

## EXPEDITING GREEN PATENTS: THE EXPEDITED EXAMINATION PROGRAMS' CONTRIBUTION TO DIMINISHED PATENT QUALITY<sup>♦</sup>

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### INTRODUCTION

Throughout the last few years, apprehension over the state of the economy has consumed the United States. Thirteen million Americans are unemployed,<sup>1</sup> interest rates are at an all-time low, the housing

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<sup>1</sup> See *News Release: THE EMPLOYMENT SITUATION—January 2012*, U.S. BUREAU OF LABOR STATISTICS, [http://www.bls.gov/news.release/archives/empsit\\_02032012.pdf](http://www.bls.gov/news.release/archives/empsit_02032012.pdf) (last visited July 23, 2012). As reported by the U.S. Bureau of Labor Statistics, the unemployment rate decreased to 8.3% in January 2012. *Id.* In September of 2011, the Bureau reported that the unemployment rate

market is in shambles, and millions of companies are struggling to keep their heads above water. Despite pessimism surrounding the future of the country's financial affairs, President Barack Obama made an inspiring and uplifting speech in his 2011 State of the Union Address.<sup>2</sup> He urged that the U.S. can solidify its prestige in the global marketplace if we “out-innovate, out-educate, and out-build the rest of the world.”<sup>3</sup> According to the President, one area particularly in need of our attention is green technology.<sup>4</sup> He stressed that as green technology industries are rapidly emerging, the U.S. must take advantage of the opportunity to gain a competitive edge in this sector, calling this “our generation's Sputnik moment.”<sup>5</sup> Thus, despite the stagnating economy, Obama is confident that the United States will be able to maintain its prestige if it can become the world leader in green technology.

To further the objective of one day becoming the world leader in green technology, the United States Patent and Trademark Office's (“USPTO” or “the Office”) has considered two government programs to be of utmost importance: the accelerated examination program and the Green Technology Pilot Program.<sup>6</sup> Although the latter program was intended to have less-stringent filing requirements than the former, both were implemented by the Department of Commerce to expedite the review of patent applications relating to green technology.<sup>7</sup> The USPTO hopes that by reducing the time it takes to issue a green technology patent, exclusive rights to make, use, and sell these

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remained at 9.0%. *Labor Force Statistics from the Current Population Survey*, U.S. BUREAU OF LABOR STATISTICS, [http://data.bls.gov/timeseries/LNS14000000?data\\_tool=XGtable](http://data.bls.gov/timeseries/LNS14000000?data_tool=XGtable) (last visited July 23, 2012). Thus, until January 2012, there had been minor improvement in the employment outlook in the United States.

<sup>2</sup> President Barack Obama, Remarks by the President in State of the Union Address (Jan. 25, 2011), available at <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.* (“We need to get behind this innovation. And to help pay for it, I'm asking Congress to eliminate the billions in taxpayer dollars we currently give to oil companies. (Applause). I don't know if—I don't know if you've noticed, but they're doing just fine on their own. (Laughter). So instead of subsidizing yesterday's energy, let's invest in tomorrow's.”)

<sup>5</sup> *Id.* (“Half a century ago, when the Soviets beat us into space with the launch of a satellite called Sputnik, we had no idea how we would beat them to the moon. The science wasn't even there yet. NASA didn't exist. But after investing in better research and education, we didn't just surpass the Soviets; we unleashed a wave of innovation that created new industries and millions of new jobs.”)

<sup>6</sup> See Changes to Practice for Petitions in Patent Applications to Make Special and for Accelerated Examination, 71 Fed. Reg. 36323 (June 26, 2006) [hereinafter Changes to Practice]; *The U.S. Commerce Department's Patent and Trademark Office Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications*, U.S. PAT. & TRADEMARK OFF. (Dec. 7, 2009), [http://www.uspto.gov/news/pr/2009/09\\_33.jsp](http://www.uspto.gov/news/pr/2009/09_33.jsp).

<sup>7</sup> See Changes to Practice, *supra* note 6; Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64666 (Dec. 8, 2009) [hereinafter Pilot Program for Green Technologies]. The accelerated examination program commenced on August 25, 2006, and the Green Technology Pilot Program began on December 8, 2009. The accelerated examination program was adopted to accelerate the review of applications relating to several areas, including environmental quality, energy, or countering terrorism. For the purposes of our analysis, however, we will focus on environmental quality and energy.

technologies will be obtained more quickly, encouraging investment and promoting competitiveness in this sector.<sup>8</sup> These objectives recognize the concern that both businesses and individuals will be hesitant to invest in risky green technology ideas if they are not guarded against the misappropriation of ideas, and thus, ensured that they will recoup their investment.<sup>9</sup> Although few would dispute that it is beneficial to promote investment in green technology, there are disadvantages to using the patent system to implement this goal, including a disregard for patent quality.<sup>10</sup>

This Note argues that although accelerating the review of green technologies is advantageous if it successfully promoted competitiveness in this sector, using the USPTO to implement this goal negatively impacts the United States' patent system. Specifically, patent quality, which is "the capacity of a granted patent to meet (or exceed) the statutory standards of patentability—most importantly, to be novel [§102], non-obvious [§103], and clearly and sufficiently described [§112]"<sup>11</sup> is diminished when the system encourages examiners to spend less time on each application. Furthermore, the increased volume of patent applications over the last several years has placed additional pressure on examiners to quickly render a final disposition.<sup>12</sup> Thus, with these tensions encouraging a reduced pendency period,<sup>13</sup> there is a greater likelihood that patents will be either improperly granted or improperly denied. Moreover, overly broad patents can actually stifle innovation because worthy competitors are deterred from investing in an idea that may be found to infringe on an existing patent.<sup>14</sup> Thus, depending on how risk-averse these competitors are, they may steer clear from an invention that is not sufficiently claimed and described in fear of infringing on a prior inventor's patent rights.<sup>15</sup>

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<sup>8</sup> See *The U.S. Commerce Department's Patent and Trademark Office Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications*, *supra* note 6.

<sup>9</sup> See, e.g., *Brain Scan: Betting on Green*, *ECONOMIST*, Mar. 10, 2011, <http://www.economist.com/node/18304172>.

<sup>10</sup> See, e.g., Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 *NW. U. L. REV.* 1495 (2001); R. Polk Wagner, *Understanding Patent-Quality Mechanisms*, 157 *U. PA. L. REV.* 2135 (2009).

<sup>11</sup> Wagner, *supra* note 10, at 2138. Professor R. Polk Wagner at the University of Pennsylvania Law School argues that this is an accurate definition of patent quality.

<sup>12</sup> See *U.S. Patent Statistics Chart Calendar Years 1963–2011*, U.S. PAT. & TRADEMARK OFF., [http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us\\_stat.htm](http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm) (last modified May 21, 2012). There has been a remarkable growth in the amount of patent applications received by the USPTO over the last two decades. In 1993, there were 188,739 patent applications. Then, in the year 2000, the total rose to 315,015. Finally, in the year 2010, there were 520,277 applications. *Id.*

<sup>13</sup> The term "pendency period" refers to the time it takes from the date the patent application is filed to when the patent office issues a final decision granting or denying the patent. See *Patent Public Advisory Committee Annual Report*, U.S. PAT. & TRADEMARK OFF., 11 (Dec. 1, 2008), [http://www.uspto.gov/web/offices/com/advisory/reports/ppac\\_2008annualrpt.pdf](http://www.uspto.gov/web/offices/com/advisory/reports/ppac_2008annualrpt.pdf).

<sup>14</sup> See Jonathan S. Masur, *Costly Screens and Patent Examination*, 2 *J. LEGAL ANALYSIS* 687, 692 (2010).

<sup>15</sup> See *id.*

Part I of this Note provides an overview of the United States patent system and examines both the accelerated examination program and the Green Technology Pilot Program. Part II critiques these two programs and suggests that the USPTO unnecessarily adopted the pilot program because the perceived benefits that this program offers over the accelerated examination program are illusory. Part II also argues that because of these illusory benefits, the negative ramifications of the pilot program—a contribution to diminished patent quality—outweigh the benefits. Part III explains the importance of patent quality and discusses the effect of reduced patent quality on the United States' patent system. Part IV discusses how expedited examination programs have and will continue to contribute to diminished patent quality. Part V concludes that patent quality will remain a growing problem unless the incentives of patent examiners and the USPTO to value efficiency over quality are eliminated.

