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A key development that has recently occurred in patent harmonization efforts in the US and Japanese patent systems has been the introduction of post-grant patent opposition and review systems. Generally, post-grant patent opposition and review systems create procedures for third parties to challenge the validity of patent claims without enduring significant time and expense spent in litigation, while also help to enhance the reliability of patents by reviewing potentially defective patents at an early stage thereby helping to stabilize patent rights, increase legal certainty, and promote innovation. The need for such post-grant patent opposition and review systems is largely based on patent quality concerns prevalent throughout the US and Japanese patent systems, as patent examiners face an increasing amount of patents to examine under restricted budget and time constraints. Such post-grant patent opposition and review systems are also increasingly important to understand in a globalized world where users of patent systems frequently conduct cross border business and patent transactions.

However, while the common objectives of the US and Japanese post-grant patent opposition and review systems are relatively the same, the design of the two systems differ. In the US, through the enactment of the America Invents Act (AIA), two significant post-grant patent review systems were created, the Post-Grant Review (PGR) procedure and the Inter Partes Review (IPR) procedure. Generally, the Post-Grant Review procedure allows anyone to challenge the validity of patent claims within a nine-month window of the patent grant, while Inter Partes Review allows anyone to challenge the validity of patent claims after the nine-month post-grant review eligibility window. In Japan, the Patent Act 2014 Amendment re-introduced a post-grant patent opposition system that came into effect on April 1, 2015 allowing anyone to challenge a patent by writing their opposition within a six-month time period of the patent grant. Accordingly, this study conducts a comparative examination of the recently implemented US and Japanese post-grant patent opposition and review systems, highlighting both the substantive and procedural similarities and differences, while critically examining the potential implications such post-grant patent opposition mechanisms may have for users of each respective patent system.

I. Introduction

A key development that has recently occurred in patent harmonization efforts in the US patent system and the Japanese patent system has been the introduction of post-grant patent opposition and review systems.¹ Generally, post-grant patent opposition systems allow for procedures for third parties to challenge the validity of patent claims without enduring significant

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¹ For the sake of brevity, there may be instances in this report that “post-grant opposition” and “post-grant review” is used interchangeably. In any case, post-grant opposition and review procedures provide for opportunities for the validity of a patent to be re-visited.
time and expense spent in litigation. In the US, the introduction of the America Invents Act (AIA)\textsuperscript{2} patent reform in 2011 created two significant post-grant patent review procedures called *Inter Partes* Review and Post-grant Review effective from September 16, 2012 and March 16, 2013 respectively. In Japan, the Patent Act 2014 Amendment re-introduced a post-grant patent opposition system that came into effect on April 1, 2015.\textsuperscript{3} However, there still remains significant procedural and substantive differences between the post-grant patent opposition and review systems in each country. Due to the newness and increasing popularity of these post-grant proceedings, it is also important for users of the US and Japanese patent systems to understand such post-grant patent mechanisms in an increasingly globalized world where entities frequently conduct cross border patent transactions in commerce. Accordingly, this study conducts a comparative examination of the recently implemented US and Japanese post-grant patent review and oppositions systems, highlighting both systems procedural and substantive similarities and differences, while critically examining some of the implications such post-grant patent review and patent opposition systems may have for the users of each respective patent system.

**II. US Post-Grant Patent Review Procedures**

(1) The Post-Grant Review (PGR) Procedure

The post-grant review procedure is a trial proceeding conducted at the Patent Trial and Appeal Board (PTAB) to review the patentability of one or more claims on any ground that can be raised under § 282(b)(2) or (3). Post-grant review proceedings begin by any party filing a petition on or prior to the date that is nine months after the grant of the patents or issuance of a reissue patent.\textsuperscript{4} Importantly, according to the AIA rules, post-grant review is only available for patents with a priority date later than March 15, 2013.\textsuperscript{5} A third party’s review request is instituted upon a showing that it is more likely than not, that at least one claim challenged is not patentable,\textsuperscript{6} or that the review request raises a novel or unsettled legal question that is important to other patents or patent applications.\textsuperscript{7} The patent owner has an opportunity to respond to the petition accordingly.\textsuperscript{8}

The Director of the USPTO (hereinafter the “Director”) shall determine whether to institute a


\textsuperscript{4} 35 U.S.C. § 321(c).


\textsuperscript{6} 35 U.S.C. § 321(b).

