



Patents and the Public Domain: Improving Patent Quality Upon Reexamination

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EXECUTIVE SUMMARY

Many issued patents upon a new review turn out to lack novelty and obviousness in light of previously undisclosed references. This report examines this policy problem and suggests the following recommendations to improve patent quality during and after issuance.

1. Encourage Organized Efforts to Have a More Thorough Review of Patent Applications

- ✦ Increase third party efforts to improve prior art searches and to facilitate a stronger understanding of the world of prior art.

2. Support Organized Efforts After Patents Have Been Issued

- ✦ Reexaminations should be limitless in time and with no financial harm limitations.
- ✦ Don't streamline. Maintain a variety of options for reexamination requesters.

3. Increase Access to Information in the Patent Office

- ✦ Update information in the USPTO's online Public Patent Application and Information Retrieval (PAIR) databases regularly.
- ✦ Conduct and publish regular evaluations of effectiveness and performance within the Patent Office.

Through an examination of the most recent US Patent and Trademark Office (USPTO) reexamination filing data up through December 31, 2007, this report finds that reexamination is an effective process for raising substantial new questions of patentability. Since over ninety percent of all reexamination requests are granted by the Office of the Patent Commissioner, an overwhelming majority of reexamination requests raise substantial new questions of patentability. For *ex parte*, over three-fourths of the time, these requests narrow or cancel the patent claims in question, showing that the substantial new questions of patentability raised were so strong that the examiners were made to rethink the initial grants. This is even more true for *inter partes* reexamination, where 64% of all reexamination requests resulted in canceling the claims altogether.

This report begins with an explanation of current patent policy in the United States, defines the problem with patent quality and explores the implications for a robust public knowledge commons. The following explanation of current reexamination procedures informs a detailed examination of reexamination filing trends. Finally, the report concludes with a survey of various proposals for patent policy reform and makes three recommendations for improving patent quality for the purpose of expanding and defending the public domain.

PATENTS AND THE PUBLIC DOMAIN

The Problem With Patent Quality

In recent years, the USPTO has come under increasing scrutiny over the quality of its patent examinations.¹ The growing push for reform of the patent system is fueled by the rapid rise of technology, financial services, telecommunications, and other innovations driving the information economy, all straining the USPTO's ability to evaluate and issue quality patents.² Problems with patent quality occur when the Patent Office grants patents on claims that are broader than what is merited by the invention and the prior art.³ In fact, a number of these problematic patents have been issued and publicized to much fanfare, including the infamous Smuckers' peanut butter and jelly patent where the company asserted a patent on their method of making the Uncrustibles™ crust-less peanut butter and jelly sandwiches, among others.⁴ These "bad" or improvidently granted patents impact the USPTO's ability to promote overall patent quality which, I will show, has serious implications for the public domain.

What Is a Patent?

A patent for an invention is the grant of a property right to an inventor which prevents others from "making, using, offering for sale, or selling" their invention in the United States or "importing" the invention into the United States. This property right lasts for 20 years from the day the patent application was filed. In order to qualify for a patent, the invention must be novel, and non-obvious. Furthermore, one cannot patent mere ideas or suggestions; a patentable invention is limited to a "process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." Thus, in order to obtain a patent, and one must include a description of the actual machine or subject matter for which the patent is sought (See Title 35 of the United States Code, Section 104).

Policy Rationale: Encouraging Innovation

The patent system was designed to promote public innovation and manage the public domain⁵. By encouraging other inventors to work around the patent to create improved, alternative technologies that might not have otherwise been developed, patents encourage creativity and innovation in society. They can also reward inventors for their hard work and ingenuity by giving them the right to control the manufacture and sale of their invention. In this way, patents "promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries" as delineated in Article I of the Constitution.⁶

The patent system is furthermore shaped by ideas about international competition and US ability to stay competitive with foreign technology.

... the USPTO seeks to preserve the United States' technological edge, which is key to our current and future competitiveness... Through the preservation, classification, and dissemination of patent information, the Office promotes the industrial and technological progress of the nation and strengthens the economy.⁷

By encouraging innovation through intellectual property regulation, patents can help the US be technologically competitive in the international economy.

Finally, patent policy rationale is also shaped by ideas about the public domain and the public good. By granting the inventor a limited monopoly on their inventions, the US patent system

also requires inventors to disclose their innovations into the public domain to give others the opportunity to improve on them and to contribute the invention to the public record. In this way, the patent system, while spurred by economic incentive, can also encourage the dissemination of knowledge for the benefit and use of the public.⁸

In light of the danger posed to the public domain, a number of policy critiques have emerged over the years to explain how the USPTO's procedure can result in improvidently granted patents. One major critique is that the Patent Office's process for reviewing patent applications does not involve an adequate search for relevant prior art in different technological fields.⁹ It can be especially difficult to identify prior art information with respect to new technologies such as computer software.¹⁰ Another common criticism of the USPTO is that it is too subject to political influence, as important interest groups that exert pressure on policymakers in Congress and the USPTO can directly shape patent policy.¹¹ In addition, many argue that the laws and regulations governing the behavior of the USPTO do not provide the incentives needed to issue valid patents, and there is a lack of penalties to the Patent Office for incorrectly issued patents.¹² It has also been asserted that US patent examination is deficient as compared to other national patent offices. Some have alleged that the USPTO has higher rates of acceptance and lower levels of review, particularly compared to Japan's and the European Union's patent offices.¹³

Regardless of their origin, the existence of these kinds of problems have important social and economic implications. By failing to meet the novelty and nonobvious requirements for patentability, improvidently granted patents improperly remove products and methods from the public domain.¹⁴ Issuing patents that are not novel or obvious also puts other excessive burdens on society including important economic impacts such as inefficient resource allocation and significant harm to economic growth.¹⁵

In light of these high social costs and economic inefficiencies, this paper addresses the policy problem that there are too many improvidently granted "bad patents" that, in light of new prior art, do not meet the novelty or nonobviousness requirements for patentability. One way of ensuring patent quality is by increasing standards and controls in the patent application process. Another avenue to increase patent quality is after the patent has been issued through the process of reexamination. Through an evaluation of this process, this paper addresses the question of how effective reexamination is in addressing improvidently granted "bad" patents and increasing patent quality and proposes several policy recommendations addressing reexamination effectiveness.

Why Worry About a Bad Patent?

- opportunistic licensing royalties and fees
 - licensors may rationally settle for a license instead of resorting to protracted litigation
 - disincentive to downstream innovation
 - competitors must waste time designing around dubious patents
 - the cost of rent-seekers who may choose to invest in start-up companies based on bad patents, thereby taking away resources from genuine entrepreneurs
 - the social cost of supra-competitive pricing, in the absence of noninfringing product substitutes
 - the filing and prosecution costs and the subsequent cost of having the courts fix the USPTO's oversights.
- Shubha Ghosh and Jay Kesan. "What Do Patents Purchase?"¹⁵

PATENT REEXAMINATION

To supply the public with an efficient means to contest the validity of problem patents that may have been issued improperly, Congress created the process of reexamination.¹⁶ Through reexamination, a patent can be brought under scrutiny in an internal office proceeding after the patent has already been issued. Essentially, reexamination is a vehicle for the USPTO to consider substantial new questions of patentability concerning the claims of an existing patent. As an internal office proceeding, reexamination can also help resolve patent disputes before the dispute reaches costly litigation.

