating the full effects of “new § 102” on international patent portfolios.

Derivation proceedings’ prospect will disproportionately harm small entities

(6) The proposed “derivation” proceedings contemplated by the bill to address misappropriation of inventions are, if anything, even more burdensome than current “interference” proceedings. Further, they will place untenable evidence discovery burdens on smaller companies. Both effects arise because the primary evidence of “derivation” or misappropriation will be “negative” evidence that is in the hands of the *adversary* whose right to a patent is being questioned. In contrast, under current interference law, the primary evidence for determining priority is “positive” evidence in the possession of the respective parties, so relatively little adversarial discovery is required. Unlike discovery in federal court, the USPTO permits only extremely restrictive discovery procedures.⁶ Small entities alleging derivation by large firms will be at a particular

³ Ron D. Katznelson, Patenting Strategies Under a Proposed First-To-File Patent System, presentation and prepared statement at the *Federal Trade Commission’s hearing on The Operation of IP Markets*, (March 18, 2009), at <http://www.ftc.gov/bc/workshops/ipmarketplace/mar18/docs/katznelson.pdf>.

⁴ *Id.*, at Slide 7.

⁵ Charles R.B. Macedo, First-To-File: Is American Adoption Of The International Standard In Patent Law Worth The Price? 18 *AIPLA Q.J.* 193, 228 (1990). (USPTO estimates that inventors’ invoke their earlier invention date by antedating a prior art reference cited by the patent examiner by filing affidavits under 37 C.F.R. § 1.131 in 3% to 5% of applications).

⁶ Charles L. Gholz, Patent Interferences – Big Ticket Litigation With No Effective Discovery, 4 *Intellectual Property Today* No. 9 at page 10 (1997). Available at <http://www.oblon.com/Pub/gholzbigticket97.html> (Describing the USPTO’s board of interference procedures wherein the burden of showing entitlement to discovery is on the movant seeking discovery, rather than imposing on the adversary the burden of showing why discovery should not be obtained. The movant usually can’t satisfy this “interest of justice” requirement as interpreted by the board of interference).

discovery disadvantage because large firms have been more active in offshoring their R&D jobs and activities,⁷ which may require costly or impossible discovery in foreign jurisdictions.⁸ These factors render the proposed “derivation” proceedings effectively unworkable for small entities.

(7) Proponents of “new § 102” procedure argue that it promotes judicial efficiency by providing patent priority date certainty, but this purported administrative convenience certainty is highly questionable. First, the primary priority issues will simply shift to issues of claim support under § 112 in provisional application strings, CIPs, and specification support in the eventual application for after-added claims. Moreover, interference proceedings will be replaced by a comparable number of “derivation” proceedings because in these few cases, first inventors will be unlikely to readily cede priority to first filers without attempting to discover possible derivation from their prior invention. Because the legal standard for proving derivation requires a showing of earlier conception by the party alleging derivation,⁹ ***all derivation proceedings will in fact subsume proceedings to determine the first inventor*** and the purported “judicial efficiency” of eliminating interferences is mere speculative folklore lacking a legal basis.

(8) The practical viability of the “derivation” procedure for first inventors is gutted by S. 515’s language providing that the USPTO may defer initiating a derivation proceeding until 3 months after the date on which the USPTO *issues* a patent to the suspected deriver. Because pendency at the USPTO is several years, this delay will deny meaningful and timely remedy for aggrieved first inventors. Moreover, S. 515 provides no meaningful remedy for first inventors in cases where the suspected deriver keeps the application unpublished.¹⁰ This is because the proposed bill’s 3 month period between the issuance of the patent and the time the board must take action on derivation would be unrealistically short for the first inventor to even become aware of the issuance of the target patent.¹¹ Also troubling is S. 515’s repeal of the parties’ ability to amend their claims during a derivation proceeding or move for a judgment that their opponent’s claims are unpatentable on any ground other than derivation. These features are currently used in interference proceedings as efficient means for resolving many disputes, and to ensure that each party receives the portion of the patent right to which they are entitled. The repeal of these features will result in unnecessary loss of entire patent rights. Clearly, the “new § 102” procedure abandons judicial equity in favor of illusory “judicial efficiency”.

⁷ Ron Hira, The Offshoring of Innovation, *Economic Policy Institute*, Briefing Paper #226 (December 2008), at <http://www.epi.org/publications/entry/bp226/>; Stephan Manning, Silvia Massini, and Arie Y. Lewin, A Dynamic Perspective on Next-Generation Offshoring: The Global Sourcing of Science and Engineering Skills, *Academy of Management Perspective*, pp. 35-54, (August 2008), at <https://offshoring.fuqua.duke.edu/pdfs/AMPpaper.pdf>.

