#### Questions for the Record for Laurie Self From Chairman Thom Tillis

## **1.** How has the current state of patent eligibility inhibited the development of next generation technologies like 5G? What is the long-term technological and economic impact of the current eligibility jurisprudence?

Qualcomm's most significant R&D project involves building the foundational technologies that underpin 5G wireless. 5G is the much-anticipated new standard for mobile wireless communications. As the successor to the "4G LTE" standard that ushered in the current proliferation of connected mobile phones and tablets, 5G offers a great leap forward in connectivity, speed, response time, power optimization, and capacity, enabling the next generation of wireless networks that will support the Internet of Things (IoT), artificial intelligence (AI), and other technologies.

These innovations do not occur in a vacuum. Strong patent rights are an essential part of Qualcomm's business model. Qualcomm invents 5G technologies, patents them, then licenses the patents to implementers to build 5G devices and networks. Qualcomm, in turn, invests a portion of its licensing revenue back into R&D to continue developing and improving 5G technologies. Today, as we fight in the race to bring 5G to the world, whether we will be able to obtain adequate patent protection for this incredibly important technology is murky and uncertain.

The state of patent eligibility law makes it extraordinarily difficult to apply the "abstract idea" concept consistently across applications and technologies, making it uncertain to both examiners and applicants what is patent eligible. Technologies that make up 5G are often algorithmic in nature, consisting of processes or sets of rules to be followed in calculations or other problem-solving operations by a computer chip on a mobile device. Under the unbounded definition of the abstract idea exception, the USPTO could deny patent applications and the courts could strike down any granted patents covering important technologies related to 5G. In fact, on multiple occasions, section 101 jurisprudence has unreasonably delayed or defeated the grant of patents that Qualcomm sought on essential features of 5G, such as encoding inventions that correct errors in 5G transmissions and ensure quality data transfer over 5G connections.

In the context of 5G and other essential technologies, uncertainty surrounding patent eligibility has significant long-term implications for U.S. leadership in global technology innovation, the U.S. economy, and U.S. national security.

The importance of maintaining U.S. leadership in global technology innovation cannot be overstated. Foreign dominance of any critical technology presents significant national security concerns, as competitors, many with ties to hostile governments, control wireless networks, computer hardware, medical devices, and other technologies used by individuals, businesses, and governments in the United States.

U.S. leadership at the foundational layer of 5G has significant implications for U.S. national security. As the Committee on Foreign Investment in the United States (CFIUS)

recognized in March of last year, "[r]eduction in Qualcomm's long-term technological competitiveness and influence in standard setting would significantly impact U.S. national security" because a "shift to Chinese dominance in 5G would have substantial negative national security consequences for the United States."

Ensuring U.S. technological leadership has always gone hand-in-hand with protecting U.S. economic and national security. Indeed, if the United States were to lose leadership in the underlying 5G foundational technology and standards, foreign governments and businesses, including adversaries, could gain unprecedented control over all aspects of a 5G wireless communications system that will connect every part of our economy, infrastructure, and daily lives.

A secure 5G, therefore, depends on continually maintaining the conditions necessary for U.S. inventors—both individuals and companies—to innovate. The United States must enact laws and policies that incentivize and reward risky and transformative investments in 5G innovation and ensure a fair and competitive global marketplace.

## 2. Outside of 5G, what other next generation technologies is your company not investing in developing because of the current law?

Qualcomm's global business presence requires us to employ different patent filing strategies to address the unique patenting challenges in different jurisdictions. We work hard to secure patent rights in all jurisdictions despite diverse patenting requirements and practices. Our concern with the current section 101 jurisprudence stems from the fact that one is able obtain patents on important technologies overseas, including certain technologies related to 5G, but not in the United States. This favors our foreign competitors and disadvantages U.S. companies. U.S. patents are reviewed, granted, and enforced under U.S. law, where patent owners can rely on an independent judiciary and a strong rule of law tradition to ensure that U.S. companies are treated fairly in patent disputes. If essential technologies cannot be patented in the United States, U.S. innovators cannot rely on U.S. courts to vindicate their rights, losing "home court" advantage relative to their foreign competitors. If the United States is to remain competitive in the global race to 5G, Congress and the Administration must make every effort to ensure that U.S. patent rights remain strong, predictable, and enforceable, in the United States.