In addition to allowing patent holders themselves to engage in the process, reexamination proceedings also allow third party groups to file on behalf of the public interest. “Third parties wishing to attack the validity of an issued patent may also find that reexamination offers an attractive alternative to active litigation of validity issues.”¹⁷ The threshold requirement for triggering the process of reexamination is the existence of a substantial new question of patentability,¹⁸ raised by a prior art patent or printed publication.¹⁹

What Is Reexamination?

The basic process of reexamination begins with a request submitted to the Office of the Patent Commissioner by a third party, another inventor, or by the office itself. Subsequently, one of two things happens to this request. If the Patent Commissioner finds no valid case for reexamination and the request has not raised a substantial new question of patentability, the request is denied. If the Patent Commissioner has found the request has raised a substantial new question of patentability, the request is granted.

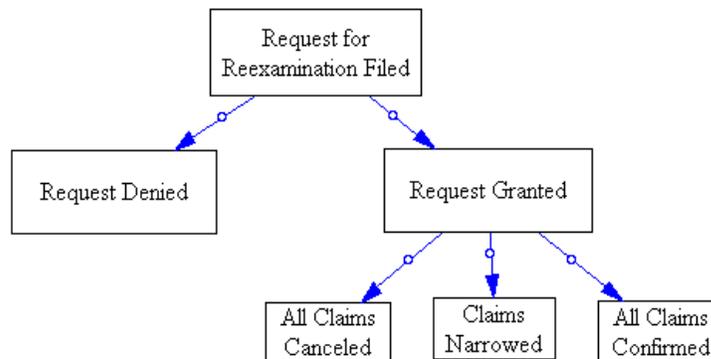


Figure A: Reexamination Flow Chart

Once a reexamination request has been granted, a patent examiner reexamines the patent in light of the substantial new questions of patentability raised in the form of a prior patent, prior art, or printed publication. Ultimately, the examiner then issues a Reexamination Certificate²⁰ with one of three conclusions: all claims are affirmed, all claims are canceled, or claims are narrowed.

Ex parte and Inter partes²¹

Ex parte and *inter partes* reexamination procedures present different options for a requester, depending on factors ranging from budget and time constraints to technical complexity and the size of the potential prior art arsenal.²² In *ex parte* reexamination, the lopsided representation in the process can create a procedural edge for the patent owner, who enjoys an exclusive dialog with the examiner once the reexamination is underway. Indeed, this factor is often cited

by third parties who choose not to pursue *ex parte* reexamination, which effectively requires the requester to provide as much ammunition to the examiner as possible in the initial submission.²³ Also, patent owners themselves may file *ex parte* reexamination requests on their own patents to narrow claims that may have been overly broad.

Another consideration for filers is the estoppel provision which precludes third parties from raising, in litigation, issues that could have been raised during the course of the *inter partes* reexamination proceeding.²⁴ The estoppel provision was enacted to protect small companies and individuals against attacks by larger entities with more resources. The theory was that a corporation could first try to invalidate the patent under reexamination, and subsequently, if that were to fail, use their extensive resources to raise the same issues in litigation. The estoppel provision, while acting as an appropriate protective measure also makes the *inter partes* option much less attractive for many parties.

The key difference between *ex parte* and *inter partes* reexamination is in the level of requester participation. This and the following other key differences are summarized in the table below. *Ex parte* reexamination requests generally involve fewer legal fees, may be less time-consuming to file, may be conducted anonymously without identifying the requester, and are not subject to the estoppel issues of *inter partes*. *Inter partes* also may involve a possible advantage in speed for obtaining a first substantive office action, since this is ordinarily expected to accompany the USPTO's decision granting or denying the reexamination request.²⁵

What Is Ex Parte Reexamination?

In *ex parte* reexamination, the party who submitted the reexamination request may no longer actively participate in the proceedings. The correspondence is strictly between the examiner and the patent owner. In *inter partes* reexamination, the requesting party may continue to participate in the proceedings. Both processes however, do not differ as to the substance to be considered in the proceeding.

What Is Inter Partes Reexamination?

Inter partes was created by Congress through the passage of the American Inventors Protection Act of 1999 to increase the attractiveness of reexamination over the costly alternative of district court litigation. *Inter partes* reexamination is only available for patents that were filed on or after the bill was passed on November 29, 1999. By allowing full participation by both the patent holder and the third party requester, *inter partes* allows the examiner to act more like an arbiter, taking advantage of the adversarial process.

	<i>Inter partes</i>	<i>Ex parte</i>
Requester Participation	Ongoing during process	In initial filing
Who can file	Only third party	Third party, Commissioner, Patent holder
Estoppel Issues	Yes	None
Cost	>\$8800	\$2520
Requests Filed	353	9060
Average Annual Requests Filed ²⁶	71	530

Table 1: Ex parte v. Inter partes Reexamination

OVERALL REEXAMINATION TRENDS

In this analysis, I examine the filing trends and claim results to gauge the effectiveness of the reexamination process in countering improvidently granted patents and increasing patent quality. According to the Manual of Patent Examining Procedure, information on patent reexamination proceedings are open to inspection by the general public.²⁷ The most recent filing data includes both *inter partes* and *ex parte* reexamination proceedings through December 31, 2007.²⁸

It is important to note that the motivations behind a reexamination request may be a factor in the ability to judge the fairness and effectiveness of the reexamination process. For example, it is difficult to judge just how many patents brought up for reexamination were improvidently granted. It is possible that economic incentives, rather than a concern with the dubiousness of a patent, may more often motivate a party to request a reexamination. Thus, the ability to make definitive statements about the effectiveness of reexamination is bound by how many “bad patents” are not getting reexamined and how many “legitimate patents” are being reexamined unfairly. The latter may be estimated by the number of patents that come out of reexamination with no claim changes, but this is not necessarily an accurate assumption as it would not take into account improvidently granted patent that come out of reexaminations unscathed.

Ex Parte Reexamination Filing Data: July 1, 1981 - December 31, 2007

This most recent filing data covers all *ex parte* reexamination proceedings since the start of *ex parte* reexamination on July 1st, 1981 up through December 31, 2007.²⁹ According to the most recent filing data, *ex parte* reexamination is capable of consistently raising substantial new questions of patentability and also seems to be a fair and effective way of improving patent quality through its ability to narrow patent claims. Within this time period, there have been over nine thousand requests, averaging over five hundred annually in recent years. Of these requests, the Office of the Commissioner for Patents has granted over ninety percent, finding that the requests raise a substantial new question of patentability. The high request grant rates reveal that *ex parte* reexaminations tend to raise important new questions of patentability. The following table shows how many requests were filed by patent owners and third parties, in what disciplines, and how many of those requests were granted.

Requests	Number	Percent
By patent owner	3495	39%
By other member of public	5400	59%
By order of Commissioner	165	2%
Total requests	9060	100%
Number of filings by discipline		
Chemical Operation	2703	30%
Electrical Operation	3023	33%
Mechanical Operation	3334	37%
Total filings	9060	100%
Determinations on requests		
Granted	7998	92%
Denied	716	8%

Table 2: Ex Parte Reexamination Requests: July 1, 1981- December 31, 2007³⁰

By finding a substantial new question of patentability in ninety-two percent of reexamination requests, the Office of the Patent Commissioner recognizes the ability of *ex parte* reexamination proceedings to provide the PTO with important relevant information.