#### I. THE IMPORTANCE OF PATENT PROTECTION

A patent is an intellectual property right granted by the government that gives an inventor exclusive rights over his or her invention for a limited period of time.<sup>16</sup> When a patent is issued, the invention is disclosed to the public, but because of the rights granted to the inventor, others are prohibited from benefiting from the invention until the patent expires.<sup>17</sup> The inventor's exclusive rights to his or her idea derives from the United States Constitution,<sup>18</sup> under which authority Congress has indicated that anyone who “invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof” may have his or her idea patented.<sup>19</sup> Moreover, the invention must be non-obvious and sufficiently defined in the patent application.<sup>20</sup> This right does not last indefinitely;<sup>21</sup> the patent generally endures twenty years, beginning the date the application was filed with the USPTO.<sup>22</sup>

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<sup>16</sup> See 35 U.S.C. § 271(a) (2011); *Patents*, U.S. PAT. & TRADEMARK OFF., <http://www.uspto.gov/patents/index.jsp> (last modified Jan. 26, 2012).

<sup>17</sup> See *Patents*, *supra* note 16.

<sup>18</sup> See U.S. CONST. art. I, § 8, cl. 8. This clause was added to the Constitution to give Congress the ability “[t]o 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.” Thus, this clause demonstrates the founders’ concern that individuals could benefit from another’s idea if the inventor was not given the ability to exclude others from profiting from his efforts.

<sup>19</sup> 35 U.S.C. § 101 (2011). This definition is used by the USPTO to describe utility patents, the most common type of patents. It is also important to note that there are other types of patents, such as design patents and plant patents, which are defined in later discussions. The distinction is also discussed later.

<sup>20</sup> 35 U.S.C. § 103(a) (2011); 35 U.S.C. § 112 (2011).

<sup>21</sup> See U.S. CONST. art. I, § 8, cl. 8. By indicating “for limited Times” the founders likewise never intended for patent rights to last indefinitely.

<sup>22</sup> *General Information Concerning Patents*, U.S. PAT. & TRADEMARK OFF., 1 (Nov. 2011), [http://www.uspto.gov/patents/resources/general\\_info\\_concerning\\_patents.pdf](http://www.uspto.gov/patents/resources/general_info_concerning_patents.pdf).

Because a patent gives an inventor exclusive rights over his or her invention for twenty years,<sup>23</sup> the USPTO has decided to use the expedited examination programs to promote competitiveness in the green technology sector.<sup>24</sup> Green technology is a relatively new phenomenon, and investing in it can be extremely costly.<sup>25</sup> Thus, many investors are hesitant to expend a considerable amount of money on a risky innovation. However, by allowing them to obtain a monopoly over an idea relating to green technology for a limited period of time, investors are encouraged to finance new products knowing that they alone will recoup their investment and prosper from a successful business endeavor. Moreover, because this sector is rapidly emerging and actors around the world are competing to be the first to sell innovative ideas, accelerating these applications may allow inventions to be marketed more quickly.

#### A. *The Accelerated Examination Program*

The accelerated examination program was implemented to expedite the review of applications relating to green technologies; the hope was to issue a final decision within twelve months.<sup>26</sup> Under the traditional, non-expedited patent system, applications are reviewed in the order they are filed.<sup>27</sup> Because this review process can take over three years,<sup>28</sup> some inventors choose to file provisional applications. Filing a provisional application allows an applicant to acquire an earlier filing date and hold his or her place in line for twelve months or until the application is fine-tuned and ready for review, whichever occurs first.<sup>29</sup> This process differs from the review process under the expedited examination programs; under the expedited programs, applications are advanced out of turn, and thus, move in front of all patent

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<sup>23</sup> *Id.*

<sup>24</sup> See *The U.S. Commerce Department's Patent and Trademark Office Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications*, *supra* note 6.

<sup>25</sup> See, e.g., Matthew L. Wald & Tom Zeller Jr., *Cost of Green Power Makes Projects Tougher Sell*, N.Y. TIMES, Nov. 7, 2010, <http://www.nytimes.com/2010/11/08/science/earth/08fossil.html>.

<sup>26</sup> See *Guidelines for Applicants Under the New Accelerated Examination Procedure*, U.S. PAT. & TRADEMARK OFF., 1, [http://www.uspto.gov/patents/process/file/accelerated/ae\\_guidelines\\_011111.pdf](http://www.uspto.gov/patents/process/file/accelerated/ae_guidelines_011111.pdf) (last modified Apr. 20, 2012).

<sup>27</sup> *The U.S. Commerce Department's Patent and Trademark Office Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications*, *supra* note 6.

<sup>28</sup> See *United States Patent and Trademark Office Fiscal Year 2012 President's Budget*, U.S. PAT. & TRADEMARK OFF. 15 (Feb. 14, 2011), <http://www.uspto.gov/about/stratplan/budget/fy12pbr.pdf>. The average pendency period for *all* patents in 2010, including those expedited under the accelerated examination program and the Green Technology Pilot Program, was 35.3 months. Thus, under the non-expedited program, it is likely that the average pendency period was above 35.3 months.

<sup>29</sup> See *Provisional Application for Patent*, U.S. PAT. & TRADEMARK OFF., <http://www.uspto.gov/patents/resources/types/provapp.jsp> (last modified June 2, 2011). Thus, when the patent application is complete and ready for review, the hope is to acquire the patent more quickly because the applicant secured his or her place in line, as patents are reviewed in the order they were filed.

applications.<sup>30</sup> This reduces the pendency period for these applications, allowing a final disposition to occur more quickly.<sup>31</sup>

An applicant is ineligible to participate in the accelerated examination program unless he or she meets the traditional requirements of patentability, as well as nine additional requirements that are unique to the program.<sup>32</sup> The first requirement is that a petition to make special<sup>33</sup> must be accompanied by either the required fee or a statement indicating that the patent application relates to energy, environmental quality, or fighting terrorism.<sup>34</sup> The second requirement is that the patent application must be either a non-reissue design application or a non-reissue utility application that complies with the requirements of 35 U.S.C. § 111(a).<sup>35</sup> A design patent is for a “new, original, and ornamental design for an article of manufacture”;<sup>36</sup> and a utility patent is “[i]ssued for the invention of a new and useful process, machine, manufacture, or composition of matter, or a new and useful improvement thereof.”<sup>37</sup> Because reissue applications are ineligible for expedition under this program, applications to correct an error in a previously issued application are not permitted.<sup>38</sup> Next, the application must be filed electronically using the electronic filing system.<sup>39</sup>

The fourth requirement is that the application must be complete and ready for examination at the time of filing.<sup>40</sup> In order to meet this requirement, the application must include several items, including: the basic filing fee; the patent search fee; the examination fee; a fee if drawings exceed the allocated dimensions; an oath or declaration in compliance with 37 C.F.R. § 1.66;<sup>41</sup> a specification containing a

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<sup>30</sup> See *Green Technology Pilot Program—CLOSED*, U.S. PAT & TRADEMARK OFF., [http://www.uspto.gov/patents/init\\_events/green\\_tech.jsp](http://www.uspto.gov/patents/init_events/green_tech.jsp) (last modified May 7, 2012).

<sup>31</sup> When the pilot program was first initiated, the average pendency period for applications relating to green technologies (this therefore included applications filed on the non-expedited program and the accelerated examination program) was forty months. See *U.S. Commerce Department’s Patent and Trademark Office Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications*, *supra* note 6. By initiating the pilot program, the Department of Commerce hoped to reduce the average pendency period by twelve months. Therefore, the hope was to issue a final action in around twenty-eight months.

<sup>32</sup> See *Changes to Practice*, *supra* note 6, at 36324–25.

<sup>33</sup> This term simply means that an applicant is filing an application under the accelerated examination program, rather than under the general, non-expedited patent program.

<sup>34</sup> *Changes to Practice*, *supra* note 6, at 36324.

<sup>35</sup> *Id.* 35 U.S.C. § 111(a) discusses some of the basic requirements for a patent application and states that the inventor must authorize the filing of the application. See *infra* Part I.C pp. 9–10, for the definitions of non-reissue, design application, and utility application.

<sup>36</sup> *How to Get a Patent*, U.S. PAT & TRADEMARK OFF., <http://www.uspto.gov/web/patents/howtopat.htm> (last modified Mar. 26, 2008).

<sup>37</sup> *Types of Patents*, U.S. PAT & TRADEMARK OFF., <http://www.uspto.gov/web/offices/ac/ido/oeip/taf/patdesc.htm> (last modified June 1, 2000).

<sup>38</sup> See *Changes to Practice*, *supra* note 6, at 36326.

<sup>39</sup> *Id.* at 36324.