⁸ Also note that in depositions conducted abroad for a case before a U.S. court, foreign witnesses can testify with absolute immunity from the pains and penalties of perjury.

⁹ *Price v. Symsek*, 988 F.2d 1187, 1190 (Fed. Cir. 1993) (Derivation is a question of fact. To prove derivation, the movant must establish ***prior conception*** of the claimed subject matter ***and*** communication of the conception to the adverse claimant.) (Emphasis added); *Brand v. Miller*, 487 F.3d 862, 869 (Fed.Cir.2007) (To meet the burden of proof on derivation, a claimant “must make two showings. First, he must establish prior conception of the claimed subject matter. Second, he must prove communication of that conception to the patentee that is sufficient to enable [him] to construct and successfully operate the invention.”) (Internal citations and quotations omitted).

¹⁰ The proposed amended 35 U.S.C. § 135(a) provides that a derivation “request may only be made within 12 months after the date of first ***publication of an application*** containing a claim that is the same or is substantially the same as the claimed invention.” (Emphasis added). If a different result was intended, the proposed statute could have easily provided instead that a derivation “request may only be made within 12 months after the date of first publication of an application ***or a patent***.”

¹¹ Under current law, 35 U.S.C. § 135(b) provides a one year limitations period for the analogous time to act.

“New § 102” will cause U.S. R&D infrastructure and job losses

(9) U.S. R&D jobs will likely be lost following enactment of “new § 102,” as it will selectively harm domestic inventors and companies that employ U.S.-based R&D teams. This is because small businesses and new market entrants who contribute the most to domestic U.S. job creation will be disadvantaged compared to large firms that disproportionately engage in exporting a growing share of R&D jobs.¹²

(10) Over more than a century, the American invention-date-based priority patent system produced a legal balance among the various factors and incentives of patent law, including written description and enablement requirements and the patentee’s entitlement to priority. Americans have developed and perfected expertise in the innovation process for handling investment, disclosure, collaboration and technology diffusion under the legal procedures and protections afforded by the invention-date-based regime. “New § 102” will dramatically upset this legal balance and change the costs, the risks, the internal engineering procedures and the processes of IP development. It will “throw out the window” the American workforce’s well-tuned expertise of doing its innovation business, requiring a lengthy learning curve based on development of new case law and new strategies over many years to come. In this process, U.S. R&D managers will likely “trip,” make procedural mistakes and thereby cause additional irreversible loss of patent rights. Moreover, if enacted, “new § 102” will create two legal frameworks, encumbering Americans with confusion over priority rights of new patents and the more valuable priority rights of old patents issued prior to “new § 102” provisions’ effective date.

(11) Due to the increased need to file applications *prematurely* and *early* under “new § 102”, U.S. inventors will be forced to publicly disclose their developments earlier, up to one year before they would otherwise do so under current law. The beneficiaries of these earlier published applications would be foreign competitors who would learn earlier of subject matter that U.S. innovators are developing. These foreign competitors will be able to obtain earlier priority dates for a flood of foreign patent applications to “surround” U.S. originated patented products in foreign markets, thereby further limiting abilities of U.S. innovators to compete abroad.¹³

Reduction of Patent Quality, increases in number of patent disputes and in litigation costs

(12) “New § 102” will create a flood of hastily submitted patent applications in the USPTO. In some cases, companies say they will have to double the number of applications they file to ensure early priority dates.¹⁴ Indeed, other evidence shows that excessive lower quality filings are made under filing-date-based

¹² Hira, *The Offshoring of Innovation*, (2008), note 7 *supra*, at 8-15, (identifying large U.S. corporation’s recent investments in R&D facilities offshore).