Furthermore, the large number of claim changes as a result of these requests reveal that reexamination is an important cornerstone of the Patent Office's capacity to ensure good patent quality. Out of the ninety-two percent of reexamination requests that are granted, 3 out of 4 requests have a substantial effect on the claims. This is calculated from the figures below that reveal in *ex parte* reexamination, sixty-four percent of patents have their claims narrowed and ten percent of patents have all their claims canceled since a patent's claims may not be broadened in *ex parte* reexamination.

Reexamination Results to Claims	Number	Percent
All claims confirmed	1556	26%
All claims canceled	636	10%
Claims changed	3874	64%

Table 3: Ex Parte Reexamination Results: July 1, 1981- December 31, 2007³¹

These two figures combined mean that seventy-four percent of reexaminations narrow, in some way, the impact that these patents have on the public domain.³²

In looking at the *ex parte* reexamination filing data, it is important to take into account that patent owners themselves file *ex parte* reexaminations on their own patents with the aim of restricting or narrowing their claims to avoid potential litigation. In fact, patent owners have initiated thirty-nine percent of *ex parte* requests according to the most recent filing data, almost three thousand of the total nine thousand *ex parte* requests filed. Furthermore, the large number of claim changes as a result of these requests reveal that reexamination is an important cornerstone of the Patent Office's capacity to ensure good patent quality. The following figures reveal that sixty-four percent of patent reexaminations result in a narrowing of claims and ten percent result in the cancellation of all claims. Thus, out of the ninety-two percent of reexamination requests that are granted, 3 out of 4 requests have a substantial effect on the claims. (Data from Appendix D: *Ex Parte* Reexamination Filing Data: 1981-2007)

Whether filed by a third party or the patent owner themselves, the latest reexamination filing data shows that *ex parte* reexamination is a tool that is capable of decreasing the scope of “bad” patents and minimizing their impacts on the public domain. With the PTO able to substantially re-work many of the patents in light of the substantial new questions of patentability raised in *ex parte* reexamination, these proceedings are an important avenue that must be kept open for the PTO to continue to ensure patent quality.

Inter Partes Reexamination Filing Data: November 29, 1999 - December 31, 2007

According to the data, *inter partes* reexamination is also a fair and effective proceeding that allows third party requesters to challenge improvidently granted patents and raise valid new questions of patentability. Requests for *inter partes* reexamination are granted at incredibly high rates. This may be due to some amount of self-selection that limits *inter partes* filings to those requesters sufficiently confident in their arguments to risk estoppel.³³ The following table shows how only four percent of all *inter partes* requests have been denied since the start of *inter partes* reexamination proceedings in 1999.

Requests	Number	Percent
Number of filings by discipline		
Chemical Operation	87	25%
Electrical Operation	132	37%
Mechanical Operation	134	38%
Total filings	353	100%
Determinations on requests		
Granted	293	96%
Denied	13	4%

Table 4: Inter Partes Reexamination Filings, November 29, 1999- December 31, 2007

Furthermore, *inter partes* reexamination results in a comparatively large number of claim cancellations for requesters as shown below. This may be due to the adversarial process utilized in *inter partes* where the requester presents their best arguments to the issues raised by the patent holder.

Reexamination Results to Claims	Number	Percent
All claims confirmed	1	8%
All claims canceled	9	75%
Claims changed	2	17%

Table 5: Inter Partes Reexamination Results: November 29, 1999 - December 31, 2007³⁴

Comparison of Ex Parte and Inter Partes

There are significantly fewer *inter partes* filings than there are *ex parte*. Since the start of the *inter partes* reexamination procedure, there have been three hundred fifty-three *inter partes* reexamination requests filed, representing only four percent of all *ex parte* reexamination requests filed. However, the total number of *ex parte* reexamination requests includes requests filed since the start of *ex parte* reexamination proceedings in 1981, so *ex parte* reexamination also has had an eighteen year head start.

The following chart shows how the number of both *ex parte* and *inter partes* requests has been ris-

ing in recent years. In the last five years, the number of *inter partes* requests has nearly doubled from 2006 to 2007 and increased by twenty percent from 2005 to 2006.

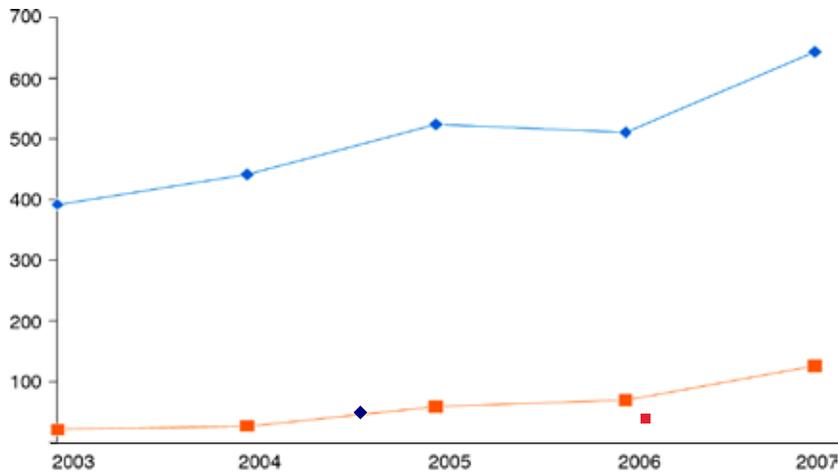


Figure B: Total Reexamination Requests, 2003-2007

It may not be reasonable to compare the number of requests filed however, since as noted earlier, whether a party chooses to file an *ex parte* request or an *inter partes* request depends heavily on the party's circumstances.³⁵ This is apparent when examining the large differences in the impact on the patent claims. For third-party requesters, for example, an *inter partes* proceeding is fifty percent less likely to result in the confirmation of all claims and over seven times more likely to result in the cancellation of all claims. While *ex parte* reexaminations are more likely to result in a narrowing of the patent claims, *inter partes* reexaminations are more likely to result in a cancellation of all claims, as shown in the following table.

	<i>Inter Partes</i>	<i>Ex Parte</i>
Requests Granted	98%	92%
Requests Denied	2%	8%
Total	100%	100%
All Claims Confirmed	8%	26%
All Claims Canceled	75%	10%
Claims Changes	17%	64%
Total	100%	100%

Table 6: Comparison of *Inter Partes* and *Ex Parte* Reexamination Claim Results³⁶

The two procedures are used by different parties for different purposes. For example, while third party filers can utilize either reexamination procedure, patent holders may only use *ex parte* to reexamine their own patent. As mentioned earlier, patent holders filed forty-one percent of *ex parte* reexamination requests, seeking to amend their patent or test their patent against certain prior art. The following table compares the results of reexaminations requested by third parties and reexaminations requested by patent owners. From these figures, the high rates of reexaminations resulting in all claims confirmed for patent owner requesters may be raising the overall *ex parte* rates of claim confirmation.

	Claims Canceled	Claims Changed	Claims Confirmed
Third Party Requester	29%	12%	59%
Patent Owner Requester	23%	7%	70%

Table 7: *Ex Parte* Reexamination Claim Results³⁷

One reason why reexaminations may result differently for third parties than for patent owners is because third parties might frame their requests differently from patent owners, using different kinds of prior art, different arguments, etc. Another reason for the high rates of claim changes in *ex parte* proceedings could involve a more thorough consideration of *inter partes* requesters' arguments as a result of their ongoing participation or differences in the type and quality of arguments presented in *inter partes*.³⁸

It is clear that both kinds of reexamination processes have the capacity to contribute to improved patent quality and minimize the impact on the public domain. By allowing patent holders to test and revise their own claims and by allowing concerned third party requesters to challenge problematic patents, reexaminations provide an avenue outside of litigation to address dubious patents. How effective these proceedings are in their ability to holistically address the policy problem of improvidently granted patents remains to be seen.