## **3.** Can you quantify, in easy to understand terms, the economic impact of the current state of patent eligibility? In other words, how much is the current uncertainty costing our economy in terms of jobs, innovation, and development?

Qualcomm is not aware of any analyses that specifically examine the economic impact of the current state of patent eligibility. However, based on publically available information, Qualcomm's Chief Economist estimates that patent rejections under section 101 cost the U.S. economy approximately \$92 billion in GDP and over 400,000 jobs between 2014 and 2016. The following two studies also shed some light on the potential impact of the current section 101 jurisprudence on the U.S. economy.

In one study, Professor Adam Mossoff at George Mason University Law School examined nearly 18,000 patent applications filled in the United States, Europe, and China, that were rejected in the United States on section 101 grounds. The study found that of the almost 18,000 applications rejected and abandoned in the United States, nearly 1,700 patent applications covering the same inventions were granted in Europe, China, or both. *See* Kevin Madigan & Adam Mossoff, *Turning Gold into Lead: How Patent Eligibility Doctrine Is Undermining U.S. Leadership in Innovation*, 24 Geo. Mason L. Rev. 939 (2017). These findings are alarming. If U.S. companies and universities cannot obtain patent protections at home for groundbreaking technologies, they will be driven overseas—along with the jobs and capital they generate—to create, obtain patent protection for, and commercialize their new technologies. Given intellectual property protections unlock a vast innovation economy that accounts for more than \$8 trillion in economic activity in the United States, there is no doubt that the economic impact of current section 101 jurisprudence will be detrimental to the U.S. economy.

In another study, Professor David O. Taylor at Southern Methodist University Dedman School of Law conducted a survey of 475 venture capital and private equity investors to study the impact of the Supreme Court's patentable subject matter eligibility cases on their firms' decisions to invest in companies developing technology. *See* David O. Taylor, *Patent Eligibility and Investment*, CARDOZO LAW REVIEW (forthcoming), *available at* <u>https://ssrn.com/abstract=3340937</u> ("Taylor"). Professor Taylor identified four principal findings from his survey:

- investors who responded to the survey overwhelmingly believe patent eligibility is an important consideration when their firms decide whether to invest in companies developing technology;
- (2) reduced patent eligibility correlates with particular investment behaviors in particular industries—on average each industry would likely see reduced investment, but the life sciences industries would be the ones most negatively affected;
- (3) the Supreme Court's eligibility cases have impacted firm's investment behaviors the investors who knew about at least one of the Supreme Court's patent eligibility cases reported shifting of investments out of the biotechnology, medical device, pharmaceutical, and software and Internet industries; and
- (4) investors familiar with the Supreme Court's eligibility cases indicated different changes in firm investment behavior as compared to investors without this familiarity—patent eligibility knowledgeable investors report the Supreme Court's cases have resulted in reduced investment in software and the Internet, while unknowledgeable investors report increased investment in software and the Internet over the same time period.

The results of the survey highlight the importance of patent eligibility and the negative impact of the Supreme Court's eligibility cases generally on investment. Professor Taylor suggests, and Qualcomm agrees, that the results of his survey support the idea that Congress

needs to intervene and clarify the law of patent eligibility to prevent further lost investment in technological innovations in the United States. *See* Taylor at 59–63.

#### Questions for the Record for Laurie Self From Senator Mazie K. Hirono

1. Last year, Judge Alan Lourie and Judge Pauline Newman of the Federal Circuit issued a concurring opinion to the court's denial of *en banc* rehearing in *Berkheimer v. HP Inc.*, in which they stated that "the law needs clarification by higher authority, perhaps by Congress, to work its way out of what so many in the innovation field consider are § 101 problems."

#### Do you agree with Judges Lourie and Newman? Does § 101 require a Congressional fix or should we let the courts continue to work things out?

Qualcomm agrees that section 101 requires a congressional fix. Given the confusion, incorrect results, and the unwillingness of the Supreme Court to clarify the law, the time has come for Congress to step in with statutory changes.

As Judge Michel described in his testimony on June 4th, the current section 101 caselaw has created enormous difficulty for patent owners, examiners, and judges. The courts have taken a series of fundamentally erroneous approaches to the issue—using raw and undefined terms like "abstract idea," dissecting claims, and conflating eligibility under section 101 with conditions of patentability under 102, 103, and 112. The courts have thus set up a regime for highly subjective and inconsistent decisions that has been detrimental to the patent system generally.