¹³ Some nations administer and issue utility model patents for something less of an inventive step than a regular patent. Because the object of utility model may not be as advanced in comparison to prior art, utility models have been used as tools for blocking the economic utility of a competitor’s patent rights. Competitors, by making filings on slight design, shape, or structure variations on another’s technology can block the most marketable applications of that core technology. This provides such competitors with the economic leverage to force others to license their basic technology in exchange for a license on a necessary but otherwise obvious improvement, or utility models. It has been alleged that some domestic manufacturers in Japan have used this practice and thereby erected non-tariff-based trade barriers against U.S. companies. *See* Andrew H. Thorson and John A. Fortkort, *Japan’s Patent System: An Analysis Of Patent Protection Under Japan’s First-To-File System (Part II)*, 77 *J. Pat. & Trademark Off. Soc’y*, 291, 299 (1995) (describing the flood of utility models filed by Japanese companies to surround basic patents of Western companies). Similar activities and alleged abuses with respect to floods of utility model applications in China have been reported. *See* Enoch H. Liang and Andy An, *The Newest IP Threat in China – IP Hijacking (Part 1 of 2)*, *New Matter*, Vol. 33, No. 2, pp. 22-23 (2008), available at <http://www.itlcounsel.com/downloads/EHL%20-%20NEW%20MATTER%201.pdf> .

¹⁴ Katznelson (2009), note 3 *supra*, at Slides 5, 6 and 15.

priority constraints, only to be abandoned later.¹⁵ Other evidence suggests that applications filed under such priority systems are less thorough in their disclosure of the technology in return for the patent bargain.¹⁶ A similar transition to a filing-date-based system as proposed by S. 515 had been made in Canada in 1987-1989. Recent studies of objective patent quality measures show that this Canadian patent system transition resulted in reduction of Canadians inventors' patent quality.¹⁷ Our primary concern is not necessarily the haste with which applications will be *drafted*, but rather the limited material *available* to be included in applications submitted absent the robust grace period of current § 102. Another important item that proponents of "new § 102" neglected to consider is that the USPTO does not employ procedures used by other national patent offices to encourage voluntary abandonment of less-valuable or obsolete applications before they are examined. These procedures, including deferred examination practice, publication of search and preliminary patentability reports, are crucial to prevent flooding the examiners in first-to-file systems.¹⁸ However, these are not included in the "harmonized" provisions of this proposed legislation. "New § 102" will increase the backlog at the USPTO, reduce patent quality and will generate more unnecessary patent "clutter."

(13) In its "new § 102" amendment, S. 515 takes bits and pieces of patent law from various jurisdictions, without careful consideration of the compatibility of the parts, and with no regard whatsoever for genuine "harmonization" with any other country. It imports patent priority provisions of foreign countries without regard to the vastly different legal framework, standards and procedures that will govern their outcome in the U.S. The result merely creates yet another body of law that is no more "harmonized" with other nations than current law.¹⁹ Statutory requirements for patent disclosures are generally more demanding and complex under U.S. law than they are abroad.²⁰ Therefore, while disclosures in patent applications expeditiously filed under a filing-date-based priority system may satisfy other nations' laws, many applications prematurely filed

¹⁵ Katznelson (2009), note 3 *supra*, (Slide 9 shows that a majority of applications filed under the first-to-file constraints are discarded prior to examination as opposed to only a minority of those filed without such constraint).

¹⁶ Katznelson (2009), note 3 *supra*, (Slide 10 shows that patent applications filed by patentees from the top 10 patenting European countries have an average disclosure breadth that lags behind that of U.S. patentees).

¹⁷ Lo and Sutthiphisal (2009), note 1 *supra*, at 21, (the quality of patents issued to Canadians after the switch to the first-to-file system had declined compared to that of American inventors').

¹⁸ Katznelson (2009), note 3 *supra*, at Slide 9.

¹⁹ It is a mythical oversimplification to suggest that, outside the U.S., the legal patent priority and inventors' entitlement to patent rights are internationally harmonized. For example, European patent law, in and of itself, lacks harmony among contracting states. Almost all attributes of a European patent in a contracting state, i.e. ownership, validity, and infringement, are determined independently under distinct respective national laws. Under Article 138 of the European Patent Convention ("EPC"), *determinations of the party entitled to a patent* and of *patent validity* are remitted largely to different contracting state laws and the respective state courts. Yet, these matters are at the heart of "new § 102" amendments to S. 515 for the sake of "harmonization". It is ironic that Americans are asked to align such aspects of U.S. patent law, which are *fully harmonized* across 50 states, with those which are *harmonized across none*.