PROMOTING FAIRNESS IN THE PATENT SYSTEM THROUGH REEXAMINATION

There are different ways of promoting fairness in the patent system throughout the stages of patent issuance. Increasing the level of prior art review for patent applications is one avenue of increasing patent quality before a patent is issued. Once a patent is issued, a reexamination request can be used to improve patent quality upon second review. Finally, legislative reform can introduce broad comprehensive policies for improving the patent system.

Improving the Quality of Patent Application Review

In the initial examination process, improvements can be promoted through evaluating prior art more thoroughly. The Peer to Patent project addresses the problem of patent quality by enabling the public to submit prior art and commentary relevant to the claims of pending patent applications in the fields of computer architecture, software, and information security.³⁹ Before the patent is issued, the Peer to Patent Project solicits prior art contributions and allows users to upload prior art that is relevant to the patent application's claims. Once evaluated, they send the top ten prior art references to the USPTO for review. The Peer to Patent Project has even secured an agreement with the USPTO to expedite applications that participate in the Peer to Patent Project to the front of the queue. By collaborating with the USPTO, the Peer to Patent Project ensures that relevant prior art is evaluated and taken into account in the patent application process.

Third Party Reexaminations

Various advocacy groups promote try to promote fairness in the patent system by filing reexamination requests as a form of public policy. The Public Patent Foundation for example, pursues reexaminations to "protect the public domain from being recaptured in new patents,"⁴⁰ and has filed requests on patents involving stem cell research, the JPEG standard, DNA co-transformation, genetically modified crops, the File Allocation Table (FAT) file system, and atorvastatin, a cholesterol-lowering drug.⁴¹

The Electronic Frontier Foundation's Patent Busting Project, established in 2004, identified its "Ten Most Wanted" patents for "crimes against the public domain,"⁴² and has initiated reexamination requests for five of them to date, which have all been granted. Requests have included challenges to Clear Channel's patent concerning the digital recording of live performances, Test.com's patent concerning Internet test-taking, and the most recent Sheldon gaming patent concerning online gaming technology.

Administrative Reform

Fairness in the patent system can also be promoted administratively. There are various policy mechanisms within the USPTO introduced and revised to encourage fairness in reexamination proceedings. All patent examining policies are cataloged in the Manual of Patent Examining Procedure (MPEP).⁴³ One major policy change to USPTO reexamination procedures was the 1237 OG notice that specified that the examiner assigned for *ex parte* reexamination proceedings must be different from the examiner initially assigned to issue the patent⁴⁴. This policy change was meant to increase fairness in the proceedings by eliminating any potential bias in the examiner's decision.

Fairness within reexamination proceedings is also ensured through two different conferences between patent examiners mandated by the MPEP. After an examiner has determined that the reexamination proceeding is ready for final rejection, the examiner will formulate a draft preliminary decision, explaining the grounds of rejection.⁴⁵ Then, the Supervisory Patent Examiner is informed of the examiner's final rejection and convenes a patentability review conference where the conference members review the patentability of the claims again. Only after this conference confirms the examiner's preliminary decision to reject and/or allow the claims, the Notice of Intent to Issue a Reexamination Certificate or final rejection is issued and signed by the examiner.⁴⁶

Legislative Reform

In addition to these various mechanisms for promoting reform, ultimately we need proper legislation to ensure fairness in the patent system. Following a recent threat to reexamination proceedings in the Patent Reform Act of 2007, S.1145, concerns about how to improve patent quality continue to abound. The Act which would have practically eliminated third-party post-grant review, raising concerns about the ability of the USPTO to continue to ensure good patent quality. While the Senate reform bill strove to introduce some significant positive reforms for the patent system by allowing more information to be presented to patent examiners and seeking to tie damages awarded in infringement cases more closely to the innovation represented by the patent, it also posed a serious threat to the post-grant review.

The Draft Judiciary Committee Report of the Patent Reform Act of 2007 states that "Section 5 of the Act creates a new post-grant review (PGR) system for United States patents, replacing and eliminating *inter partes* reexamination."⁴⁷ This statement is followed by footnote 87 which states:

Ex-parte reexamination, based on a request by the patentee, is retained. See new Section 303(a) of the Act. However, third parties may no longer request an ex-parte reexamination. Thus, third parties wishing to challenge the patent will use the new post grant review system; patentees wishing to have additional art considered by [sic] will use the old ex-parte reexamination system.⁴⁸

This revision would only permit third parties to question the validity of issued patents within twelve months of issuance, severely restricting the ability of public interest groups to voice their concerns over dubious looking patents.

Furthermore, under the bill, an opportunity to challenge the patent through reexamination is only given if an individual or entity can prove they themselves are economically harmed by a patent. Nonprofit public interest groups like the Electronic Frontier Foundation and the Public Patent Foundation would be unable to consistently meet that standard. Thus the Patent Reform Act of 2007 would have essentially eliminated important public interest projects such as the Electronic Frontier Foundation's Patent Busting Project, which uses *inter* and *ex parte* reexamination proceedings to challenge and defend against patents that potentially infringe on the public domain.⁴⁹ In this way, the Patent Reform Act of 2007 would have failed to replace the current reexamination processes with an adequate form of post-grant review. It would have placed undue restrictions on third party participation and it would have failed to provide effective procedures for reevaluating patents that have passed the grant process.⁵⁰

Although the bill passed in the U.S. House of Representatives in 2007, its passage in the Senate has since been controversial. As of April 2008, the bill has stalled in the Senate over some key issues. Democratic Senator Patrick Leahy said negotiations were close to complete but halted by "just a handful of words."⁵¹ The primary sticking point for legislators and key stakeholders was the issue of how damages for infringement should be calculated. Although the current bill has stalled, it is widely accepted that the issue of patent reform in the U.S. Congress will continue to be an ongoing issue that will surface again in the near future.⁵² However, the difficulty Congress faces in passing a strong, comprehensive patent reform bill will continue to be compounded by the pressing need for reform in the many organizational sectors of the patent system, the strength of the political lobby, and the rapidly growing tech industry.

POLICY RECOMMENDATIONS

Defining appropriate recommendations for improving patent quality depends how the origins of the problem are defined. Do we strengthen enforcement and penalties for infringement, increase standards for patentability, redefine what qualifies as patentable material? And what is the appropriate combination of approaches? As previously discussed, there are different approaches to why patents are issued improperly and different concerns with the effects of such bad policy. One possible solution to the problems relating to patent quality lies within the reexamination process. These policy recommendations were developed in light of the detrimental effects improvidently granted patents have on public knowledge and the public domain. The following recommendations prioritize this consideration and emphasize approaches to increasing patent quality that minimize the impact of improvidently granted patents on the public domain.

1. Encourage Organized Efforts to Have a More Thorough Review of Patent Applications

- ♦ Increase third party efforts to improve prior art searches and to facilitate a stronger understanding of the world of prior art.