<sup>40</sup> *Id.*

<sup>41</sup> See § 1.63 *Oath or Declaration—Appendix R Patent Rules*, U.S. PAT & TRADEMARK OFF., [http://www.uspto.gov/web/offices/pac/mpep/documents/appxr\\_1\\_63.htm](http://www.uspto.gov/web/offices/pac/mpep/documents/appxr_1_63.htm) (last modified July 21, 2010). This oath or declaration requires an applicant to identify some basic information about the

description and claims in compliance with 37 C.F.R. §§ 1.52, 1.71, 1.75; a title and abstract in compliance with 37 C.F.R. § 1.72; drawings in compliance with 37 C.F.R. § 1.84; electronic submissions of sequence listing in compliance with 37 C.F.R. § 1.821(c) or (e) and large tables or computer listings in compliance with 37 C.F.R. § 1.96; a foreign priority claim if applicable; a domestic benefit claim; an English language translation if necessary; no preliminary amendments; and the petition must be filed for a signing inventor.<sup>42</sup>

The fifth requirement mandates that the application contain “three or fewer independent claims and twenty or fewer total claims. The application must also not contain any multiple dependent claims.”<sup>43</sup> These claims explain exactly what the applicant is patenting, and thus, determine the rights the patent holder possesses if a patent is granted. The sixth requirement obliges the applicant to direct his or her claims to a single invention.<sup>44</sup> Next, the applicant must be *willing* to interview to discuss issues or concerns regarding their application.<sup>45</sup> The eighth requirement is that the application must include an accelerated examination support document.<sup>46</sup> Finally, the applicant must issue a statement indicating “that a pre-examination search was conducted” to ensure that the applicant’s claims have not previously been filed and no similar claims exist.<sup>47</sup>

### B. *The USPTO’s Green Technology Pilot Program*

The USPTO adopted the Green Technology Pilot Program to further achieve its objective of promoting competitiveness in the green technology sector.<sup>48</sup> However, with this second program, the hope was to further incentivize applicants to participate in expedited review by waiving the accelerated examination program’s fee, further reducing the pendency period by one year, and eliminating some of the accelerated examination program’s requirements.<sup>49</sup> Like the accelerated examination program, however, an applicant must comply with the statutory requirements of patentability, as well as numerous other requirements in order to participate in this program. To begin, only the first 3,000 “*previously filed new applications*”<sup>50</sup> will be advanced out of

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inventor and indicate that the person making the application understands the contents of the application. *See id.*

<sup>42</sup> *See* Changes to Practice, *supra* note 6, at 36326. It is unnecessary to be concerned with the specific requirements for each of these items for the purpose of this Note.

<sup>43</sup> *Id.* at 36324.

<sup>44</sup> *See id.*

<sup>45</sup> *See id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *See The U.S. Commerce Department’s Patent and Trademark Office Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications*, *supra* note 6.

<sup>49</sup> *See Pilot Program for Green Technologies*, *supra* note 7, at 64666.

<sup>50</sup> *Id.* (emphasis added). This number was increased to 3,500 on December 15, 2011. *See*

turn, and the petition must be filed before December 8, 2010, the original program end date.<sup>51</sup> Because an eligible patent has to be a previously filed new application, only patent applications filed on or before December 8, 2009, the date the pilot program went into effect, are eligible for expedited review.<sup>52</sup> The application would then be considered “new” when an applicant complied with the requirements to have the previously filed patent expedited under the pilot program.<sup>53</sup>

Moreover, only those petitions that fulfill seven additional requirements are eligible to apply for expedited review under the pilot program.<sup>54</sup> First, the application must be a “non-reissue, non-provisional utility application filed under 35 U.S.C. [§] 111(a)”<sup>55</sup> or an “international application that has entered the national stage in compliance with 35 U.S.C. [§] 371.”<sup>56</sup> The requirement that the utility application must be a non-reissue, non-provisional application is similar to the requirement under the accelerated examination program because both programs disallow reissue applications but permit utility applications. In addition, the application may be an international application entering the national stage.<sup>57</sup> Although the accelerated examination program does not permit international patent applications to be filed in the United States for domestic protection, this is an insignificant benefit for purposes of domestic innovation. On the other hand, the ability to file a design patent<sup>58</sup> under the accelerated examination program, unlike under the pilot program,<sup>59</sup> supports the argument that there are few, if any, benefits to filing a patent application under the pilot program. Because an invention’s image can be influential on a consumer’s decision to purchase a product, design applications can arguably promote competitiveness in the green technology sector.

The second filing requirement is that the particular patent involved must fall into one of the seventy-nine subject matters previously articulated by the USPTO.<sup>60</sup> Although the existence of seventy-nine categories seems like it would give applicants great leeway in satisfying this particular requirement, the categories are narrowly defined,

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*USPTO Extends Deadline to Participate in Green Technology Pilot Program*, U.S. PAT & TRADEMARK OFF. (Dec. 15, 2011), <http://www.uspto.gov/news/pr/2011/11-72.jsp>.

<sup>51</sup> Pilot Program for Green Technologies, *supra* note 7, at 64667. December 8, 2010 was the original program end date. Thus, the program was initially scheduled to run for solely one year. As the reader will later see, this deadline has been extended three times.

<sup>52</sup> *See id.* at 64666.

<sup>53</sup> *See id.*

<sup>54</sup> *See id.* at 64667.

<sup>55</sup> 35 U.S.C. §111(a) sets forth the application requirements to file for a U.S. patent.

<sup>56</sup> Pilot Program for Green Technologies, *supra* note 7, at 64667.

<sup>57</sup> *See id.*

<sup>58</sup> *See Design Patent Application Guide*, U.S. PAT & TRADEMARK OFF., <http://www.uspto.gov/patents/resources/types/designapp.jsp#differ> (last modified Feb. 11, 2011).

<sup>59</sup> *See* Pilot Program for Green Technologies, *supra* note 7, at 64667.

<sup>60</sup> *See id.* at 64668.



allowing only specific subject matter to fall within the pilot program's ambit. For instance, some of the categories include: domestic hot water systems; swimming pools; fuel from animal waste and crop residues; genetically engineered organism; hospital waste; industrial waste anaerobic digestion; electric lamp and discharge devices; industrial wood waste; cathode ray tube circuits; drag reduction; wave-powered boat motors; environmentally friendly coolants and refrigerants; plants and plant breeding; and using microbes or enzymes.<sup>61</sup>

The third requirement is that "[t]he application must contain three or fewer independent claims<sup>62</sup> and twenty or fewer total claims."<sup>63</sup> This requirement is the same under the accelerated examination program.<sup>64</sup> Next, the claims satisfying the third requirement must be directed towards the patent of solely one invention (as is the case under the accelerated examination program),<sup>65</sup> and this invention must improve the quality of the environment, conserve natural resources, reduce greenhouse gas emission, or contribute to the quest for renewable energy resources.<sup>66</sup> The fifth requirement is that the petition must be filed electronically before the program end date.<sup>67</sup> Within this fifth requirement, there is another perk of filing an application under the accelerated examination program: the accelerated examination program does not have an end date, and thus, electronic applications can be filed indefinitely.<sup>68</sup> The only timeline set forth is that the application must be filed on or after August 25, 2006, the date the program went in effect.<sup>69</sup>

The last two requirements are that the applicant must file the petition at least one day before the first office action date,<sup>70</sup> and the

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<sup>61</sup> *Id.* at 64668-69. It is important to note, however, that some of the categories are more broadly construed. For example, some of these categories include: chemical waste; geothermal; hydroelectric; nuclear power (including nuclear reactions: processes, systems, and elements; reaction motor with electric, nuclear, or radiated energy fluid means; and heating motive fluid by nuclear energy); solar energy; wind; thermal; transportation; biodegradable; in atmosphere; in water; recycling; and soil. *Id.*

<sup>62</sup> A dependent claim is a claim that "refer[s] back to and further limit[s] another claim or claims in the same application." 608.01(n) *Dependent Claims [R-7]—600 Parts, Form, and Content of Application*, U.S. PAT & TRADEMARK OFF., [http://www.uspto.gov/web/offices/pac/mpep/documents/0600\\_608\\_01\\_n.htm](http://www.uspto.gov/web/offices/pac/mpep/documents/0600_608_01_n.htm) (last modified Dec. 1, 2011).

<sup>63</sup> Pilot Program for Green Technologies, *supra* note 7, at 64667. One reader of this requirement indicated, "I have a large portfolio of applications that would otherwise qualify for this program EXCEPT that it's limited to applications with 20 claims or less. Repeat, 20 claims or less. How many patent applications (not patents) do you see with 20 claims or less? Not many. It disqualifies nearly every single application I have." Cost Benefit, Comment to *Green Patent Initiative, Getting Few Takers, Gets Extended*, GREENTECHMEDIA (Oct. 21, 2010), <http://www.greentechmedia.com/articles/read/uspto-initiative-to-expedite-green-tech-patents-expiring-soon/>.

<sup>64</sup> See Changes to Practice, *supra* note 6, at 36324.

<sup>65</sup> *Id.*

<sup>66</sup> Pilot Program for Green Technologies, *supra* note 7, at 64667.