²⁰ Under 35 U.S.C. § 112, the specification must contain a written description of the invention, an enabling disclosure of "the invention, and of the manner and process of making and using it" and the best mode to carry out the invention. The "best mode" requirement does not exist in foreign patent laws, the "enablement" standard is more demanding under U.S. law, and the "written description" requirement is stricter in some areas and easier to meet in others. For example, in Europe, standards for enablement of a prior art reference for purposes of anticipation of a claim are the same as those required to support the allowance of such a claim under Article 83 of the EPC. While U.S. enablement standards for *anticipation* are comparable to those of the EPC, they differ from the *enablement* standard under § 112. *In re Hafner*, 410 F.2d 1403, 1405 (C.C.P.A.1969) ("[A] disclosure lacking a teaching of how to use a fully disclosed compound for a specific, substantial utility or of how to use for such purpose a compound produced by a fully disclosed process is, under the present state of the law, entirely adequate to anticipate a claim to either the product or the process and, at the same time, entirely inadequate to support the allowance of such a claim.") The goal of a single patent application that can be filed throughout the world is illusory, and S. 515 does little to advance this goal.

at the USPTO may prove to be unsatisfactory under § 112 requirements.²¹ However, S. 515 does not equalize or “harmonize” these obligations with foreign countries’ laws. The additional time that current U.S. law permits for careful and thorough inclusion of material learned during the development, experimentation²² and practice of the invention enables patentees to meet their § 112 obligations. Elimination or truncation of the inventors’ disclosure-supporting activities that span this pre-application time period will reduce the value of patent disclosures and will produce patents that are more difficult to litigate and for competitors to evaluate infringement avoidance. Litigation costs may well rise overall under “new § 102,” because of the increased uncertainty and difficulty in evaluating patents and because of increased number of lawsuits to invalidate patents that have incomplete disclosures.

(14) Due to the increase in applications filed prematurely and the resulting “clutter” patent claims (see Paragraph (12)), “new § 102” will also saddle U.S. innovators with higher product development costs because they will have to invest R&D resources to develop non-infringing solutions “*designing-around*” patents that would have never been applied for, let alone issued, under the current patent law.

Proposed repeal of first-inventor provision is likely unconstitutional

(15) A solid majority of law review articles considering the issue have concluded that the filing-date-based proposals as appearing in S. 515 impermissibly deviate from the patent clause in Article 1, Section 8 of the U.S. Constitution. Over two hundred years, this clause had been consistently understood and interpreted as securing the rights of first inventors.²³ As such, the “new § 102” provisions of S. 515 may well be subject to a constitutional infirmity.

²¹ For example, a study conducted jointly by the U.S., European, and Japanese Patent Offices using a sample biotechnology disclosure and 6 hypothetical patent claims, showed that utility and enablement standards as applied to the disclosure, supported the least number of claims at the USPTO compared to the EPO and the JPO. Based on the sample disclosure, only 2 claims out of 6 were found enabled under U.S. law, whereas all 6 claims were found enabled under EPC law. See Table 4 in: Melanie J. Howlett and Andrew F. Christie, An Analysis of the Approach of the European, Japanese and United States Patent Offices to Patenting Partial DNA Sequences (ESTs), *IPRIA Working Papers*, No. 05/03 (2003) available at <http://www.ipria.net/publications/wp/2003/IPRIAWP05.2003.pdf>.

²² Under § 112, a disclosure may be inadequate if it lacks required information and parameters that may only be obtained by elaborate experimentation. See, *AK Steel Corp. v. Sollac and Ugine*, 344 F.3d 1234, 1244 (Fed.Cir.2003) (“The enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention *without undue experimentation*”) (Emphasis added).

²³ An exhaustive survey on Westlaw of papers published in the last 10 years considering the issue, show that *none* suggest that the first-to-file patent grant procedure is constitutional and 7 out of 9 conclude that it is unconstitutional: FIRST-TO-FILE UNCONSTITUTIONAL (7 total): Rebecca C.E. McFadyen, The “First-To-File” Patent System: Why Adoption Is NOT An Option!, 14 *Rich. J.L. & Tech.* 3 (2007) (However, an analysis of the framers’ intent as well as statutory language of the early patent acts demonstrate that the Constitution authorizes the patent to be awarded only to the “first and true inventor.” To hold otherwise poses a direct challenge to the Constitution.); John J. Okuley, Resolution of Inventorship Disputes: Avoiding Litigation Through Early Evaluation, 18 *Ohio St. J. on Disp. Resol.* 915 (2003) (Though many commentators argue that the United States should adopt a first-to-file system, the current interpretation of the United States Constitution and the patent statutes is that patents are to be awarded to the first inventor.); Max Stul Oppenheimer, Harmonization Through Condemnation: Is New London The Key To World Patent Harmony? 40 *Vand. J. Transnat’l L.* 445 (2007) (granting the patent to the first filer deprives the inventor of “the exclusive right” guaranteed by the Constitution and is therefore unconstitutional.); Paul M. Schoenhard, Reconceptualizing Inventive Conception: Strengthening, Not Abandoning the First-To-Invent System, 17 *Fed. Cir. B.J.* 567 (2008–2009) (By these terms, it is readily apparent that the IP Clause is not aimed at the securing of rights to “disclosers” or “filers,” but to inventors.); Adam Sedia, Legislative Update: Storming The Last Bastion: The Patent Reform Act Of 2007 And Its Assault On The Superior First-To-Invent Rule, 18 *DePaul J. Art Tech. & Intell. Prop. L.* 79 (2007–2008) (Based on historical understanding, outlined in Section II above, those who view the first-to-file system as unconstitutional appear to have the better argument.); Karen E. Simon, Comment, The Patent Reform Act’s First-to-File Standard: Needed Reform or