\textsuperscript{7} 35 U.S.C. § 324(b).

\textsuperscript{8} 35 U.S.C. § 323.
post-grant review within three months after receiving a preliminary response to the petition from the patent owner,\(^9\) or after the last date such response may be filed.\(^{10}\) The determination by the Director whether to institute such post-grant review is final and not appealable.\(^{11}\) If a post-grant review is instituted, the petitioner bears the burden of proving invalidity by the standard preponderance of the evidence.\(^{12}\) Moreover, post-grant review includes an estoppel effect;\(^{13}\) barring a proceeding before the patent office,\(^{14}\) or a civil action, or a proceeding before the International Trade Commission (ITC) with respect to those claim(s) on any ground(s) that were raised, or reasonably could have raised, during that post-grant review procedure.\(^{15}\) During the post-grant review procedure, the patent owner may file one motion to amend the patent. Any party dissatisfied with the decision of the PTAB regarding the post-grant review may appeal the decision to the Court of Appeals for the Federal Circuit (CAFC).\(^{16}\)

One of the benefits of the post-grant review procedure is that it provides an expedited and less expensive opportunity to re-examine recently issued patents compared to patent litigation.\(^{17}\) For instance, the final determination in any post-grant review proceeding instituted should be issued not later than one year after the date on which the Director notices the post-grant review procedure, although this time period may be extended up to six months.\(^{18}\) The current cost for a post-grant review request (up to 20 claims) as of January 1, 2017 is $12,000.00 USD.\(^{19}\) The current cost for a post-grant post-institution fee (if the Director decides to institute the post-grant review) as of January 1, 2017 is $18,000.00 USD.\(^{20}\)

(2) The Inter Partes Review (IPR) Procedure

The inter partes review procedure is an administrative trial proceeding conducted at the USPTO before the PTAB which reviews the patentability of claims only on grounds that can be raised under sections 102 and 103 of the patent laws on the basis of prior art consisting of patents

\(^{9}\) 35 U.S.C. § 324(c)(1).

\(^{10}\) 35 U.S.C. § 324(c)(2).

\(^{11}\) 35 U.S.C. § 324(e).

\(^{12}\) 35 U.S.C. § 316(e).

\(^{13}\) However, if the post-grant review is terminated by the petitioner no estoppel will attach to the petitioner or real party in interest on the basis of that petitioner’s institution of that post-grant review. 35 U.S.C. § 327(a).

\(^{14}\) 35 U.S.C. § 325(e)(1).

\(^{15}\) 35 U.S.C. § 325(e)(2).


\(^{17}\) However, if the post-grant review is terminated by the petitioner no estoppel will attach to the petitioner or real party in interest on the basis of that petitioner’s institution of that post-grant review. 35 U.S.C. § 327(a).

\(^{18}\) 35 U.S.C. § 326(a)(11). However, this time period may be extended for good cause by a time not more than six months.

\(^{19}\) 37 CFR 42.15(b)(1).

\(^{20}\) 37 CFR 42.15(b)(2). The post-institution fee represents fees that are paid upfront but are refunded in the event that the petitioner’s request for post-grant review is denied. However, it ought to be noted that these fees do not take into consideration attorney fees and other associated fees, thus the total cost of a post-grant review procedure is likely to be substantially higher.
and printed publications. Inter partes review acts somewhat as a hybrid between civil patent litigation and patent prosecution; its procedure has a more limited discovery process compared to civil patent litigation, and trials are determined by technically trained judges not juries. Inter partes review is applicable to proceedings commenced on or after September 16, 2012 as part of the new provisions of the AIA.

Generally, a person may file a petition to institute an inter partes review of the patent to cancel as unpatentable one or more claims after the date that is nine months after the grant of a patent, or if a post-grant review is instituted, at the termination of the post-grant review proceeding. An inter partes review may be instituted upon a showing that there is a reasonable likelihood that the petitioner would prevail with respect to at least one claim challenged. Furthermore, a petition in writing must identify, with particularity, each claim challenged, the grounds on which the challenged claim is based, and evidence to support the grounds for each claim challenged. The patent owner has an option to file a preliminary response to the petition within a set time period accordingly. The Director will determine whether to institute an inter partes review within three months of receiving a preliminary response from the patent owner. The determination by the Director whether to institute an inter partes review is final and non-appealable. If an inter partes review is instituted, the petitioner will have the burden of proving claims of the patent as unpatentable by a preponderance of the evidence.