There is obvious potential to strengthen patent quality by reducing the number of "bad" patents that are issued. Public interest groups in particular can have a distinct role to play in improving patent quality. Independently funded public interest efforts lack political ties and obligations and are thus appropriately positioned to propose avenues for addressing threats to the public domain. Some public interest efforts are already underway, striving to carve out and protect

public knowledge by strengthening and improving the level of review of patent applications. In the application process, the Peer to Patent Project strives to address problems with patent quality by strengthening their standards of review with the help of online contributors. This publicly contributed knowledge can help expand the world of prior art, particularly in the information industries, and decrease the number of “bad” patents that emerge from the patent application process in the first place.

2. Support Organized Efforts After Patents Have Been Issued

- Support third parties organizational ability to conduct reexaminations of dubious-looking patents.

As I have shown, reexamination is an important tool capable of improving patent quality for patent holders themselves as well as for third party public interest filers. Third party public interest filers can play an important role in improving patent quality as their efforts are explicitly concerned with the effects of dubious looking patents on the public domain. As I have shown, public interest groups are often utilizing reexamination proceedings in order to challenge patents that come dangerously close to impeding public knowledge.

2a. Within Reexaminations: Limitless In Time And With No Financial Harm Limitations

- Maintain the ability for third parties to file reexaminations within an unlimited period without the requirement to prove direct financial harm.

One argument against third party post-grant review is that it places too much burden on overworked patent examiners. However, the Patent Office grants an overwhelming majority of reexamination requests by third parties, as I have shown, welcoming the ability of these requests to raise substantial new questions of patentability. By denying third party public interest filers the procedural ability to challenge patents, the patent system would sacrifice an important asset and a mainstay of their mission to manage the public domain and promote public knowledge and innovation. The recently avoided risks posed by the Patent Reform Act of 2007 posed a direct threat to the ability of reexaminations to promote fairness in the patent system with the proposed filing limitations. Although it has been taken off the table for now, we must maintain the procedural ability of third parties to conduct reexaminations on behalf of the public interest.

2b. Don't Streamline. Maintain a Variety of Options for Reexamination Requesters

Additionally, we need a grab bag of options for post-grant reexamination proceedings in order to be most effective and efficient. Since requesters file different kinds of reexaminations for different reasons, we must maintain a variety of options in the post grant period to ensure appropriate procedures for different filers. *Inter partes* and *ex parte* reexamination are only two of the current ways to improve patent quality once a patent has been issued. If the same procedure applied for different filers, some filers may pay too much, wait too long, etc. and these limited options for reexamination requesters would increase the inefficiency of the Patent Office. A more efficient system would be able to direct patent examiners to look at specific requests and also be able to formulate those requests appropriately. A variety of options will also be helped by recommendation number two that helps direct the requester to the relevant prior art.

3. Increase Access to Information in the Patent Office

Lastly, this final recommendation would help us accomplish the first two recommendations more effectively. Making information about patent prior art more accessible would aid in organized efforts both before a patent is issued as well as after.

3a. Increase Access to Information About Non-Patented Prior Art

The Prior Art Project⁵³ aims to facilitate better prior art search by introducing a standard prior art tag and a central wiki-style user-generated database of public knowledge. User-generated content pertaining to the software reference is tagged appropriately so internal processes, modules, and structures can correspond with patent claim elements. The project can also help define the realm of patentable material and allow any interested parties to find invalidating prior art software, as the database grows. Public interest projects such as these are well-situated to propose policy changes to the patent system because they are not beholden to slow, bureaucratic government processes or political influence. Increasing this kind of public participation, particularly utilizing Web 2.0 tools to gather and disseminate information, allows these players to continue to explore policy solutions outside of slower legislative reform efforts.

3b. Increase Access to Information About Patented Prior Art

- Update information in the USPTO's online Public Patent Application and Information Retrieval (PAIR) databases regularly
- Conduct and publish regular evaluations of effectiveness and performance within the Patent Office

While all information regarding patent reexamination proceedings is publicly available, the USPTO public PAIR database is unwieldy and organized so that file proceedings are still difficult to access. The PAIR service does not allow a user to browse the archive on their own terms, for example, by listing all of the reexaminations in one year or all the reexaminations that resulted in a certain way. Most significantly, the file information contained in PAIR is still very incomplete. Improvements to this system would greatly improve knowledge about the world of patented prior art. The emergence of Google Patents is an indication of the opportunity for the growth of public knowledge about patents. The USPTO should also take advantage of this opportunity by increasing the online availability of file and regularly updating their public records.

CONCLUSION

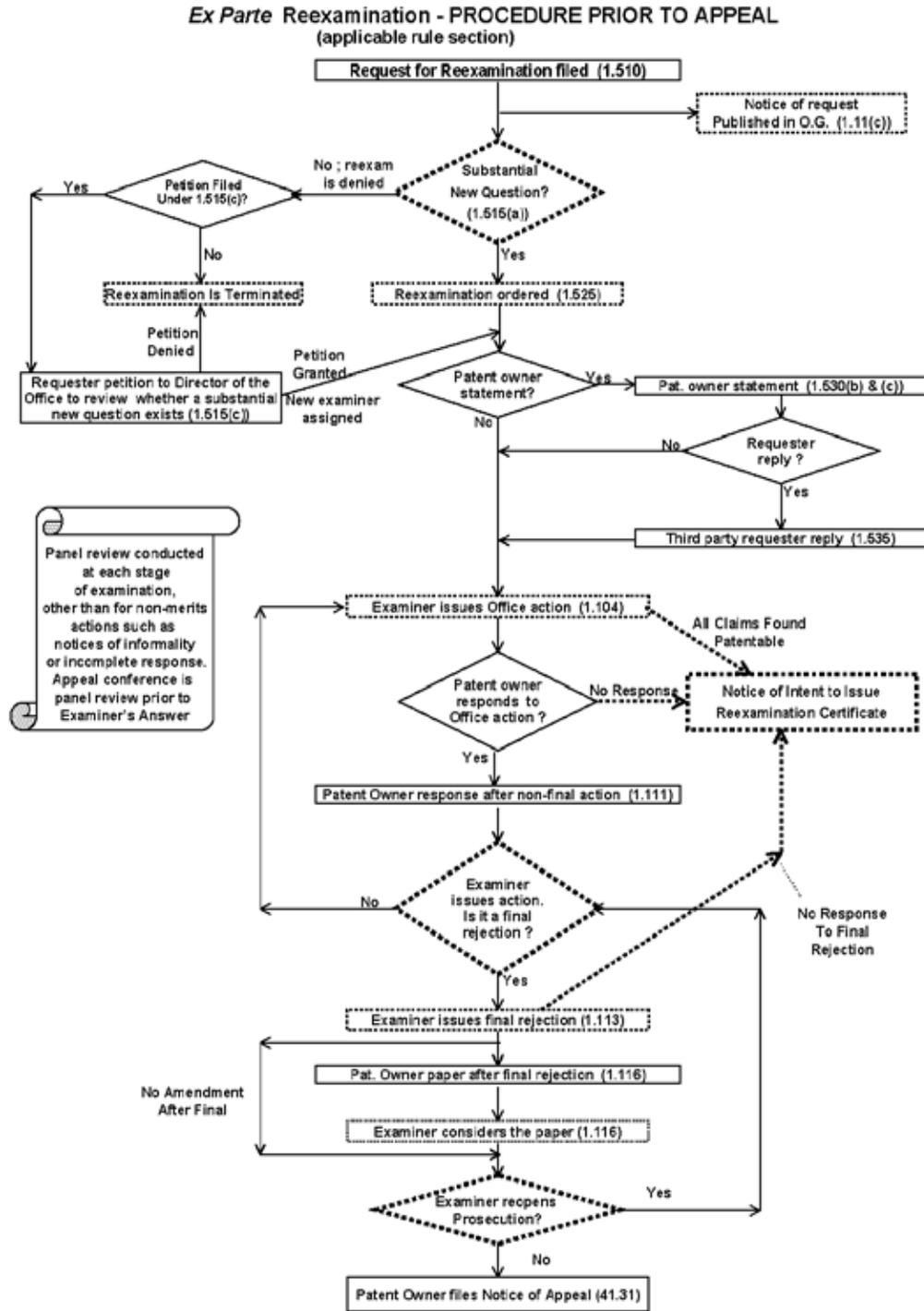
The reexamination process is capable of revising individual patents, but it is not designed to be a procedural or systematic check. With limitations on the ability to search for prior art, particularly in software and technology patents, reexaminations are difficult to conduct on a wide scale. Since public interest groups are often poorly resourced, we must consider the effectiveness of this process in redressing improvidently granted patents. As a comprehensive policy solution, it is unreasonable to expect reexaminations alone to be enough, particularly since we still don't even know how many "bad" patents there currently are in existence. In addition to more research, we also need political consensus around how we formulate the problem to begin to pursue viable legislative change.