Congress must study the likely economic effects of § 102 rewrite prior to enacting sweeping changes to America's 200 year-old patent priority law, experimenting with combinations of provisions that are inherently incompatible and that have never been combined before

(16) While there have been numerous papers comparing the legal history of invention-date-based system in America and foreign countries' filing-date-based system, except for the study of the Canadian transition showing adverse effects,²⁴ we are unaware of other studies on the *economic implications* of "new § 102" on the U.S. We could find no survey or analysis of the nature of the inventors' activities that take place between conception/generation of an invention record and the filing of a priority application for that invention at the USPTO. For example, what events and processes have 13% of inventors gone through for more than 1 year after their invention, before they ultimately filed their patent applications?²⁵ Could any of the experimentation and development they undertook have been avoided prior to filing their application? Has there been any survey of how inventors would have acted under "new § 102" in these known instances? No one had inquired about or attempted to quantify the economic impact or loss of patent rights that would have occurred had patentees been unable to use the time they actually have spent prior to filing their applications. As far as we know, our analysis – based on the largest-ever assembly of data relating to pre-filing activities of researchers and inventors and data from several international patent offices, leads to very disturbing conclusions.

(17) We are unaware of any attempt to assess the impact of filing-date-based system on the USPTO. No one has attempted to quantify the effects on USPTO backlog and patent quality due to increases in premature "clutter" applications as described in Paragraph (12), which S. 515's proponents totally ignore. With 25%-50% increase in application filings, incremental pendency of all patents issued by the USPTO will cause further harm to all patentees and the U.S. economy, which no one had attempted to quantify.

(18) Quantification of any economic benefits that might arise from adopting "new § 102" was equally ignored. No one had suggested even a metric for assessing any economic *benefit* to the U.S. from this unilateral "harmonization." The only apparent metric offered by proponents of "new § 102" was the reduced level of U.S. "embarrassment" in dealing with our trading partners abroad. However, no *quid pro quo* is offered by foreign nations in exchange for U.S. adoption of "new § 102", as foreign patenting authorities are unwilling to "harmonize" their laws with a one-year "grace period" provided by U.S. patent law. The notion of work-sharing benefits touted by proponents of U.S. filing-date-based system is disingenuous and one-sided, potentially *benefiting only foreign patent offices* with no benefits to the USPTO. This is because prior art search by foreign patent offices will produce no added benefits to the USPTO beyond that already provided under current laws. There is no evidence that foreign patent offices will volunteer to perform prior art

Constitutional Blunder?, 6 *J. Marshall Rev. Intell. Prop. L.* 129 (2006) (the first-to-file standard as proposed in H.R. 2795 is unconstitutional.); Edwin Suominen, Re-Discovering Article 1, Section 8 -- The Formula for First-to-Invent, 83 *J. Pat. Off. Soc'y* 641 (2001) (The plain language of the terms would thus seem to settle the issue, clearly prohibiting any first-to-file system as unconstitutionally denying actual inventors the exclusive right to their discoveries.). FIRST-TO-FILE MIGHT BE UNCONSTITUTIONAL (2 total): Susanna Chenette, Note, Maintaining the Constitutionality of the Patent System, 35 *Hastings Const. L.Q.* 221 (2008) (Therefore, because of the Supreme Court's broad interpretation of Congress' power under the Act, a first-to-file system that grants patents to those other than the actual "inventor" as stated by the Clause will likely survive a direct constitutionality attack. However, it is nevertheless possible that a first-to-file system would not "promote the progress of science and the useful arts" and therefore be unconstitutional.); Timothy R. Holbrook, The Treaty Power and the Patent Clause: Are There Limits on the United States' Ability to Harmonize?, 22 *Cardozo Arts & Ent. L.J.* 1 (2004) (Given that historically the inventor has been viewed as first to create, then such tradition may suggest a constitutionally rooted requirement that would preclude a first to file system.). FIRST-TO-FILE CONSTITUTIONAL: (None).