Moreover, inter partes review is subject to an estoppel effect, which bars any petitioner or real party in interest from requesting or maintaining a proceeding before the USPTO with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review. Furthermore, if an inter partes review applied by a petitioner or real party in interest is instituted, neither party may assert in a civil action in whole or in part, or in a proceeding before the ITC, that the claim is invalid on any grounds that the petitioner raised or reasonably could have raised during that inter partes review. If an inter partes review is instituted, the patent owner may file one motion to amend the patent.

As with the post-grant review proceedings, one of the benefits of the inter partes review procedure is that it provides an expedited and less expensive opportunity to re-examine recently

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issued patents compared to patent litigation.\textsuperscript{31} The final determination in any \textit{inter partes} review proceeding instituted should be issued not later than one year after the date on which the Director notices the \textit{inter partes} review procedure, although this time period may as well be extended by up to six months.\textsuperscript{32} The current cost for an \textit{inter partes} review request (up to 20 claims) as of January 1, 2017 is $9,000.00 USD.\textsuperscript{33} The current cost for an \textit{inter partes} review post-institution fee (if the Director decides to institute the \textit{inter partes} review) as of January 1, 2017 is $14,000.00 USD.\textsuperscript{34}

III. The Japanese Post-Grant Patent Opposition and Invalidation Trial Procedures

(1) The Trial for Patent Opposition Procedure

The trial for patent opposition procedure is an \textit{ex parte} administrative trial proceeding conducted at the Patent Trial and Appeal Department (PTAD) within the Japanese Patent Office (JPO). Proceedings begin by anyone filing an opposition to the patent to the Commissioner of the Patent Office within six months from the publication of the Gazette containing the patent,\textsuperscript{35} on grounds that are limited to those regarding public interest.\textsuperscript{36} The threshold for instituting a trial for patent opposition is the reasonable doubt of patentability, and only those claims sought by the opponent may be considered in the trial examination for opposition.\textsuperscript{37} Furthermore, what is unique about the trial for patent opposition proceedings is that they are mainly conducted only on documentary evidence in principle.\textsuperscript{38} A person filing an opposition shall not only state the necessary grounds for the opposition, but also submit evidence supporting the opposition.\textsuperscript{39}

A Trial Board of three to five examiners examine the patent opposition accordingly.\textsuperscript{40} If there are two or more oppositions concerning the same patent the trial examination shall be combined.\textsuperscript{41} Once the patent holder has been notified of the reasons for recession by the Chief trial examiner, the opposition may not be withdrawn.\textsuperscript{42} Where it is found that a patent concerned in the

\textsuperscript{31} See \textit{supra} note 17 and accompanying text.

\textsuperscript{32} 35 U.S.C. § 316(a)(11). However, this time period may be extended for good cause by a time not more than six months.

\textsuperscript{33} 37 CFR 42.15(a)(1).

\textsuperscript{34} 37 CFR 42.15(a)(2). The post-institution fee represents fees that are paid upfront but are refunded in the event that the petitioner’s request for \textit{inter partes} review is denied. However, it ought to be noted that these fees do not take into consideration attorney fees and other associated fees, thus the total cost of an \textit{inter partes} review procedure is likely to be substantially higher.

\textsuperscript{35} Japan Patent Law, Art. 113.

\textsuperscript{36} Japan Patent Law, Art. 113(1)(i)(ii)(iii)(iv)(v).

\textsuperscript{37} Japan Patent Law, Art. 120bis(120-2)(2).

\textsuperscript{38} Japan Patent Law, Art. 118.

\textsuperscript{39} Japan Patent Law, Art. 115(1)(iii).

\textsuperscript{40} Japan Patent Law, Art. 114(1).

\textsuperscript{41} Japan Patent Law, Art. 120ter(120-3)(1).