These recommendations are just partial suggestions for addressing the larger systemic problems with the US patent system and should be seen as only steps in the right direction. Before a patent is issued, increasing third party efforts continues to prove useful to the office as seen through the Peer to Patent Project's work. Combined with appropriate internal reexamination mechanisms after issuance to catch patents with prior art that has been overlooked, public interest efforts can play a pivotal role in improving the patent system. EFF's Patent Busting Project does this by raising substantial new questions of patentability via reexamination. Increasing public interest participation in addressing problems with patent quality would allow these players to continue exploring policy options without resorting to litigation or embarking on lengthy legislative reform efforts. In this way, these independent efforts may be the key to exploring new avenues for addressing the problems improvidently granted patents pose to maintaining a vibrant public domain.

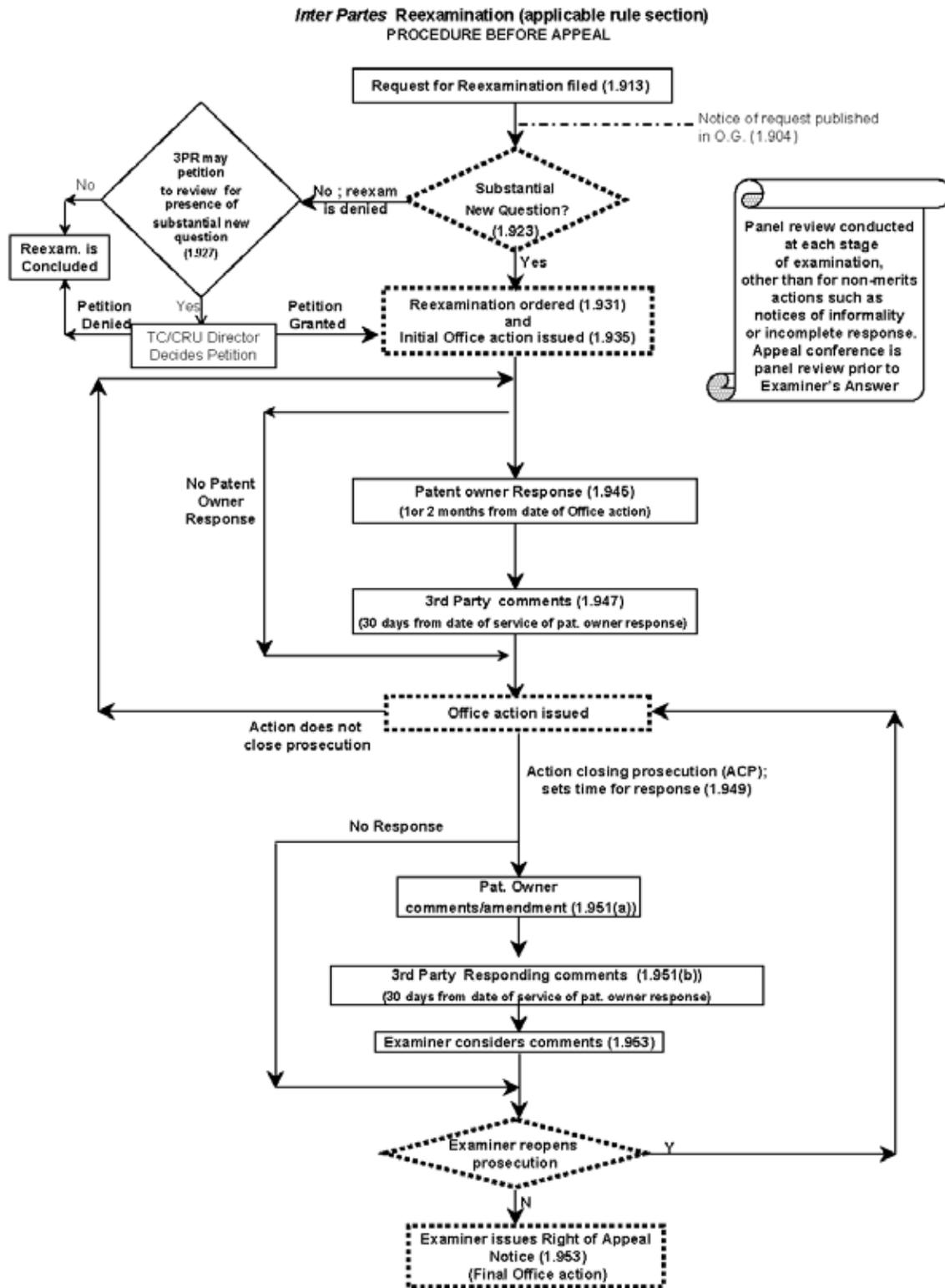
Acknowledgements

Emily Berger, Seth Schoen, Mark Henderson, and Jason Schultz, for their mentorship and support.

Appendix A: Ex Parte Reexamination Process Flow Chart⁵⁴



Appendix B: Inter Partes Reexamination Process Flow Chart⁵⁵



Appendix C: Ex Parte Reexamination Filing Data: 1981-2007



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
 United States Patent and Trademark Office
 P.O. Box 1450
 Alexandria, VA 22313-1450
www.uspto.gov

Ex Parte Reexamination Filing Data - December 31, 2007

1. Total requests filed since start of ex parte reexam on 07/01/81	9060 ¹
a. By patent owner	3495 39%
b. By other member of public	5400 59%
c. By order of Commissioner	165 2%
2. Number of filings by discipline	
a. Chemical Operation	2703 30%
b. Electrical Operation	3023 33%
c. Mechanical Operation	3334 37%
3. Annual Ex Parte Reexam Filings	
Fiscal Yr. No. Fiscal Yr. No. Fiscal Yr. No. Fiscal Yr. No.	
1981 78 (3 mos.) 1989 243 1997 376 2005 524	
1982 187 1990 297 1998 350 2006 511	
1983 186 1991 307 1999 385 2007 643	
1984 189 1992 392 2000 318 2008 165	
1985 230 1993 359 2001 296	
1986 232 1994 379 2002 272	
1987 240 1995 392 2003 392	
1988 268 1996 418 2004 441	
4. Number known to be in litigation	2398 26%
5. Determinations on requests	8714
a. No. granted	7998 92%
(1) By examiner	7885
(2) By Director (on petition)	113
b. No. denied	716 8%
(1) By examiner	681
(2) Order vacated	35

¹Of the requests received in FY 2008, 23 requests have not yet been accorded a filing date, and preprocessing of 3 requests was terminated for failure to comply with the requirements of 37 CFR 1.510. See Clarification of Filing Date Requirements for *Ex Parte* and *Inter Partes* Reexamination Proceedings, Final Rule, 71 Fed. Reg. 44219 (August 4, 2006).