The Supreme Court has had ample opportunity to clarify section 101 jurisprudence and address the problems that have been identified, but has refused to do. As Todd Dickinson, former director of the USPTO, pointed out, the Supreme Court has denied 42 petitions for *certiorari* on this issue since the *Alice decision* five years ago.

2. The Federal Circuit rejected a "technological arts test" in its *en banc Bilski* opinion. It explained that "the terms 'technological arts' and 'technology' are both ambiguous and ever-changing." The draft legislation includes the requirement that an invention be in a "field of technology."

### a. Do you consider this a clear, understood term? If so, what does it mean for an invention to be in a "field of technology"?

We have concern that the term "field of technology" in the section 100 definition of "useful" is ambiguous and could limit the definition in a potentially harmful manner. Thus, we propose simplifying the definition of "useful" to delete the phrase "of technology," as follows:

Section 100:

(k) The term "useful" means any invention or discovery that provides specific and practical utility in any field of technology through human intervention.

The word "technology" and similar terms have caused confusion in the past. For example, Congress used the word "technological" in the 2011 America Invents Act, and directed the U.S. Patent and Trademark Office (USPTO) to define that term by regulation. The USPTO attempted to do so, but was ultimately unsuccessful and instead announced that it would apply the term on a "case by case" basis. USPTO, *Transitional Program for Covered Business Method Patents*—*Definitions of Covered Business Method Patent and Technological Invention*, 77 Fed. Reg. 48734, 48735 (Aug. 14, 2012).

The result has been confusion and inconsistency at the Patent Trial and Appeal Board and Federal Circuit in their determination of whether a claimed invention does or does not constitute a "technological" innovation. For example, the Federal Circuit in *Versata Dev. Grp., Inc. v. SAP Am., Inc.,* expressed its frustration with the lack of clarity of the term, stating:

[W]e are left with a definition of a 'technological invention' as essentially one having a 'technological' feature that solves a 'technical' problem using a 'technical' solution. Defining a term in terms of itself does not seem to offer much help. In short, neither the statute's punt to the USPTO nor the agency's lateral of the ball offer anything very useful in understanding the meaning of the term 'technological invention.' 793 F.3d 1306, 1326 (Fed. Cir. 2015).

Given the vague nature of the term "technology," we are concerned that inclusion of such term could be a source of confusion and potential mischief, resulting in useful innovations being held patent subject matter ineligible by the courts. We therefore propose deleting the phrase "of technology." We stand ready to help provide guidance or language if the Committee believes it necessary to include some additional language that clarifies the proper field of patent eligible subject matter.

#### b. The European Union, China, and many other countries include some sort of "technology" requirement in their patent eligibility statutes. What can we learn from their experiences?

Given the many differences in patent law, regulations, and procedures between the United States, European Union, and China, it is difficult to say with certainty that there are specific practices that should be adopted from Europe and China in the United States. However, one difference in patenting practices between the three countries has become clear—it is currently easier to secure patent protection for critical life sciences and information technology inventions in China and Europe than in the United States. A study by scholars at George Mason University examined almost 18,000 applications rejected and abandoned in the U.S., nearly 1,700 patent applications covering the same inventions were granted in Europe, China, or both. *See* Kevin Madigan & Adam Mossoff, *Turning Gold into Lead: How Patent Eligibility Doctrine Is Undermining U.S. Leadership in Innovation*, 24 Geo. Mason L. Rev. 939 (2017). These findings are alarming and suggest that U.S. companies and universities are unable to obtain patent protections at home for groundbreaking technologies.

While uncertainty in patent eligibility has weakened the U.S. patent system, other countries, such as China, that harbor aspirations to lead the world to 5G, have invested heavily in intellectual property, strengthening patent rights as a part of their broader innovation strategy.

China recently revised its patent office guidelines for the examination of software-related inventions. The China Patent Office guidelines broaden the scope of patent eligible subject matter and generally create a positive climate for patenting software-related inventions, making it easier to obtain a software-related patent in China than it is here in North America. *See* Adrian O'Donnell, *China & India Make Software Patenting Easier* (February 1, 2018) http://www.perlaw.ca/en/newsroom/publications/2018/2/1/china-india-make-software-patenting-easier-adrian.