\textsuperscript{42} Japan Patent Law, Art. 120quater(120-4)(1).
opposition falls under any of the items listed in Article 113 of the Japan Patent Law (relating to the public interest), the trial examiners shall render a ruling that the patent is to be revoked.\textsuperscript{43} If the ruling to revoke has become final and conclusive, the patent right is considered to never have existed.\textsuperscript{44} If the patent in opposition is not found to have fallen under any of the items listed in Article 113 of the Japan Patent Law, the trial examiners shall rule that the patent is to be maintained.\textsuperscript{45}

If the trial examiner-in-chief intends to rule to revoke the patent, the patentee will be notified of this intention and given an opportunity to submit a response statement within a set time limit.\textsuperscript{46} The patentee may also demand that a correction be made to his patent.\textsuperscript{47} If the patent owner has made a demand for correction, the trial examiner-in-chief will transmit this information to the opponent and allow him an opportunity to submit any counter response within a set time limit.\textsuperscript{48} Moreover, the party opposing the patent cannot appeal the PTAD’s Trial Examiners’ decision ruling to the effect that the patent right is to be maintained,\textsuperscript{49} however, they may file separately for a trial for patent invalidation. The patent owner who received the decision to the effect that the patent right is to be rescinded can appeal to the Intellectual Property (IP) High Court with the Commissioner of JPO as defendant. The duration for the trial for patent opposition proceedings is approximately one year from the grant date. As the trial for patent opposition procedure is relatively new, there have only been 5 dispositions as of December 31, 2015.\textsuperscript{50} The current cost for the trial for patent opposition (as of April 1, 2016) is ¥16,500 JPY in addition to ¥2,400 JPY per claim.\textsuperscript{51}

(2) The Trial for Patent Invalidation Procedure

The trial for patent invalidation procedure is an \textit{inter partes} trial proceeding also conducted at the PTAD within JPO, with the purpose of resolving disputes between parties concerning the validity of patents. Any interested party may file a request for a trial for patent invalidation any time after the registration of the patent, and on all grounds available for patent invalidation.\textsuperscript{52} Even after the extinguishment of a patent right, a patent invalidation trial may be demanded.\textsuperscript{53} The threshold for instituting a trial for patent invalidation is the same as for the trial for patent

\textsuperscript{43} Japan Patent Law, Art. 114(2).
\textsuperscript{44} Japan Patent Law, Art. 114(3).
\textsuperscript{45} Japan Patent Law, Art. 114(4).
\textsuperscript{46} Japan Patent Law, Art. 120quinquies(120-5)(1).
\textsuperscript{47} Japan Patent Law, Art. 120quinquies(120-5)(2)(i)(ii)(iii)(iv).
\textsuperscript{48} Japan Patent Law, Art. 120quinquies(120-5)(5).
\textsuperscript{49} Japan Patent Law, Art. 114(5).
\textsuperscript{50} JPO Status Report 2016, at p.65.
\textsuperscript{51} Schedule of Japan Patent Office fees (current as April 1, 2016) available at https://www.jpo.go.jp/tetuzuki_e/ryoukin_e/ryokine.htm. There may be additional costs, for example, costs for requests for corrections, appeals, and retrials. Thus, the total cost for the trial for patent opposition procedure may be significantly higher.
\textsuperscript{52} Japan Patent Law, Art. 123(1)(2).
\textsuperscript{53} Japan Patent Law, Art. 123(3).
opposition, the reasonable doubt of patentability. The trial for invalidation proceedings are conducted mostly by oral proceedings, and the person filing for a trial for invalidation shall not only state the grounds for invalidating the patent, but also state its relationship with evidence for each fact required to be proven.54

The Trial Board of three to five examiners examine the patent invalidation request accordingly.55 Where there are two or more persons demanding a patent invalidation trial concerning the same patent right, the demand may be made jointly.56 A demand for a trial may be withdrawn before the trial decision becomes final.57 However, a demand for a trial may not be withdrawn after a written reply has been submitted, unless the adverse party consents.58 When a trial has been demanded, or when an amendment has been allowed, the trial examiner-in-chief will transmit this information to the defendant and will give him an opportunity to submit a written response within a set time limit.59 Where a trial decision that a patent is to be invalidated has become final, the patent right shall be deemed to never have existed,60 while importantly, upholding the patent triggers an estoppel effect based on the same facts and evidence.61 The patent owner may also demand a correction trial for making a correction of the description, patent claim(s), or drawing(s).62 When a trial for correction has been demanded, the trial examiner-in-chief will transmit this information to the defendant and will give him an opportunity to submit a written response within a set time limit.63 Importantly, the examiner-in-chief may examine even the grounds not pleaded by a party in accordance with certain provisions.64

Moreover, the duration for the trial for patent invalidation proceedings is approximately ten months from the date of the request and both parties may appeal to the PTAD’s Trial Examiners’ decision to the IP High Court. For the year ending December 31, 2015, there have been 227 filed requests for trials for patent invalidation, and 234 dispositions.65 The current cost for the trial for patent invalidation (as of April 1, 2016) is ¥49,500 JPY in addition to ¥5,500 JPY per claim.66