6.	Total examiner denials (includes denials reversed by Director)				794
a.	Patent owner requester		439		55%
b.	Third party requester		355		45%
7.	Overall reexamination pendency (Filing date to certificate issue date)				
a.	Average pendency				24.0 (mos.)
b.	Median pendency				18.6 (mos.)
8.	Reexam certificate claim analysis:	<u>Owner</u>	<u>3rd Party</u>	<u>Comm'r</u>	
		<u>Requester</u>	<u>Requester</u>	<u>Initiated</u>	<u>Overall</u>
a.	All claims confirmed	23%	29%	12%	26%
b.	All claims cancelled	7%	12%	21%	10%
c.	Claims changes	70%	59%	67%	64%
9.	Total ex parte reexamination certificates issued (1981 - present)				6066
a.	Certificates with all claims confirmed			1556	26%
b.	Certificates with all claims canceled			636	10%
c.	Certificates with claims changes			3874	64%
10.	Reexam claim analysis - requester is patent owner or 3rd party; or Comm'r initiated.				
a.	Certificates - PATENT OWNER REQUESTER				2607
(1)	All claims confirmed			592	23%
(2)	All claims canceled			194	7%
(3)	Claim changes			1821	70%
b.	Certificates - 3rd PARTY REQUESTER				3313
(1)	All claims confirmed			946	29%
(2)	All claims canceled			413	12%
(3)	Claim changes			1954	59%
c.	Certificates - COMM'R INITIATED REEXAM				146
(1)	All claims confirmed			18	12%
(2)	All claims canceled			30	21%
(3)	Claim changes			98	67%

Appendix D: Inter Partes Reexamination Filing Data



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Inter Partes Reexamination Filing Data - December 31, 2007

1. Total requests filed since start of *inter partes* reexam on 11/29/99 353¹
2. Number of filings by discipline
 - a. Chemical Operation 87 25%
 - b. Electrical Operation 132 37%
 - c. Mechanical Operation 134 38%
3. Annual Reexam Filings

<u>Fiscal Yr.</u>	<u>No.</u>	<u>Fiscal Yr.</u>	<u>No.</u>	<u>Fiscal Yr.</u>	<u>No.</u>
2000	0	2003	21	2006	70
2001	1	2004	27	2007	126
2002	4	2005	59	2008	45 YTD
4. Number known to be in litigation.....185.....52%
5. Decisions on requests 306
 - a. No. granted 293 96%
 - (1) By examiner 293
 - (2) By Director (on petition) 0
 - b. No. not granted 13 4%
 - (1) By examiner 10
 - (2) Reexam vacated 3
6. Overall reexamination pendency (Filing date to certificate issue date)
 - a. Average pendency 28.5 (mos.)
 - b. Median pendency 28.5 (mos.)
7. Total *inter partes* reexamination certificates issued (1999 - present) 12
 - a. Certificates with all claims confirmed 1 8%
 - b. Certificates with all claims canceled 9 75%
 - c. Certificates with claims changes 2 17%

¹Of the requests received in FY 2008, 13 requests have not yet been accorded a filing date, for failure to comply with the requirements of 37 CFR 1.915. See Clarification of Filing Date Requirements for *Ex Parte* and *Inter Partes* Reexamination Proceedings, Final Rule, 71 Fed. Reg. 44219 (August 4, 2006).

Appendix E: Total Reexamination Requests, 2003-2007

Inter Partes Reexamination Requests, 2003-2007⁵⁶

TABLE 13B: INTER PARTES REEXAMINATION (FY 2003 - FY 2007)				
Activity	2003	2004	2005	2006
Requests filed, total	21	27	59	70
Determinations on requests, total	20	25	57	47
Requests granted	10	25	54	43
By examiner	18	25	54	43
By petition	-	-	-	-

Ex Parte Reexamination Requests, 2003-2007⁵⁷

TABLE 13A: EX PARTE REEXAMINATION (FY 2003 - FY 2007)				
Activity	2003	2004	2005	2006
Requests filed, total	392	441	524	511
By patent owner	136	166	166	129
By third party	239	260	350	380
Commissioner ordered	17	7	-	-
Determinations on requests, total ¹	381	419	537	458
Requests granted:				
By examiner	360	408	509	420
By petition	1	-	2	5

Footnotes

- 1 John R. Allison and Mark A. Lemley, "The Growing Complexity of the United States Patent System", *B.U.L. Rev.* Vol. 82. 2002: 77.

Kevin M. Baird, "Business Method Patents: Chaos at the USPTO or Business as Usual?", *J.L. Technology and Policy*. 2001: 347.

Rebecca S. Eisenberg, "Obvious to Whom? Evaluating Inventions from the Perspective of PHOSITA", *19 Berkeley Technology Law Journal*. 2004: 885.

Arti K. Rai, "Allocating Power over Fact-Finding in the Patent System", *Berkeley Tech L.J.* Vol. 19. 2004: 907.
- 2 Viet Dinh and William Paxton. "Patent Reform: Protecting Property Rights and the Marketplace of Ideas". White Paper. Coalition for Patent Fairness. 3 December 2007: 2.
- 3 Jay Kesan. Carrots and Sticks to Create a Better Patent System, *17 Berkeley Technology Law Journal*. (2002): 763.
- 4 Sara Schaefer Muñoz. "Patent No. 6,004,596: Peanut Butter and Jelly Sandwich" *Wall Street Journal*. 5 April 2005. <<http://online.wsj.com/article/SB111266108673297874.html>>.
- 5 Mark Lemley, Peter Menell and Pamela Samuelson. *Software and Internet Law*. Aspen Law & Business Publishers. 2001.
- 6 Article 1, Section 8. The United States Constitution. <<http://www.house.gov/house/Constitution/Constitution.html>>.
- 7 Functions of the United States Patent and Trademark Office. General Information Concerning Patents. United States Patent and Trademark Office. Revised January 2005. <<http://www.uspto.gov/web/offices/pac/doc/general/index.html>>. Accessed April 2008.
- 8 Viet Dinh and William Paxton. "Patent Reform: Protecting Property Rights and the Marketplace of Ideas". White Paper. Coalition for Patent Fairness. 3 December 2007: 2.
- 9 Kesan, 767.
- 10 Cohen finds that for software patents, prior art is found outside the areas in which the Patent Office traditionally conducts searches. Julie Cohen. "Reverse Engineering and the Rise of Electronic Vigilantism: Intellectual Property Implications of "Lock-Out" Programs". *Southern California Law Review*. Vol. 68. 1995: 1091-1178.
- 11 Davis explains the political determinants of the U.S. patent system characteristics. Michael Davis. "Patent Politics". *S.C. Law Review*. Vol 56. 2004: 227.
- 12 The USPTO bears no responsibility for allowing an invalid patent to issue. Courts do not fine the USPTO upon invalidating a patent; the examiners who allowed the case are not disciplined for their oversight; nor must the USPTO award damages to affected members of the public to compensate for an improvidently granted patent. The costs of failing to acquire information are simply shifted to other actors- in particular, the federal courts, the patentee's competitors, and ultimately, consumers. John R. Thomas. "The Responsibility of the Rulemaker: Comparative Approaches to Patent Administration Reform". *Berkeley Technology Law Journal*. Vol 17. 2004: 733.

