



U.S. PATENT AND TRADEMARK OFFICE

USPTO Needs to Strengthen Patent Quality Assurance Practices

FINAL REPORT NO. OIG-15-026-A

APRIL 10, 2015

U.S. Department of Commerce
Office of Inspector General
Office of Audit and Evaluation

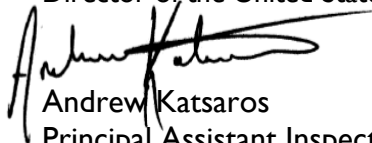
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April 10, 2015

MEMORANDUM FOR: Michelle K. Lee
Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

FROM: 
Andrew Katsaros
Principal Assistant Inspector General for Audit and Evaluation

SUBJECT: *USPTO Needs to Strengthen Patent Quality Assurance Practices—Final Report no. OIG-15-026-A*

We are providing our final report for our review of the U.S. Patent and Trademark Office's (USPTO's) patent quality assurance practices. This audit was conducted to (1) determine the sufficiency of the USPTO's quality assurance program's processes to prevent the issuance of low-quality patents and (2) assess the additional quality reviews performed to measure examiner performance and ensure that examiners are fully qualified to issue patent determinations without supervisory review.

We identified four areas of concern:

1. USPTO's performance appraisal plan and related policies are ineffective at measuring whether examiners are issuing high-quality patents.
2. USPTO's official quality metrics may underrepresent the true error rate.
3. USPTO is not collecting data that could improve patent quality.
4. USPTO's response to patent mortgaging may not discourage abuse.

In response to our draft report, the bureau agreed with our four recommendations and noted that it has made meaningful progress with respect to strengthening patent quality since enactment of the America Invents Act.

USPTO submitted technical comments to the draft report. Where appropriate, we made changes to the final report based on these comments and suggestions. USPTO's formal response is included as appendix D of this report.

USPTO concurred with recommendations 2, 3, and 4. For recommendation 1, USPTO agreed with the overall goals of the recommendation to refine supervisory guidance, processes, and performance appraisal plans to effectively measure patent examiner quality. USPTO stated it will evaluate how supervisors are currently administering the quality element of the examiner performance appraisal plan; however, USPTO stated that it will consider options for providing training and guidance to supervisors on how best to administer the quality element based upon the results of their evaluation. We will determine whether USPTO meets the intent of our four recommendations when it submits its action plan to us for review.

The final report will be posted on the OIG's website pursuant to section 8M of the Inspector General Act as of 1978, as amended. In accordance with Department Administrative Order 213-5, within 60 days of the date of this memorandum please provide us with an action plan that responds to all of the report's recommendations.

We thank USPTO personnel for the courtesies shown to us during this review. Please direct any questions about the report to Carol Rice, Assistant Inspector General for Economic and Statistical Program Assessment, at (202) 482-6020, or David Smith, Assistant Inspector General for Intellectual Property and Special Program Audits, at (571) 272-5561.

Attachment

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*COVER: Detail of fisheries pediment,
U.S. Department of Commerce headquarters,
by sculptor James Earle Fraser, 1934*

Acronyms and Abbreviations

FY	fiscal year
GAO	Government Accountability Office
GDP	gross domestic product
ISO	International Organization for Standardization
IT	information technology
MPEP	Manual of Patent Examining Procedure
OIG	Office of Inspector General
OPQA	Office of Patent Quality Assurance
PALM	Patent Application Location and Monitoring System
POPA	Patent Office Professional Association
QIR	Quality Index Report
SAWS	Sensitive Application Warning System
SMD	Supervisory Patent Examiner Management Database
SOP	standard operating procedure
SPE	supervisory patent examiner
USPTO	U.S. Patent and Trademark Office

Introduction

The White House called innovation “the lifeblood of our economy,”¹ and the U.S. Patent and Trademark Office (USPTO) serves a specific role in protecting new ideas through the issuance of patents and trademarks. Patents and trademarks establish a legal foundation for ownership rights to inventions and ideas, affecting a substantial portion of the U.S. economy. In fiscal year (FY) 2010, the Department of Commerce estimated that industries that rely on patent, trademarks, and copyrights contributed over \$5 trillion to the U.S. gross domestic product (GDP) and over 40 million jobs.² The Secretary of Commerce has also made it a stated goal for Commerce to foster a more innovative U.S. economy—one that is better at inventing, improving, and commercializing products and technologies that lead to higher productivity and competitiveness.