<sup>67</sup> *Id.* As previously mentioned, the program end date was originally scheduled for December 8, 2010.

<sup>68</sup> See Changes to Practice, *supra* note 6, at 36324.

<sup>69</sup> See *id.* at 36324.

<sup>70</sup> Pilot Program for Green Technologies, *supra* note 7, at 64667. The applicant can check his or

petition must include an application fee and “a request for early publication in compliance with 37 CFR 1.219.”<sup>71</sup> By requesting early publication, the applicant understands that the USPTO will accelerate the electronic publication of the application, and thus, give the public faster access to this information. Because these requirements are very detailed and can be difficult to fulfill, they have the ability to disqualify numerous applications.

### C. *Subsequent Revisions of the Green Technology Pilot Program*

Because of the pilot program’s ability to exclude numerous applications from its realm, on May 21, 2010, the USPTO announced that it was removing the requirement that the green technology must fall into one of the seventy-nine predetermined categories.<sup>72</sup> Rather than require an application to fit into one of these narrowly construed classes, the technology must now relate to environmental quality, energy conservation, development of renewable energy, or greenhouse gas emission reduction.<sup>73</sup> The USPTO hopes that by broadening the subject matter of qualified patents, more applicants will be eligible to participate.<sup>74</sup> Furthermore, on November 10, 2010, the USPTO announced that the program would now end on December 31, 2011, rather than December 8, 2010.<sup>75</sup> However, the USPTO recognized that this end date could be sooner if the Office reached its quota and accepted 3,000 patents to review for eligibility.<sup>76</sup> In addition, the USPTO announced that the program now applied to patent applications filed on or after December 8, 2009.<sup>77</sup> This significantly increased the eligible applicants because before this revision, the program was limited to *previously filed* new applications.<sup>78</sup> Finally, on December 15, 2011,

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her first office action date using the Patent Application Information Retrieval System (PAIR) online.

<sup>71</sup> *Id.*

<sup>72</sup> See *USPTO Expands Green Technology Pilot Program to More Inventions*, U.S. PAT & TRADEMARK OFF. (May 21, 2010), [http://www.uspto.gov/news/pr/2010/10\\_21.jsp](http://www.uspto.gov/news/pr/2010/10_21.jsp). The USPTO claimed that it originally limited the pilot program to inventions that fell in one of the seventy-nine predetermined categories because it wanted to gauge the amount of resources needed to balance the increased workload of expediting more patent applications. See *id.*

<sup>73</sup> *Green Technology Pilot Program*, *supra* note 30.

<sup>74</sup> See *USPTO Expands Green Technology Pilot Program to More Inventions*, *supra* note 70.

<sup>75</sup> *USPTO Extends Deadline to Participate in Green Technology Pilot Program by One Year*, U.S. PAT & TRADEMARK OFF. (Nov. 10, 2010), [http://www.uspto.gov/news/pr/2010/10\\_55.jsp](http://www.uspto.gov/news/pr/2010/10_55.jsp).

<sup>76</sup> See *id.* When the pilot program was first adopted, it was limited to the first 3,000 “*previously filed new applications*.” Thus, it was unwilling to review more than 3,000 petitions under the program.

<sup>77</sup> *Id.*

<sup>78</sup> Pilot Program for Green Technologies, *supra* note 7, at 64666. This elimination must have been a huge relief to many applicants who were not eligible under the system because they did not previously file a patent with the USPTO. In response to the original requirement, one potential applicant indicated, “I thought it was a great program to speed examination of green patents, until I learned that your patent already needed to have been filed . . . at that point I realized this was just a paper pushing project.” Disdaniel, Comment to *Green Patent Initiative, Getting Few Takers, Gets Extended*, *supra* note 63.

the USPTO extended the program a second time, allowing the program to run until March 30, 2012.<sup>79</sup> Again, the USPTO placed an additional limit on this end date: the program will cease on March 30, 2012, or when 3,500 applications have been accepted for review, whichever date is sooner.<sup>80</sup> Because the last program end date has now passed, it appears that the USPTO has abandoned the pilot program.

Based on the history of the pilot program, it appears that the USPTO intentionally made it difficult for applicants to qualify in hopes of managing the Office's increased workload and to determine the amount of resources needed for the program.<sup>81</sup> Arguably, this concern was attributable to the expectation that the program would attract widespread attention, encouraging numerous inventors to participate, as compared to the accelerated examination program. The fact that the USPTO originally adopted the program for a period of solely one year *and* limited the eligibility to the first 3,000 accepted petitions garners support that the USPTO expected the program to be more popular than the past few years have suggested.<sup>82</sup> However, as of October 3, 2011, almost two years after the adoption of the pilot program, 2,518 petitions had been accepted,<sup>83</sup> and fewer than 500 patents were actually granted.<sup>84</sup> When this expectation turned out to be misplaced, the USPTO issued a press release stating, "the USPTO has determined that the classification requirement is unnecessary because the workload has been balanced with other mechanisms, and the requirement was causing the denial of petitions for a number of green technology applications that would have otherwise qualified for the program."<sup>85</sup>

Although the USPTO realized that reforms were necessary to improve the pilot program, the need to alter the program three times during its brief two-year duration suggests that it did not work as effectively as the USPTO envisioned. Furthermore, it could be argued that even several reforms were incapable of benefiting both inventors and investors, because on March 30, 2012, the program came to an

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<sup>79</sup> See *USPTO Extends Deadline to Participate in Green Technology Pilot Program*, *supra* note 50.

<sup>80</sup> *Id.*

<sup>81</sup> See *USPTO Expands Green Technology Pilot Program to More Inventions*, *supra* note 72. "When the Green Technology Pilot Program was announced in December 2009, the program was limited to inventions in certain classifications in order to assist the USPTO in balancing the additional workload and to gauge the resources needed for the program." *Id.* Only after the USPTO determined that the office had the resources to manage the Green Technology Pilot Program did it start to ease the requirements an applicant must fulfill to qualify under this program.

<sup>82</sup> See *Pilot Program for Green Technologies*, *supra* note 7, at 64666–67.

<sup>83</sup> *Green Petition Report Summary*, U.S. PAT & TRADEMARK OFF. (Oct. 3, 2011), [http://www.uspto.gov/patents/init\\_events/green\\_report\\_summary20111003.pdf](http://www.uspto.gov/patents/init_events/green_report_summary20111003.pdf).

<sup>84</sup> See *USPTO Issues 500th Patent Through Successful Green Technology Pilot Program*, U.S. PAT & TRADEMARK OFF. (Oct. 5, 2011), <http://www.uspto.gov/news/pr/2011/11-53.jsp>.

<sup>85</sup> *USPTO Expands Green Technology Pilot Program to More Inventions*, *supra* note 72.

end.<sup>86</sup>

## II. THE PILOT PROGRAM: AN UNNECESSARY ADDITION

From an outsider's perspective, it does not appear that the pilot program was much more appealing than the accelerated examination program.<sup>87</sup> The USPTO claims there were three advantages to filing an application under the pilot program, as opposed to the accelerated examination program: a fee waiver; a further reduced pendency period; and the ability to file a petition without meeting all of the requirements of the accelerated examination program.<sup>88</sup> However, these advantages are illusory: the fee was also waived under the accelerated examination program for patents relating to environmental quality and energy; the pendency period was still (at best) twenty-eight months for a green technology patent application under the pilot program; and the requirements under both programs are largely the same.<sup>89</sup> More importantly, the pilot program contributed to lower patent quality during its existence because patent examiners were under pressure to reduce the pendency period for patents relating to green technology by one year.<sup>90</sup> Thus, it appears that the disadvantages of adopting the pilot program—a contribution to diminished patent quality—outweigh any added benefit investors and inventors received through a reduction of the qualification requirements.

Because all applicants that qualified under the Green Technology Pilot Program could also be exempt from the fee under the accelerated examination program, the first benefit of the pilot program is arguably eliminated. Under the accelerated examination program, the fee is waived for applications relating to environmental quality and energy.<sup>91</sup> Thus, the environmental quality categories under both the accelerated examination program and the pilot program are identical. In addition,

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<sup>86</sup> See *USPTO Extends Deadline to Participate in Green Technology Pilot Program*, *supra* note 50.

<sup>87</sup> Although the USPTO's objective in creating the accelerated examination program was to complete an application's examination within twelve months, this goal has not been achieved. Realizing this was an unobtainable goal, the USPTO stated, "this twelve-month timeframe is simply a goal. Any failure to meet the twelve-month goal or other issue relating to this twelve-month goal are neither petitionable nor appealable matters." *Changes to Practice*, *supra* note 6, at 36327.

<sup>88</sup> See *Pilot Program for Green Technologies*, *supra* note 7, at 64666–67.