- 13 It is evident that examination of patent applications by the PTO is significantly less rigorous than is the examination of patent applications by the EPO (European Patent Office), the JPO (Japanese Patent Office), or the GPO (German Patent Office). Also, the likelihood of ultimately obtaining allowance of a patent application from the PTO is far greater than in the EPO, the JPO, or the GPO. C.D. Quillen Jr. and O.H. Webster, "Continuing patent applications and performance of the US Patent Office", *Federal Circuit Bar Journal* Vol. 11, 2001: 13.
- 14 Ashley Parker. "Comment: Problem Patents: Is Reexamination Truly a Viable Alternative to Litigation?". *North Carolina Journal of Law and Technology*. Vol 3. Spring 2002: 306.
- 15 Shubha Ghosh and Jay Kesan. "What Do Patents Purchase? In Search of Optimal Ignorance in the Patent Office". *Houston Law Review*. Vol 40. 2004: 1219.
- 16 Sec 301-307, 35 United States Code; Sec 311-318, 35 United States Code.
- 17 Steven Baughman. "Reexamining Reexaminations: A Fresh Look at the *Ex parte* and *Inter partes* Mechanisms for Reviewing Issued Patents". *Journal of the Patent and Trademark Office Society*. Vol. 89. May 2007: 363.
- 18 A substantial new question of patentability is defined in the statute as one that is "substantially different from those raised in the previous examination of the patent before the Office". MPEP Sections 2216, 2616; Sec 304 and 312. 35 United States Code.
- 19 Sec 2244, 2644. MPEP 301. 35 United States Code. as cited by Baughman, Steven. "Reexamining Reexaminations: A Fresh Look at the *Ex parte* and *Inter partes* Mechanisms for Reviewing Issued Patents". *Journal of the Patent and Trademark Office Society*. Vol. 89. May 2007: 349.
- 20 See Appendix B: Sample Reexamination Certificate.
- 21 Chad Walters. Baker Botts. Boalt Presentation 2008.
- 22 Baughman, 353.
- 23 Baughman, 349.
- 24 A third-party requester whose request for an *inter partes* reexamination results in an order ... is estopped from asserting at a later time, in any civil action arising in whole or in part under section 1338 of title 28, United States Code, the invalidity of any claim finally determined to be valid and patentable on any ground which the third-party requester raised or could have raised during the *inter partes* reexamination proceedings. Sec 315(c). § 2685. *Manual of Patent Examination Procedure*.
- 25 Based on USPTO data through July 1, 2005, 67 of the 86 orders granting reexamination were issued with a first office action. Joseph Cohen. "What's Really Happening in *Inter Partes* Reexamination". *Journal of Pat. & Trademark Office Society*. Vol 87. March 2005: 207.
- 26 Average taken from CY 2004-2007
- 27 (d) All papers or copies thereof relating to a reexamination proceeding which have been entered of record in the patent or reexamination file are open to inspection by

- the general public, and copies may be furnished upon paying the fee therefore. Sec 103. *Manual of Patent Examining Procedure*. 8th edition. September 2007.
- 28 For the original documents provided from the USPTO, see Appendix D and Appendix E. *Ex Parte* and *Inter Partes* Reexamination Filing Data. United States Patent and Trademark Office. provided on February 22, 2008.
- 29 See Appendix D: *Ex Parte* Reexamination Filing Data: 1981-2007
- 30 Ibid.
- 31 Ibid.
- 32 “Claims in Proceeding Must Not Enlarge Scope of the Claims of the Patent”. Sec. 2258(b) *Manual of Patent Examining Procedure*. 8th edition. September 2007.
- 33 Baughman, 361.
- 34 See Appendix E: *Inter Parte* Reexamination Filing Data: 1981-2007
- 35 See section on *Ex Parte* and *Inter Partes* Reexamination. “*Ex partes* and *inter partes* re-examination procedures present different options and potential benefits for differently-situated parties.”
- 36 Data from Appendix D: *Ex Parte* Reexamination Filing Data: 1981-2007 and Appendix E: *Inter Partes* Reexamination Filing Data: 1981-2007.
- 37 Data from Appendix D: *Ex Parte* Reexamination Filing Data: 1981-2007 and Appendix E: *Inter Partes* Reexamination Filing Data: 1981-2007.
- 38 Baughman, 361.
- 39 Peer to Patent Project. <<http://dotank.nyls.edu/communitypatent/about.html>>
- 40 Statement of the Executive Director of Public Patent Foundation 109th Cong. “The Patent Act of 2005: Hearing Before the Subcommittee On Courts, The Internet, and Intellectual Property”. June 9, 2005.
- 41 “Protecting the Public Domain”. The Public Patent Foundation. <pubpat.org/protecting>
- 42 Electronic Frontier Foundation. <<http://eff.org/patent>>.
- 43 The 8th edition, revision 5 is dated September 2007 and can be found online at <<http://www.uspto.gov/web/offices/pac/mpep>>.
- 44 Baughman, 351.
- 45 Paul Morgan and Bruce Stoner. “Reexamination vs. Litigation — Making Intelligent Decisions in Challenging Patent Validity”. *Journal of Patent and Trademark*. Vol. 86. 2004. 450.
- 46 Ibid.
- 47 Draft Judiciary Committee Report of the Patent Reform Act of 2007.
- 48 Footnote 87, Draft Judiciary Committee Report of the Patent Reform Act of 2007

- 49 The Patent Busting Project. The Electronic Frontier Foundation. <<http://www.eff.org/patent>>.
- 50 Emily Berger. "EFF asks U.S. Senate to Protect Reexam Proceedings". EFF Deeplinks Blog. <<http://www.eff.org/deeplinks/2008/02/eff-asks-u-s-senate-protect-reexamination-proceedings-and-patent-busting-project>>.
- 51 Christopher Rugaber. "Patent reform hits wall in Senate". The Associated Press. 11 April 2008. <<http://www.businessweek.com/ap/financialnews/D8VVUFV80.htm>>.
- 52 John Eastman. "The Patent Reform Act of 2007 — Part Two: Comments and Interviews from Stakeholders" 21 April 2008. *Black and White Program*. <<http://www.blackandwhiteprogram.com/report/patent-reform-act-of-2007-part-2>>.
- 53 Prior Art Project. <http://wiki.mozilla.org/Legal:Prior_Art>.
- 54 Sec 2201. *Manual of Patent Examining Procedure*. Title 35, United States Code.
- 55 Sec 2601.01. *Manual of Patent Examining Procedure*. Title 35, United States Code.
- 56 Table 13B: *Inter Partes* Reexamination. United States Patent and Trademark Office. 2008. <http://www.uspto.gov/web/offices/com/annual/2007/50313b_table13b.html>
- 57 Table 13A: *Ex Partes* Reexamination. United States Patent and Trademark Office. 2008. <http://www.uspto.gov/web/offices/com/annual/2007/50313a_table13a.html>