The ability to patent core technologies of the future in the United States is essential to maintaining a competitive edge over foreign companies that patent abroad. A predictable patent eligibility regime ensures that as new technologies emerge, U.S. innovators can seek patent protections in the United States to ensure U.S.-based innovation can keep pace with overseas competition.

## c. Is a claim that describes a method for hedging against the financial risk of price fluctuations—like the one at issue in the *Bilski* case—in a "field of technology"? What if the claim requires performing the method on a computer?

As discussed in response to question 2.a,, we have concerns about the term "field of technology" as it could limit section 101 in a potentially harmful manner. As discussed above, the word "technology" and similar terms have caused confusion in the past, with both Congress and the USPTO being unable to put forth a clear definition.

We believe that claims that describe a method of hedging against the financial risk of price fluctuations, if incorporated in, or applied as an "improvement thereof," to a process, machine, manufacture, or composition of matter, should be patent *eligible subject matter*. We believe that any technology implemented on a machine should be per se *eligible* (subject to the other requirements of the patent code, including sections 102, 103, and 112) and that because a computer is a machine, any computer-implemented invention should be per se *eligible*. Whether or not such a claim is *patentable*, will depend on the invention or discovery's ability to overcome the other hurdles of the Patent Act — §§ 101 (subject matter and utility), 102 (novelty), 103 (non-obviousness), 112(a) (written description and enablement), and 112(b) ("distinctly claim").

### d. What changes to the draft, if any, do you recommend to make the "field of technology" requirement more clear?

Please see the response to Question 2.a.

#### 3. Sen. Tillis and Sen. Coons have made clear that genes as they exist in the human body would not be patent eligible under their proposal.

Are there other things that Congress should make clear are not patent eligible? There are already statutes that prevent patents on tax strategies and human organisms. Are there other categories that should be excluded?

Qualcomm does not believe that statutory exceptions to patent eligible subject matter are necessary, given that the proposed framework anticipates preserving the existing threshold requirements for eligible subject matter—*i.e.*, statutory categories of process, machine,

manufacture, or composition of matter, or any useful improvement thereof. The current judicial exceptions have caused tremendous confusion, resulting in anomalous and unpredictable results. In addition, attempting to enumerate and codify an exhaustive list of exceptions to eligibility would likely not be fruitful. It would be difficult to generate a comprehensive list that is sufficiently flexible to account for future developments and innovations.

### 4. I have heard complaints that courts do not consistently enforce Section 112 with respect to claims for inventions in the high tech space.

#### a. Are these valid complaints?

We have heard concerns that section 112, as currently applied by the USPTO and courts, is insufficient to address overbroad, functional claims. We do not agree.

In recent years, courts have relied on section 101 to invalidate patents that they could have addressed through other provisions, such as sections 103 and 112. That has prevented the case law from developing in these other areas, while generating confusion in the context of section 101. The time has come for those other provisions to do the work that they were meant to do, while clarifying the categories of eligible subject matter.

Moreover, the written description and enablement requirements *as currently written and applied* prevent overly broad, unsupported claims. Section 112 requires inventors to describe their invention and provide enough information so as "to enable any person skilled in the art . . . to make and use the same." 35 U.S.C. § 112. Because written description and enablement must be commensurate in scope with the claims, broad claims require a fuller, broader, and more robust disclosure than narrow claims.

This includes claims with functional limitations. As the USPTO stated in its most recent guidance for section 112, "[p]roblems with functional claiming, *i.e.*, when a claim is purely functional in nature rather than reciting with any specificity how the claimed function is achieved, can be effectively addressed using long-standing, well-understood principles under 35 U.S.C. § 112." *See* Examining Computer-Implemented Functional Claim Limitations for Compliance With 35 U.S.C. 112, 84 Fed. Reg. 57, 58 (Jan. 7, 2019). For example, the USPTO explained that for "computer-implemented functional claims, the determination of the sufficiency of the disclosure will require an inquiry into the sufficiency of both the disclosed hardware and the disclosed software." *See* 84 Fed. Reg. at 61. Claims are to be rejected for lack of written description "[i]f the specification does not provide a disclosure of the computer and algorithm(s) in sufficient detail to demonstrate to one of ordinary skill in the art that the inventor possessed the invention that achieves the claimed result." *See* 84 Fed. Reg. at 62. Moreover, the "applicant cannot rely on the knowledge of one skilled in the art to supply information that is required to enable the *novel aspect* of the claimed invention when the enabling knowledge is in fact not known in the art." *Id.* (emphasis added)