<sup>89</sup> See *id.* at 64667; *Changes to Practice*, *supra* note 6, at 36324–25; *United States Patent and Trademark Office Fiscal Year 2012 President's Budget*, *supra* note 28. According to the USPTO, the average total patent pendency remained at 35.3 months in 2010 (this includes the figures under the patent program, the accelerated examination program, and the Green Technology Patent Program so these numbers are often much higher, and can be slightly lower, than the average). *United States Patent and Trademark Office Fiscal Year 2012 President's Budget*, *supra* note 28, at 15. According to the USPTO, an application can be advanced up to one year under the Green Technology Pilot Program. Unfortunately, for an "expedited" system, around two years still seems rather lengthy.

<sup>90</sup> See *infra* Part III.

<sup>91</sup> See *Changes to Practice*, *supra* note 6, at 36324.

the energy conservation and the development of renewable energy categories under the pilot program could fit into the accelerated examination program's broad "energy" category. Finally, the pilot program's greenhouse gas emission reduction class could likewise fit into the accelerated examination program's environmental quality category because a reduction in greenhouse gas emissions improves the quality of the environment.

Next, in regard to the pendency period, a patent application filed under the pilot program could, at best, get a final determination in twenty-eight months.<sup>92</sup> When the pilot program was first announced in 2009, the USPTO expressed optimism that the pendency period for green technology patents would be reduced by up to a year.<sup>93</sup> The USPTO also indicated that the average pendency period for green technology patents *before* the initiation of the pilot program was around forty months.<sup>94</sup> Thus, the hope was to reduce the pendency period to an average of twenty-eight months. However, according to the President's Budget for the United States Patent and Trademark Office for fiscal year 2012, the average pendency period for all patents was 31.9 months in 2007, 32.2 months in 2008, 34.6 months in 2009, and 35.3 months in 2010.<sup>95</sup> Thus, even with a successful pilot program, patent pendency will only be reduced by seven to twelve months. For an expedited program, some may argue that this reduction is insufficient.

Finally, the requirements of both the accelerated examination program and the pilot program are largely the same. Although from the onset it appears that the pilot program's elimination of several items imbedded in the fourth requirement (the application must be complete and ready for examination at the time of filing) of the accelerated examination program shines a glimmer of hope on the program, most of these requirements are easily achieved. For example, four of these fourteen requirements involve the payment of a fee, and another two indicate what an application *cannot* contain, and thus do not impose an affirmative duty upon the applicant to act. Furthermore, both an English translation and a foreign policy claim are often inapplicable. Finally, many, if not all, of the remaining requirements are completed without difficulty. For example: the oath simply gives information about the individual inventor and states that he or she is aware of the contents of the application and believes that the invention is unique and

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<sup>92</sup> *United States Patent and Trademark Office Fiscal Year 2012 President's Budget*, *supra* note 28.

<sup>93</sup> *See The U.S. Commerce Department's Patent and Trademark Office Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications*, *supra* note 6.

<sup>94</sup> *See id.*

<sup>95</sup> *United States Patent and Trademark Office Fiscal Year 2012 President's Budget*, *supra* note 28.

worthy of patentability;<sup>96</sup> a specification is a description of the invention; the title asks for the name of your invention and the abstract is a summary of 150 words or less giving the Office the gist of the invention;<sup>97</sup> the drawing compliance requirement requires visuals if they are necessary to a complete understanding of the particular invention involved; the electronic submissions of sequence listings requirement only applies to patents that “contain disclosures of nucleotide and/or amino acid sequences;”<sup>98</sup> and a domestic benefits claim is necessary only if you are claiming the benefit from a prior application.<sup>99</sup> Finally, although a prior art search can be time-consuming and expensive,<sup>100</sup> the applicant can significantly benefit from completing the search, and should therefore be a part of the process irrespective of whether it is required by the particular program involved. Although it may be burdensome to explain the prior art found and describe how the applicant’s invention is different from those prior inventions,<sup>101</sup> this will allow an applicant to make a thorough determination on whether or not the idea is patentable. In addition, an applicant will be able to accurately craft his or her particular patent claims around the prior art when a meticulous search is performed.<sup>102</sup> Moreover, a thorough prior art search can provide a blueprint for patent examiners, permitting a final determination to be issued more quickly.<sup>103</sup>

### III. EXPEDITED EXAMINATION: THE ACCELERATED EXAMINATION PROGRAM AND THE PILOT PROGRAM HAVE CONTRIBUTED TO DIMINISHED

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<sup>96</sup> See § 1.63 *Oath or Declaration*, *supra* note 41.

<sup>97</sup> See § 1.72 *Title and Abstract—Appendix R Patent Rules*, U.S. PAT & TRADEMARK OFF., [http://www.uspto.gov/web/offices/pac/mpep/documents/appxr\\_1\\_72.htm](http://www.uspto.gov/web/offices/pac/mpep/documents/appxr_1_72.htm) (last modified July 21, 2010).

<sup>98</sup> See § 1.821 *Nucleotide and/or Amino Acid Sequence Disclosures in Patent Applications—Appendix R Patent Rules*, U.S. PAT & TRADEMARK OFF., [http://www.uspto.gov/web/offices/pac/mpep/documents/appxr\\_1\\_821.htm](http://www.uspto.gov/web/offices/pac/mpep/documents/appxr_1_821.htm) (last modified July 21, 2010).

<sup>99</sup> See *Claiming the Benefit of a Prior-Filed Application under 35 U.S.C. §§ 119(e), 120, 121, and 365(c)*, U.S. PAT & TRADEMARK OFF., 1 (Feb. 24, 2003), <http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/benefitclaims.pdf>.

<sup>100</sup> See Gene Quinn, *Patent Searches: US Patent Search FAQs*, IPWATCHDOG (July 20, 2011), <http://ipwatchdog.com/patent/patent-search/> (last updated July 20, 2011). Prior art searches can be extremely expensive, ranging from \$1,200 to \$2,400 if the applicant wants a professional to conduct the search. Although anyone can complete a prior art search, “the best and most reliable patent search will be one that is done by a professional who is intimately familiar with both advanced searching techniques and the Patent Classification System. If you are not familiar with advanced search techniques and the Patent Classification System you are almost certainly going to miss what you are looking for in your own search. I used to do searches for inventors all the time and invariably people would say they found nothing, and every week we find patents that were [on point]. . . . It is better to spend a few hundred dollars now to learn about the prior patents than to spend several thousands of dollars only to learn later that a patent cannot be obtained.” *Id.*

<sup>101</sup> See *Changes to Practice*, *supra* note 6, for a detailed explanation of the requirements of a pre-examination search.

<sup>102</sup> See *Why It Is Important to Conduct a Patent Prior-Art Search*, BAY AREA INTELLECTUAL PROPERTY GROUP., LLC, <http://www.bayareaip.com/Services/Searches/Patent/Patent.htm> (last visited July 24, 2012).

<sup>103</sup> See *id.*

## PATENT QUALITY IN THE UNITED STATES

Although expedited patent programs are not the sole factor contributing to this phenomenon, they certainly have played a role in the modern patent system's encouragement of diminished patent quality. Thus, an examination of the factors that contribute to reduced patent quality will demonstrate that the expedited examination programs have worsened this problem, and thus, the costs outweigh the benefits. Moreover, additional programs expediting particular classes of patents should not be adopted if the USPTO hopes to alleviate this concern. In order to reverse this trend and encourage a system that promotes patent quality over patent quantity, the underlying incentives encouraging examiners to make a final determination on an application as quickly as possible need to be altered. Until the incentives to examine applications in the most time-efficient manner are eliminated, the trend is likely to continue and worsen over time.

*A. Patent Quality in the United States*

Diminished patent quality in the United States can harm the economic outlook of the country by “dissuad[ing] potential competitors from entering [the] market” because of the possible ramifications of infringing on the patent rights of a previous inventor.<sup>104</sup> Investors, especially those who possess insufficient assets, are hesitant to expend numerous resources on litigation costs, licensing fees, and royalty damages in the hope of marketing a new product.<sup>105</sup> As previously mentioned, patent quality refers to “the capacity of a granted patent to meet (or exceed) the statutory standards of patentability—most importantly, to be novel [§102], non-obvious [§103], and clearly and sufficiently described [§ 112].”<sup>106</sup> Thus, when a patent examiner grants a patent that is obvious,<sup>107</sup> preexisting, or inadequately defined, it can stunt further research and investment in the particular area as investors are likely to steer far clear of the invention because of the expenses associated with patent infringement. This trend has the ability to “stifle innovation, to discourage firms from entering into useful markets, and generally to impede the optimal functioning of the American economy.”<sup>108</sup> One author notes that low-quality patents cause a loss of around twenty-one billion dollars a year in lost innovation, which is nearly two hundred dollars per household.<sup>109</sup>

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<sup>104</sup> Masur, *supra* note 14, at 696.