IV. Analysis and Potential Implications of the US and Japanese Post-Grant

54 Japan Patent Law, Art. 131(2).
55 Japan Patent Law, Art. 137(1).
56 Japan Patent Law, Art. 132(1).
57 Japan Patent Law, Art. 155(1).
60 Japan Patent Law, Art. 125.
66 Schedule of Japan Patent Office fees (current as April 1, 2016) available at https://www.jpo.go.jp/tetuzuki_e/ryoukin_e/ryokine.htm. There may be addition costs, for example, costs for requests for corrections, appeals, and retrials. Thus, the total cost for the trial for patent invalidation procedure may be significantly higher.
Patent Opposition and Review Systems

(1) The US Post-Grant Review System

The post-grant review and the inter partes review procedures generally share the same rules and functions, however there are a few important differences to describe. Besides the different time-limitations (post-grant review available during the first nine month-time period following the grant of the patent, inter partes review being available following the post-grant review period), post-grant review provides more grounds to challenge patent validity. For instance, any grounds raised under section 282(b)(2) or (3) of the patent law are challengeable, compared to the inter partes review procedure which is limited to grounds only available under sections 102 and 103 of the patent law, and only on the basis of prior art consisting of patents or printed publications. Moreover, there is a slightly higher threshold for instituting a post-grant review procedure compared to the inter partes review procedure. Post-grant review is instituted upon it being more likely than not that at least one claim is unpatentable, while an inter partes review procedure is instituted upon a reasonable likelihood that the patent challenger would prevail on at least one claim being challenged. Also, the post-grant review procedure has a more limited scope of discovery, limited to evidence directly related to factual assertions advanced by either of the party’s, while the scope of discovery for the inter partes review consists of depositions of witnesses, the submissions of affidavits or declarations and whatever else is otherwise deemed necessary in the interest of justice.

Furthermore, in regards to the post-grant review procedures’ relationship to litigation, the US post-grant review procedures are substitutes for litigation in Federal court. However, the USPTO and the US district courts, in practice, implement different standards regarding the burden of proof required when challenging the validity of a patent, and they also apply different standards when interpreting patent claims. In US district courts, a patent is presumed valid in litigation, while it is not presumed valid at the USPTO during post-grant review procedures. This means that in order for someone to challenge a patent’s validity for violating one of the provisions of the Patent Act (novelty, non-obviousness, etc.) in a US district court, they must do so by submitting proof based on the “clear and convincing” standard of evidence (meaning that the evidence establishes that something is highly and substantially more probable to be true). Someone challenging a patent’s validity at the USPTO has the burden of submitting proof based on the “preponderance of the

68 Microsoft Corp. v. i4i L.P., 131 S. Ct. 2238 (2011).
evidence” standard (more likely than not that there is a claim unpatentable). The clear and convincing standard of evidence is higher than the preponderance of the evidence standard based on deference to the decision of the USPTO to grant the patent in the first place after considering any relevant prior art. However, this rationale fails to consider the fact that it is not uncommon for patent offices to issue defective patents, and that some prior art may have been missed in the examination process.

Thus, there is an important interplay between the USPTO proceedings and parallel district court proceedings involving the same patents. Patent office proceedings, both for original examination and during post-grant proceedings, use the “broadest reasonable interpretation” standard in claim interpretation, meaning the broadest reasonable construction in light of the specification of the patent in which it appears. While in contrast, district courts construe patent claims according to the principles articulated by the Federal Circuit in Phillips, in which claims are interpreted by the meaning that a term would have to a person of ordinary skill in the art in question at the time of invention. Therefore, there is a lack of harmonization over the judicial and administrative proceedings as there is different interpretative standards for patent claim construction. In theory, this may lead to diverging decisions on patent validity determination in parallel proceedings at the USPTO and the district court, however, it is likely in these situations that the district court would stay co-pending patent litigation while post-grant proceedings are underway. However, this situation still remains uncertain in practice.