In its guidance, the USPTO cites decisions in which courts have utilized section 112 to invalidate over-broad claims for lack of written description or lack of enablement, including claims with functional elements. *See* 84 Fed. Reg. at 57–62. For example, one cited case is

*Rivera v. Int'l Trade Comm'n*, 857 F.3d 1315, 1319–21 (Fed. Cir. 2017), in which the Federal Circuit invalidated patent claims where "the specification did not provide the necessary written description support for the full breadth of the asserted claims," because the claims were broadly drawn to a "container . . . adapted to hold brewing material" and the specification disclosed only a "pod adapter assembly" or "receptacle" designed to hold a "pod." *See* 84 Fed. Reg. at 61. Similarly, in *Sitrick v. Dreamworks*, LLC, 516 F.3d 993 (Fed. Cir. 2008), cited by the USPTO guidance (84 Fed. Reg. at 62), the Federal Circuit held that a patent specification "did not enable the full scope of the asserted claims" because the specification only taught the skilled artisan how to substitute and integrate user images into video games, while the claims covered *both* video games and movies, and therefore invalidated the claims for lack of enablement. As evidenced by cases such as these, the section 112 case law is adequate to address broad, functional claims.

#### **b.** Do the proposed changes to Section 112 adequately address those complaints and limit the scope of claims to what was actually invented?

Qualcomm believes that the proposed changes to section 112 are unnecessary and will result in uncertainty over what constitutes "functional" claim elements and improperly limit the scope of claims.

Currently, section 112(f) rarely applies to patent claims. This is largely because of the presumption that section 112(f) does *not* apply to patent claims that omit "means or step for performing a specified function" language. Removing the words "means or step for performing" from the current section 112(f) would eliminate this presumption, and therefore result in increased litigation over whether or not a claim element is "functional." Accused infringers will be motivated to argue that section 112(f) applies to every claim element that could even remotely be considered "functional" in an attempt to narrow the claim scope and avoid a finding of infringement. Section 112(f) will therefore go from a section that is rarely applied to one that is frequently litigated—a result that will cause *greater* uncertainty in patent law.

Currently, there is no clear test for what constitutes "functional" language, and there is often ambiguity over whether claim language is "functional." *See, e.g., Konami Gaming, Inc. v. Marks Studios, LLC*, No. 214CV01485JADCWH, 2017 WL 3174905, at \*3 (D. Nev. July 25, 2017) ("Whether a patentee is using functional language that triggers § 112(f)'s structure-disclosure obligation is not always apparent. . . . Determining whether a term is functional can be particularly difficult when the term is a computer-implemented one, such as a processor programed to carry out a task."). As the Federal Circuit has observed, "[m]any devices take their names from the functions they perform" such as filter, brake, clamp, screwdriver, or lock. *See Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1008 (Fed. Cir. 2018) (*quoting Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)). Thus, the fact that a claim element "incorporate[s] functional language does not automatically convert the words into means for performing such functions," such that section 112(f) would apply. *See Zeroclick* at 1008.

The proposed amendment provides no guidance as to how courts are to determine whether section 112(f) applies to particular patent claims. By placing a greater emphasis on

whether claim language is "functional," the proposed change to section 112(f) would leave courts and USPTO to grapple frequently with the question of whether a claim element is functional, an apparatus, or something else—increasing, not decreasing, the uncertainty in the law.

In addition, limiting the scope of any claim with functional language to only those specific embodiments described in the specification is at odds with the longstanding practice that claims encompass the full scope of their plain meaning and are not limited to the examples in the specification. The proposed amendment would require drafters to enumerate every possible way of carrying out every step of a claimed method, requiring patent holders to not only devote attention to describing in their patent what is new about their invention—but also to recite all aspects of known elements that their claims encompass to try to minimize the risk of noninfringement.