<sup>105</sup> *See id.* at 697.

<sup>106</sup> Wagner, *supra* note 10, at 2138.

<sup>107</sup> This term does not mean obvious in the sense of easily apparent to the average individual. The obviousness is viewed from the perspective of those individuals in that specialty area.

<sup>108</sup> Masur, *supra* note 14, at 692.

<sup>109</sup> *See* George S. Ford, Thomas M. Koutsky & Lawrence J. Spiwak, *Quantifying the Cost of Substandard Patents: Some Preliminary Evidence*, PHOENIX CENTER, 3 (Sept. 2007), <http://>

Diminished patent quality also hinders the economy by dissuading potential competitors from entering the market because a lack of similar products increases the cost of that product for consumers. When consumers have several related products to choose from, the overall cost of these products declines because companies are forced to lower their prices to compete with other manufacturers. For example, newly released products such as E-Readers have become relatively inexpensive for the average consumer because of the several different companies producing these products. Similarly, nearly every cell phone provider in the country now has Smartphone models, and this has allowed these plans to be affordable for most Americans. Therefore, by dissuading potential competitors from entering the market, the USPTO has done a disservice to consumers.

A third ramification of diminished patent quality is an increase in controversy over patent validity, and this inadvertently leads to an increase in litigation. Substandard patents that do not adequately explain the invention cause uncertainty for potential competitors. Again, this has the ability to cause potential manufacturers to steer far clear from the invention, forgoing production because of the fear of patent infringement. However, potential patent infringers who are willing to dispute the patent in hope of being able to market a similar product without patent infringement will attempt to sort the problem out with the applicant. Most cases are settled due to the enormous expenses involved in litigation, with the average cost hovering around one to four million dollars for the discovery phase alone.<sup>110</sup> The total amount expended to resolve the case can be twice this amount.<sup>111</sup> Moreover, due to a legal presumption that granted patents are valid, a patent will not be held invalid unless invalidity is proved by clear and convincing evidence.<sup>112</sup> Thus, even improperly granted patents are likely to be upheld, further encouraging settlement.<sup>113</sup> Patent infringement cases, on the other hand, only need to meet a preponderance of the evidence standard. This makes it much easier for the patent holder to prove patent infringement than it is for the potential patent infringer to prove the patent is invalid. However, when efforts to settle fail, the courts are the “decision-maker of last resort.”<sup>114</sup>

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[www.phoenix-center.org/pcpp/PCPP30Final.pdf](http://www.phoenix-center.org/pcpp/PCPP30Final.pdf).

<sup>110</sup> *Id.* at 27–28.

<sup>111</sup> *Id.* at 28.

<sup>112</sup> See Lemley, *supra* note 10, at 1531.

<sup>113</sup> Masur, *supra* note 14, at 697 (“[I]t is easier and less costly for patent holders to prove infringement than it is for alleged infringers to prove invalidity, largely because patents arrive in court accompanied by a legal presumption that they are valid.”).

<sup>114</sup> Wagner, *supra* note 10, at 2143 (“A low quality patent system means there are more patents with greater uncertainty, leading to increasing disputes over patents, and increasing appeal to the decision-maker of last resort, the courts. [And more] uncertain patents means that litigation becomes more complex and expensive, adding [again] to both the private and social costs of the system as a whole.”).



One specific type of litigation that has increased due to the existence of low-quality patents is patent troll litigation.<sup>115</sup> The term patent troll refers to a person or company who acquires and enforces numerous patents with the sole goal of gaining profit through patent infringement claims; patent trolls are disinterested in promoting and developing the patented inventions.<sup>116</sup> These individuals or entities are likely to exist in technological fields where patents are easy to obtain and the consequences to a potential infringer can be enormous, such as a court-issued injunction preventing the infringer from marketing or selling the patent-infringing product.<sup>117</sup> In these areas, these individuals often become the licensees for numerous substandard patents in hopes of enforcing their patent rights in court rather than marketing the product. Their dominant strategy is to “seek substantial vagueness, thus gaining the flexibility to effectively alter the scope and description of the patent according to changing circumstances.”<sup>118</sup> Thus, because these patents are likely to be ill-defined, they will be broad enough to qualify numerous inventors for a patent infringement suit. Moreover, because litigation is remarkably expensive, potential infringers are likely to settle rather than risk further losses in court where there is a legal presumption of validity.

To summarize, low patent quality reduces innovation because barriers to market entry are created, making the United States less competitive over the long run.<sup>119</sup> Furthermore, consumers are forced to pay higher prices for products because low-quality patent holders often prevent a wide range of products from being marketed. Finally, society as a whole pays more in legal fees because uncertain patents lead to frequent disputes, often prompting potential infringers and patent holders to settle their dispute in court.

#### *B. Factors Contributing to a Patent System that Produces Numerous Low-quality Patents*

One significant problem in the United States' patent system is that the USPTO encourages patent examiners to dispose of applications as quickly as possible. Specifically, because patent examiners in the United States receive a salary bonus that is contingent on the number of applications they process, examiners are incentivized to grant low-quality patents.<sup>120</sup> This practice is largely a consequence of the fact that

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<sup>115</sup> See Ford, Koutsky & Spiwak, *supra* note 109, at 3.

<sup>116</sup> See Joe Beyers, *Perspective: Rise of the Patent Trolls*, CNET (Oct. 12, 2005, 4:00 AM), [http://news.cnet.com/Rise-of-the-patent-trolls/2010-1071\\_3-5892996.html](http://news.cnet.com/Rise-of-the-patent-trolls/2010-1071_3-5892996.html).

<sup>117</sup> See Ford, Koutsky, & Spiwak, *supra* note 109, at 3.

<sup>118</sup> Wagner, *supra* note 10, at 2149.

<sup>119</sup> As one author indicates, “[i]nnovative technologies create social benefits while bad patents create social costs.” Florian Schuett, *Patent Quality and Incentives at the Patent Office*, 7 (Aug. 2011), [https://sites.google.com/site/schuettflorian/schuett-pat\\_exRR.pdf?attredirects=0](https://sites.google.com/site/schuettflorian/schuett-pat_exRR.pdf?attredirects=0).

<sup>120</sup> See *id.* at 1; see also Masur, *supra* note 14, at 687; Wagner, *supra* note 10, at 2153.

patent rejections take longer to process than a grant.<sup>121</sup> Therefore, examiners are encouraged to promptly approve patent applications, rather than reject them. To clarify, when an examiner grants an application, little further action is necessary because the examiner solely has to announce that she will be approving the application.<sup>122</sup> However, when the examiner chooses to reject an application, the examiner “must provide a statement of the reasons for her rejection, identify the relevant prior documents or inventions and the section of the Patent Act that has caused her to reject the application, and generally explain the rationale behind her actions.”<sup>123</sup> Thus, when an application is granted, an examiner is spared the hassle of scrutinizing prior patents to establish the preexisting inventions that prevent this new application from being approved. Arguably, examiners are thus encouraged to perform a cursory search for prior, similar inventions, and then grant a patent application in order to contribute to their bonus. In addition, examiners are further encouraged to approve patents because if an application is denied, an applicant can apply for a re-examination of the application before the same examiner.<sup>124</sup> Thus, an examiner could be forced to spend numerous additional hours on the same application after she first denies it.

Another factor creating a disincentive to carefully examine patent applications is that the quality of the approval will be unknown in the short-run.<sup>125</sup> Review of a patent’s validity in court litigation or during re-examination proceedings will occur after a significant period of time, if at all, and thus, examiners may be more concerned over the short-term benefits of patent approval: a salary bonus.<sup>126</sup> Although it is true that the quality of an examiner’s decisions may be brought to light in a subjective performance evaluation, reports show that examiners at the USPTO do not remain employed with the patent office for long, as only ten percent of employees remain for more than fifteen years.<sup>127</sup> Thus, employees who intend to remain with the USPTO for merely a few years may be more incentivized with salary bonuses than promotion or dismissal.<sup>128</sup>

One last factor contributing to diminished patent quality is insufficient resources and employees at the USPTO. To begin, a reoccurring shortage of workers in the patent office leaves the USPTO

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<sup>121</sup> See Masur, *supra* note 14, at 693; Schuett, *supra* note 119, at 1.

<sup>122</sup> See Masur, *supra* note 14, at 693.

<sup>123</sup> *Id.*

<sup>124</sup> See *id.*

<sup>125</sup> See Lemley, *supra* note 10, at 1497; Schuett, *supra* note 119, at 11. Lemley argues that it may be rational for patent examiners to spend less time on each patent application because most patents are never litigated or licensed. Moreover, it takes years for these cases to reach the courts.