70 37 C.F.R. 42.100(b). The broadest reasonable interpretation standard was promulgated by the USPTO by rule, not statute.
71 Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005) (en banc). The validity determination is based on the entire record before the court taking into consideration both intrinsic and extrinsic evidence.
72 Id.
The Japanese Post-Grant Opposition and Invalidation System

The Japanese patent system is based on a dual-track system regarding invalidity. This means that concerns regarding patent invalidity are dealt with at the patent office through the trial for patent opposition and the trial for patent invalidation, while there is also the defense of patent invalidity available in court proceedings. The defense of patent invalidity in essence means that the defense of invalidity can be raised in an infringement action before the court without regard to filing an invalidation trial at the patent office.\(^\text{73}\) Compared to the trial for patent invalidation, the trial for patent opposition procedure is an *ex parte* procedure meaning that the proceedings are mainly conducted between the patent office and the patent owner, and conducted only on documentary evidence, while the trial for patent invalidation is an *inter partes* proceeding involving both parties and the patent office. Moreover, anyone can request a trial for patent opposition procedure within six months of the patent being published in the official Gazette, while only interested parties may file for a trial for patent invalidation procedure any time after the registration of a patent. While the trial for patent opposition has only recently been re-introduced, the trial for patent invalidation has continued to play an important role in the Japanese post-grant system.

Regarding the relationship between the post-grant procedures and litigation, a major development occurred in the year 2000 resulting from the so-called *Kilby* decision.\(^\text{74}\) The *Kilby* decision essentially empowered judges to invalidate patents during infringement proceedings by allowing the defense of invalidity to be raised in an infringement action before the court without regard to filing an invalidation action at JPO. This means that an allegation of invalidity may be advanced without waiting for a trial decision finding invalidity of the patent to be made final and binding through the trial procedure for invalidation at JPO. However, the invalidity defense created a situation where parallel invalidity litigation proceedings at JPO and at the IP High Court potentially may occur simultaneously. Thus, it remains unclear what the procedure would be given this situation, whether the court would stay proceedings and wait the decision of JPO, or vice versa.

Moreover, if a trial decision is rendered to the effect that the patent right is to be maintained, the opposing party cannot appeal this decision to the IP High Court. However, if a patent is decided to be cancelled by JPO, the patent owner may appeal to the IP High Court seeking recession of JPO’s decision. Thus, depending on the patent challengers’ situation, it may be better to proceed with a trial for patent opposition or a trial for patent invalidation (however, since 2014, only interested parties

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\(^{74}\) Id.
can request a trial for patent invalidation). For those with a significant interest in the patent and wanting to challenge the validity of the patent anticipating an infringement suit against them, requesting a trial for patent invalidation may be a better option. For those wanting to invalidate defective patents more so considering their future business strategy and without a significant interest in the patent, the trial for patent opposition procedure will be more appropriate given that a trial for patent invalidation may not be available due to limited standing. There also appears to be no time limitation for requesting a trial for invalidation, thus it may be possible to file and withdraw a request whenever it would appear to be most favorable pursuant to the challenger’s situation.

V. Concluding Remarks

Post-grant patent opposition and review systems clearly play an important role in both the US and the Japanese patent systems. They not only provide an opportunity for third parties to be involved in the opposition and re-examination of patent validity at a more cost effective and expedited rate compared to patent trial litigation, but such systems also help patent offices to stabilize patent rights in a prompter manner. This ought to benefit the public interest in knowing better not only the boundaries and strength of patents, but it should also help to increase legal certainty and patent quality, and thereby facilitate innovation.

Post-grant review procedures are somewhat of a double-edged sword in this respect, as they provide an opportunity for patent offices and third parties to revisit patent validity, but they also create an element of uncertainty regarding the dispute process for patent owners. Not only do they create another mechanism for parties to challenge patents besides in district court, post-grant patent review procedures essentially do away with entire arduous process that patentees must go through that leads to a patent being granted in the first place. The patent was already once inspected by the patent office, and the certainty of this is gone once it enters the post-grant patent opposition and review phase. Companies may have made investments and decisions based on that patent being granted by a patent office in the first instance. While the post-grant patent review procedures in the US and the patent opposition procedure in Japan are relatively new and have only recently been implemented, it may be too early to make definitive conclusions regarding their effectiveness on patent quality concerns. Nevertheless, patent disputes are becoming increasingly complicated and difficult to resolve along with the advancement of technology, and at the same time, are becoming more internationalized as corporate actions are increasingly global in nature. It is thus important for companies and those organizations that use patents in commerce to become aware of important post-grant patent opposition and review procedures in order to enhance their understanding of such mechanisms and to make better informed business decisions regarding their intellectual property.