Current law allows patentees to rely on the knowledge and skill of a person of ordinary skill in the art and does not require innovators to describe every potential embodiment of known elements. *See Trs. of Bos. Univ. v. Everlight Elecs. Co., LTD.*, 896 F.3d 1357, 1364 (Fed. Cir. 2018) (explaining that while "the specification must enable the full scope of the claimed invention . . . . [t]his is not to say that the specification must expressly spell out every possible iteration of every claim."). That is a sensible rule. It is simply not practical to force patentees to enumerate every possible embodiment of a claimed invention. Patentees are (and should be) entitled to the full scope of their claimed inventions so long as they demonstrate through the patent specification, as viewed in light of existing technology and with the understanding of a person of ordinary skill in the art, that they are in possession of the full scope of the claim. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005) ("A claim will not be invalidated on section 112 grounds simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language.")

Furthermore, as discussed in response to Question 4.a., current written description and enablement requirements are sufficient prevent overly broad, unsupported claims.

#### c. Are you concerned that the proposed changes will make it too easy for competitors to design around patent claims that use functional language?

Yes. Whether section 112(f) is deemed to apply to a patent has tremendous ramifications for whether the patent is deemed infringed—when section 112(f) applies, the claim limitation specifying a function is effectively limited to only the corresponding structure recited *in the specification itself*. This means that an accused infringer only needs to make a minor change from the structure described in the specification to not infringe. Thus, when section 112(f) applies, infringement is rarely found.

As Paul Morinville of U.S. Inventor explained, "leaving out one single option will render the patent useless by permitting a competitor to use the teachings of the inventor by merely substituting an unclaimed element into a copycat product." P. Morinville Written Statement at 30. Greater difficulty in enforcing patents against copycat products will lead to a negative effect on innovation. 5. There is an intense debate going on right now about what to do about the high cost of prescription drugs. One concern is that pharmaceutical companies are gaming the patent system by extending their patent terms through additional patents on minor changes to their drugs. My understanding is that the doctrine of obviousness-type double patenting is designed to prevent this very thing.

The Federal Circuit has explained that obviousness-type double patenting "is grounded in the text of the Patent Act" and specifically cited Section 101 for support.

# Would the proposed changes to Section 101 and the additional provision abrogating cases establishing judicial exceptions to Section 101 do away with the doctrine of obviousness-type double patenting? If so, should the doctrine of obvious-type double patenting be codified?

The proposed changes to Section 101 and the additional provision abrogating cases establishing judicial exceptions to Section 101 will not impact double patenting rejections. There are two types of double patenting—statutory and non-statutory. Statutory double patenting is grounded in 35 U.S.C. 101 which states in the singular that an inventor "may obtain a patent." (Emphasis added). Thus, inventors cannot receive multiple patents for the same invention. Given the proposed amendment to section 101 preserves this language in the statute, it will have no effect on statutory double patenting.

Non-statutory-type double patenting, or obviousness-type double patenting, is a judicially created doctrine grounded in public policy and which is primarily intended to prevent prolongation of the patent term by prohibiting claims in a second patent that are not patentably distinct from claims in a first patent. Given this type of double patenting is judicially created and not grounded in section 101, the proposed amendment will again have no effect. We believe that current jurisprudence on obviousness-type double patenting is adequate to address this issue and does not need to be codified.

6. In its *Oil States* decision, the Supreme Court explicitly avoided answering the question of whether a patent is property for purposes of the Due Process Clause or the Takings Clause.

### What are the Due Process and Takings implications of changing Section 101 and applying it retroactively to already-issued patents?

We do not believe there are any Due Process of Takings implications of the proposed changes to section 101 and applying it retroactively.

Congress has recognized that the Supreme Court's recent section 101 jurisprudence has narrowed the scope of patent eligible subject matter and deprived patent protection to important innovations. The intent behind the proposed amendment is to *prevent* patent owners from improperly being denied patent protection. The proposed amendment explicitly provides that the "provisions of section 101 shall be construed in favor of eligibility," meaning that *fewer* patents will be invalidated for lack of subject matter eligibility. Thus, it is unlikely that the proposed

changes to section 101 will result in large-scale invalidation of patents that would raise Due Process and Takings concerns.

If you would like to affirmatively avoid any Due Process or Taking issues, you could consider providing patent owners with some limited duration in time, for example 6 months, in which they could opt-in or opt-out of the new section 101 requirements. However, as explained, above, we do not think this is necessary given the small likelihood that the proposed changes would invalidate patents that have already been granted.