<sup>126</sup> See Schuett, *supra* note 119, at 11.

<sup>127</sup> See *id.* at 26–27.

<sup>128</sup> See *id.* at 10.

ill-equipped to spend the amount of time necessary on each application. Specifically, “the USPTO’s problems in hiring and retaining examiners have been extensively documented . . . finding that more than 1600 examiners left the USPTO from 2002 to 2006 (in 2006, the USPTO employed a total of about 4800 examiners), and that 70 percent of those that left had been at the agency for less than five years.”<sup>129</sup> Thus, it appears that because of constant worker shortages, workers are unable to spend a significant amount of time on each application, averaging around eighteen hours on each application.<sup>130</sup> Moreover, because recycling workers requires constant training due to the extensive knowledge required to examine particular, complex patents, it appears that efforts are funneled into hiring and training efforts, rather than producing high-quality patents. Because of the current employment trends at the USPTO, it does not appear that this problem will be alleviated in the near future. Thus, numerous resources will be diverted towards training new, less-experienced employees.

In addition to constant worker shortages, a dramatic increase in the amount of patent applications filed over the last two decades has encouraged examiners to spend less time on each application. In 1993, there were 188,739 patent applications.<sup>131</sup> Then, in 2000, the total rose to 315,015 applications.<sup>132</sup> In 2010, the total further rose to 520,277 applications.<sup>133</sup> Thus, it is evident that with an increase in volume comes added pressure to be efficient in examining patents. In fact, the USPTO’s data indicates that patent grants have also increased over the years, although not as dramatically, despite a shortage of workers. To demonstrate, there were 109,890 patents granted in 1993, 176,083 granted in 2000, and 244,358 patents granted in 2010.<sup>134</sup>

Thus, to sum up, in order for more patents to be granted despite worker shortages, examiners have to spend less time on each application. Patent examiners thereby become increasingly likely to inappropriately deny worthy applications or inappropriately grant an obvious, preexisting, or inadequately defined patent.

#### IV. THE ACCELERATED EXAMINATION PROGRAM AND THE GREEN TECHNOLOGY PILOT PROGRAM’S CONTRIBUTION TO DIMINISHED PATENT QUALITY

Both the accelerated examination program and the Green

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<sup>129</sup> *Id.* at 27.

<sup>130</sup> See Masur, *supra* note 14, at 687.

<sup>131</sup> *U.S. Patent Statistics Chart Calendar Years 1963-2011*, *supra* note 12.

<sup>132</sup> *Id.*

<sup>133</sup> *Id.*

<sup>134</sup> *Extended Year Set—Patents By Country, State, and Year All Patent Types (December 2010)*, U.S. PAT & TRADEMARK OFF., [http://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst\\_allh.htm](http://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_allh.htm) (last modified Mar. 27, 2012).

Technology Pilot Program were created with the objective of reducing the pendency period for patent applications relating to particular categories, including green technology. The accelerated examination program was initiated with the goal of completing patent examination within one year (this goal was never even close to being met).<sup>135</sup> Likewise, the pilot program hoped to reduce the average pendency period for green technology patents by one year.<sup>136</sup> Thus, the hope was to issue a final determination in around twenty-eight months, down from an average pendency period of forty months before the initiation of the pilot program. With these ambitious timelines in mind, patent examiners may be further incentivized to accelerate patent examinations.

Furthermore, the USPTO would be able to gain prestige and eliminate a portion of the negative press regarding its hefty patent backlogs if its office were able to expedite particular patents thought to be beneficial to society, such as those expedited under the accelerated examination program and the Green Technology Pilot Program. In addition, the Office would be able to reduce the average pendency period of all its patent applications by expediting these particular patents. Although it would take numerous applications to skew the data and lower the average pendency period, this could be an avenue to both encourage innovation in the green technology sector and improve the reputation of the USPTO. Moreover, it appears that the USPTO significantly benefits from achieving these results because although litigation could undercut patent quality if a patent is invalidated, the legal presumption of validity makes it very difficult to achieve this result. Thus, because of this presumption, many subpar patents will be upheld, creating the appearance of diligent patent examination. The USPTO is thereby incentivized to prioritize statistics on patent pendency periods, rather than focusing on overall patent quality. Moreover, the tension to dispose of patents in a timely manner is fortified because patent examiners' salary bonus is contingent on the number of patent applications they are able to process.<sup>137</sup> In addition, most examiners spend minimal time working for the USPTO,<sup>138</sup> and there is a significant lapse in time before the quality of granted or rejected patents will be reviewed.<sup>139</sup> Thus, because there is a strong likelihood that many patent examiners have a stronger allegiance

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<sup>135</sup> See Changes to Practice, *supra* note 6, at 36323.

<sup>136</sup> See *The U.S. Commerce Department's Patent and Trademark Office Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications*, *supra* note 6.

<sup>137</sup> See Schuett, *supra* note 119, at 1. See also Masur, *supra* note 14, at 687; Wagner, *supra* note 10, at 2153.

<sup>138</sup> Schuett, *supra* note 119, at 26–27. When examiners are intent on remaining with the USPTO for a brief period of time, they are more likely to care about salary bonuses than promotions or dismissals.

<sup>139</sup> *Id.* at 11.

towards their salary bonuses than patent quality and that the USPTO has an incentive to be engrossed in its prestige, patent quality becomes a miniscule concern.

*A. The Possibility to Reduce the Expedited Patent Examination Programs' Negative Contributions to Patent Quality: a Brief Look at the European Patent Office*

Although this paper primarily focuses on the USPTO and its inherent difficulties, a brief look at the European Patent Office's widely used opposition program demonstrates a technique the USPTO could use to eliminate a portion of the low-quality patents generated by the expedited examination programs. The European Patent Office (EPO) has an opposition program whereby patent grants may be opposed by third parties if it is believed that a particular patent was improperly granted.<sup>140</sup> However, this procedure can only be used within nine months of the formal announcement of the patent grant.<sup>141</sup> Generally, a group of three experienced examiners will review the patent grant to determine whether "the subject-matter of one or more of the claims is not new or inventive, the patent does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, [or] the subject-matter extends beyond the content of the application as filed."<sup>142</sup> In order to aid the examiners in making a final determination, oral proceedings are usually requested by either the parties themselves or the examiners.<sup>143</sup> Then, after the conclusion of the oral proceedings, the patent will be upheld, amended, or revoked.<sup>144</sup> The process is not yet complete: an appeal can be filed within two months of the final decision, and if granted, it will be reviewed by one of twenty-four boards of appeal.<sup>145</sup>

Fortunately for the future of patent quality in the United States, the Leahy-Smith America Invents Act of 2011 created an inter partes review system, as well as a post grant review system, that closely resemble the European Patent Office's opposition program.<sup>146</sup> Under the inter partes review statute, a third party can contend that one or more claims failed to meet the requirements of patentability under §102 (novel) or §103 (non-obvious).<sup>147</sup> Under the post grant review statute, a third party can claim that one or more claims fail to meet the requirements of patentability under § 282(b) (relating to the

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<sup>140</sup> See *The Opposition Procedure*, EUR. PAT. OFF., <http://www.epo.org/about-us/jobs/examiners/what/opposition.html> (last updated Sept. 9, 2008).

<sup>141</sup> See Schuett, *supra* note 119, at 27.

<sup>142</sup> *The Opposition Procedure*, *supra* note 140.

<sup>143</sup> *Id.*

<sup>144</sup> *Id.*

<sup>145</sup> *Id.*

<sup>146</sup> See Leahy-Smith America Invents Act, H.R. 1249, 112th Cong. (2011).

<sup>147</sup> See 35 U.S.C. § 311(b) (2011) (amended 2011).

presumption of validity).<sup>148</sup> The filing deadline for inter partes applications is nine months after the issue or reissue of the patent or the date of termination of post grant review, whichever comes later;<sup>149</sup> the deadline for post grant review is nine months after the issue or reissue of the patent.<sup>150</sup> Moreover, inter partes review will not be used unless it is determined that the petitioner has met the petition requirements and “there is a reasonable likelihood that the [petitioner] would prevail.”<sup>151</sup> The post grant review requires a higher threshold; post grant review will not be instituted unless “it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.”<sup>152</sup> Finally, if the claim is accepted and there is no settlement, the claim can be appealed after inter partes review, but is final after post grant review.<sup>153</sup>

Unfortunately, because inter partes and post grant review programs were recently implemented, there is no data to suggest that they are operating as efficiently as the European Patent Office’s opposition program. However, in 2004, 441 ex parte reexamination applications<sup>154</sup> were filed and twenty-seven inter partes reexamination applications<sup>155</sup> were filed with the USPTO.<sup>156</sup> In 2008, 680 ex parte reexamination applications were filed, and 168 inter partes reexamination applications were received.<sup>157</sup> The number of reexamination applications filed in 2004 represented 0.2581% of the total patent grants in that year, and the number filed in 2008 represented 0.4578% of the total patent grants in that year.<sup>158</sup> On the other hand, in 2008, there were 121,200 patent applications filed in the European Union, and around 49% were granted, or 59,801.<sup>159</sup> Moreover, 2,960 oppositions were filed in 2005, and 3,100 were filed in 2004.<sup>160</sup> Although these numbers remain relatively low, each year around four or five percent of patents granted by the EPO will face opposition. Thus, opposition motions are around thirteen

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<sup>148</sup> *See id.* § 321(b).