²⁴ Lo and Sutthiphisal (2009), note 1 *supra*.

²⁵ See Paragraph (4) above.

searches on behalf of the USPTO that are not also necessary for their own examination activities. This, particularly because many U.S. applications have no foreign counterparts or are subject to much later requests for examination in foreign offices. The search reports that foreign patent offices produce today contain cited art that is already a superset of the art applicable under current U.S. law and these reports' temporal span will undergo no change if the U.S. shifts to a filing-date-based system. In other words, the USPTO will see no additional benefit and the only "work-sharing" beneficiaries would be the foreign patent offices. Because examination in other nations' patent offices are often deferred for up to three years, examination of an international patent family is often *taken up first* by the USPTO. Under a uniformly defined prior art period, foreign patent offices will benefit unilaterally from the USPTO expanded temporal span of its search when the time comes to examine the foreign counterpart application. However, this will confer no benefits to the USPTO and S. 515 extracts no consideration from foreign nations in exchange for this additional unilateral "work sharing" benefit to their patent offices.

(19) S. 515 fortifies existing international trade barriers against small U.S. patenting entities rather than help remove them. Small businesses and new patenting entrants have been facing obstacles for obtaining patent protection abroad due to impediments in legal enforcement of patent rights abroad and due to the much higher costs of patenting. Major foreign patenting authorities have not even structured relief in a form of reduced small entity fees as available in the U.S. Congress was explicitly made aware of such patenting barriers in several reports issued by the U.S. government²⁶ but the purported "harmonization" provisions of S. 515 fail to harmonize U.S. small entity affordable access to national patent systems abroad. Fifteen years ago, through its Department of Commerce, the U.S. government had rejected the adoption of first-to-file after having studied the potential impact on small entities, after conducting hearings, and after evaluating relevant testimony.²⁷ There is no evidence suggesting that the conclusions reached then by the U.S. Department of Commerce are inapplicable today. Indeed, in 2007, the U.S. Department of Commerce's position against adopting a filing-date-based system in the U.S. has been conveyed to those responsible for drafting S. 515.²⁸ However, S. 515 does nothing to benefit U.S. patentees abroad to offset the domestic harm it creates.

²⁶ U.S. General Accounting Office, *Federal Action Needed to Help Small Businesses Address Foreign Patent Challenges*, [GAO-02-789](#) (July 2002); U.S. Patent and Trademark Office, *International Harmonization of Patent Laws*, Small Business Representatives and International Patent Experts Voice Views on Protecting Intellectual Property in a Global Market, (December 19, 2002), [Panelists' Statements](#); U.S. General Accounting Office, *Experts' Advice for Small Businesses Seeking Foreign Patents*, [GAO-03-910](#) (June, 2003).

²⁷ Statement Of The Honorable Bruce A. Lehman, Assistant Secretary Of Commerce And Commissioner Of Patent And Trademarks, Patent And Trademark Office, U.S. Department Of Commerce, *Impact on U.S. exporters of the new GATT patent accord*. Hearing before the Subcommittee on International Economic Policy and Trade, Committee on International Relations, House of Representatives, 104th Congress, first session, (October 25, 1995). Available at http://www.archive.org/download/impactonusexport00unit/impactonusexport00unit_bw.pdf at 6, ("I also concluded that I would not for the foreseeable future *in any way* either propose legislation or negotiate a shift from the first-to-file system to the first-to-invent system. I did this not because the majority of industry was not in favor of it, but because I felt that this was something that was *sufficiently significant to a significant minority of applicants* in our office; that is, independent inventors, that *it should not be changed* unless there was overwhelming persuasive evidence that it was advisable to do so. I did not feel that that evidence was there"). (Emphasis added).

²⁸ John J. Sullivan, General Counsel of the U.S. Department of Commerce, [letter of May 18, 2007](#) to Chairman of the Senate Judiciary Committee Patrick Leahy, Ranking Member Arlen Specter, and cc's to all other members, at 10, ("[W]e do not support immediate conversion to first-to-file via this legislation." ... "In this regard, we believe that any U.S. commitment to convert to first-to-file should be contingent on *significant progress* and international agreement in those harmonization discussions [with other nations]. In particular, the United States seeks *a standardized one-year international grace period* to protect American inventors who might disclose their invention prior to filing for a patent.") (Emphasis added).