<sup>149</sup> *Id.* § 311(c).

<sup>150</sup> *Id.* § 321(c).

<sup>151</sup> *Id.* § 312.

<sup>152</sup> *Id.* § 324(a).

<sup>153</sup> *See id.* §§ 319, 324(e).

<sup>154</sup> Ex parte reexamination applications are those filed by members of the public, but after the application is filed, these individuals will not be involved in the reexamination proceedings.

<sup>155</sup> Inter partes reexamination requests are similarly filed by members of the public, but rather than remaining uninvolved throughout the proceedings, these individuals will be actively involved throughout the reexamination process.

<sup>156</sup> *USPTO Publishes Latest Reexamination Statistics*, THE 271 PAT. BLOG (July 20, 2009, 12:02 PM), <http://271patent.blogspot.com/2009/07/uspto-publishes-latest-reexamination.html>.

<sup>157</sup> *Id.*

<sup>158</sup> *See U.S. Patent Statistics Chart Calendar Years 1963-2011*, *supra* note 12. In 2004, 181,299 of the 382,139 patent applications were granted, and in 2008, 185,224 of the 520,277 patent applications were granted. *Id.*

<sup>159</sup> *Granted Patents*, EUR. PAT. OFF., <http://www.epo.org/about-us/statistics/granted-patents.html> (last updated Apr. 20, 2012).

<sup>160</sup> *Statistics on EPO Oppositions*, MANAGING INTELL. PROP. (Mar. 1, 2007), <http://www.managingip.com/Article/1254073/Statistics-on-EPO-oppositions.html>.

times more common in the EPO than in the United States, and this figure has the potential to alter the quality of USPTO patents. If the United States' new programs are successful, however, low-quality patents may be detected at a higher rate, and a reduction in inappropriately granted or denied patents could slowly improve the overall quality of patents.

#### V. THE FUTURE OF PATENT QUALITY IN THE UNITED STATES

Diminished patent quality will remain a significant problem in the United States unless the incentives to promptly render a final disposition on each patent are eliminated. Arguably, if the USPTO hopes to succeed in improving patent quality, there needs to be *intrinsic motivation*, or a desire to avoid patent mistakes from those working inside the Office.<sup>161</sup> Thus, there is a strong likelihood that more conscientious examination will occur if examiners have a stake in the outcome of each patent and care about the aftereffect of a patent denial or grant. One way to accomplish this goal is to hire solely employees who have a realistic and reasonable anticipation of remaining with the USPTO for a predetermined period of time, say, ten years. The USPTO could also choose to hire only employees who were willing to sign a contract stating that they will remain with the Office for a minimum period of ten years. This would cause employees to care more about promotion and dismissal than salary bonuses because they will be unable to resign within a few years and will thus undergo several performance evaluations during their employment.<sup>162</sup> Unfortunately, this would be an unrealistic goal because these contracts are usually unenforceable, and this policy would deter individuals from seeking employment opportunities with the USPTO. Furthermore, the USPTO already struggles with both constant worker shortages and a diversion of resources towards hiring and training new employees, and cannot afford to lose potential hires.<sup>163</sup> With these concerns in mind, a more reasonable policy would be to eliminate salary bonuses that are contingent on the amount of applications a patent examiner processes. By eliminating this benefit, employees will be less concerned with the amount of applications processed because no matter how many patents are approved or denied, they will only be paid their fixed wage rate.

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<sup>161</sup> Schuett, *supra* note 119, at 2.

<sup>162</sup> *See id.* at 26 ("If the examiner cares about correct decisions in part because they affect his future with the patent office, a case can be made that how much he cares depends on how long he expects to stay at the patent office. He is likely to care more if he expects to stay long-term because, in the long run, more information about the quality of his decision-making becomes available. He can be rewarded for good decisions through promotion and punished for poor decisions through dismissal. He is likely to care less if he perceives the patent office largely as a stepping stone to a career as a patent attorney.").

<sup>163</sup> *See* Schuett, *supra* note 119, at 27.

This is how EPO patent examiners receive compensation; there is no salary bonus based on the number of applications processed. Many scholars feel that this is likely one factor contributing to the EPO's reputation for higher patent quality than those issued by the USPTO.<sup>164</sup>

Another way to motivate patent examiners to care about patent quality is to encourage the use of the USPTO's inter partes and post-review programs. If the USPTO can successfully promote these systems, patent examiners will be increasingly concerned about the quality of patents granted or denied because it is more likely that each patent will be reviewed. Furthermore, if a patent examiner frequently has his or her patent grants or denials overturned, he or she will likely experience negative performance evaluations. However, even if the public is encouraged to take advantage of the opportunity to review patent determinations, current trends appear to indicate that a final disposition on a reexamination proceeding are unlikely to occur within two years. In 2007, a proceeding took 39.6 months on average to be completed, 33.5 months to be completed in 2008, and 32.2 months in 2009.<sup>165</sup> If the new programs are going to be effective, they will have to issue final dispositions in less time than under the previous reexamination program. However, if the use of these proceedings is promoted, it is possible that the average pendency will rise because the USPTO has already struggled to keep up with the current volume of applications.

To summarize, examiners are more likely to scrutinize each patent application the longer they expect to remain with the USPTO and the sooner their decisions are evaluated for correctness.<sup>166</sup> The longer an employee anticipates their employment to last, the more concerned they will be with long-term objectives such as promotion and professional success. Moreover, the quicker the patent quality can be revealed, either through reexamination proceeding or court litigation, the more preoccupied a patent examiner will be over effectively rendering the proper outcome. Finally, if salary bonuses are eliminated, examiners may be less concerned with rendering a final disposition on each patent and will focus more on quality, rather than quantity. Until these incentives to dispose of patent applications without regard to quality are removed, patent quality in the United States will remain a growing

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<sup>164</sup> See *id.* at 1. For a discussion of other factors contributing to EPO's higher reputation, see Ford, Koutsky & Spiwak, *supra* note 109, at 9–11. It is important to note, however, that the USPTO likely initiated salary bonuses based on the number of applications processed to incentivize examiners to work harder and more efficiently. Although this may be true, it seems as though the more prevalent effect has been a diminished quality in patents as it is quicker and more time efficient to grant a patent than to reject a patent.

<sup>165</sup> See *Reexamination Operational Statistics Through Fiscal Year 2011 Quarter 4*, U.S. PAT & TRADEMARK OFF. (2011), [http://www.uspto.gov/patents/Reexamination\\_operational\\_statistic\\_through\\_FY2011Q4.pdf](http://www.uspto.gov/patents/Reexamination_operational_statistic_through_FY2011Q4.pdf).

<sup>166</sup> See Schuett, *supra* note 119, at 30.



concern.

#### CONCLUSION

Although promoting competitiveness in the green technology sector could be enormously beneficial, this objective should not be implemented through the accelerated examination program, the Green Technology Pilot Program, or any program with similar objectives. Notwithstanding the fact that these programs appear to be advantageous because each allows patent applications relating to green technology to be expedited through the system and pushed to the front of the line, they have the potential to further diminish patent quality in the United States. Specifically, each of these programs sets out an ambitious timeline for patent disposition, and thus, encourages patent examiners to spend less time on each application.

With the elimination of one of these programs in March of 2012, a portion of further diminished patent quality may be foregone. However, the accelerated examination program remains, as well as numerous other factors contributing to diminished patent quality in the United States. Furthermore, there is a chance that the USPTO will adopt a similar program in the future because the need to promote competitiveness in the green technology sector will remain indefinitely. Unfortunately, the only way to improve patent quality in the United States is to remove the incentives for patent examiners to render dispositions without concern for patent quality. To start, it is important that salary bonuses are eliminated. Eliminating this benefit can potentially create a system where examiners are less concerned with rendering a final disposition on each patent and focus more on quality. Moreover, the USPTO should promote use of its new reexamination programs to allow more patents to be reviewed for validity. To achieve this result, however, the USPTO will need to prioritize its goals and resources to enable its employees to reexamine applications within a reasonable period of time—reasonable being less than the current average of around thirty-five months. Until these incentives are eliminated, it appears that the United States will continue to struggle with patent quality.

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