Ensuring the issuance of high-quality patents has been a USPTO strategic initiative for many years. High-quality patents are generally considered to be those whose claims clearly define and provide clear notice of their boundaries, while low-quality patents are those that contain unclear property rights, overly broad claims, or both.³ Increasing concerns regarding abusive patent litigation and ambiguous patents heightens the need for USPTO to ensure adequate processes are in place to promote issuing high-quality patents.

Our audit reviewed the three USPTO programs that assess patent examination quality: (1) performance appraisal reviews, (2) independent reviews by the Office of Patent Quality Assurance (OPQA), and (3) signatory authority reviews⁴ (see figure 1). During the course of this audit, the Inspector General testified before the U.S. House of Representatives regarding USPTO’s telework program and its potential impact on quality. The OIG team responsible for this report prepared materials to support the IG’s November 18, 2014 testimony.⁵

USPTO’s performance appraisal reviews and the independent reviews by the OPQA experienced significant changes in FY 2011 and FY 2012. In response to stakeholder concerns about patent quality, OPQA in FY 2011 expanded the previous procedures it used to include assessments of the quality of an examiner’s initial search and whether the preliminary decisions conformed to best practices. In the same fiscal year, USPTO also revised how it measured the quality of each examiner’s work product through annual performance assessments. And while

¹ The White House, Office of the Press Secretary, February 20, 2014, “Fact Sheet—Executive Actions: Answering the President’s Call to Strengthen Our Patent System and Foster Innovation.”

² The United States Copyright Office resides within the Library of Congress.

³ U.S. Government Accountability Office, August 22, 2013. *Intellectual Property: Assessing Factors That Affect Patent Infringement Litigation Could Help Improve Patent Quality*, report no. GAO-13-465. Washington, DC: GAO.

⁴ The Signatory Authority Program evaluates the quality of examiner decisions over a period of time to provide either partial or full signatory authority to examiners. Partial signatory authority allows examiners to approve or disapprove non-final actions where full signatory authority allows examiners to approve or disapprove final actions on applications.

⁵ U.S. House of Representatives, Committee on Oversight and Government Reform and Committee on the Judiciary, “Joint Hearing—Abuse of USPTO’s Telework Program: Ensuring Oversight, Accountability, and Quality,” November 18, 2014, testimony of Todd Zinser, Inspector General, U.S. Department of Commerce.

the Signatory Authority Program did not undergo significant changes, in FY 2012 it began to more systematically collect information about the decisions or cases reviewed by the program.

USPTO has recently taken important steps to address patent quality. In January 2015, just prior to OIG issuing this report, USPTO announced the creation of a new position, the Deputy Commissioner for Patent Quality.⁶ In addition, on February 5, 2015, USPTO published in the *Federal Register* a request for comments, seeking public input and guidance on ways of enhancing patent quality.⁷ However, while the *Federal Register* notice does seek comment on issues related to the OPQA, the notice does not specifically seek input on issues recently examined by Congress during the November 2014 hearing—namely, the issues of end loading and patent mortgaging. The hearing's discussions on both issues raise concerns about patent quality and are examined in this report. As such, the *Federal Register* notice misses the opportunity to seek wider public comment on particularly problematic quality issues.

Figure I. USPTO Programs That Review the Quality of Patent Examiner Decisions

Performance Appraisal Reviews	OPQA Independent Reviews	Signatory Authority Reviews
• Supervisory review of written decisions performed as part of the performance appraisal process.^a • Measures the quality of an individual examiner's work products. • Reviewed at least 23,000–30,000 patent determinations per year between FY 2011 and FY 2013.^b	• Independent quality reviews performed by the Office of Patent Quality Assurance (OPQA). • Generates a corps-wide measurement of patent quality and identifies areas for additional training. • Reviewed 6,000–8,000 patent determinations per year between FY 2009 and FY 2013.^c	• Multi-level reviews to assess if examiners are qualified to issue their own patent determinations. • Examines the quality of an individual examiner's work products. • Reviewed over 35,000 patent determinations between FY 2012 and March 31, 2014.

Source: OIG, based on USPTO data.

^a For each examiner, supervisors are required to conduct an in-depth review of a minimum of 4 written decisions each year as part of the performance appraisal process. (The average annual number of written decisions completed by a patent examiner is 73.)

^b USPTO was unable to provide an estimate for the number of reviews it conducted. Therefore, OIG derived an estimate by multiplying the prescribed minimum of four reviews per year by the number of patent examiners (excluding first-year examiners who are not subject to corps-wide performance standards); the range represents annual calculations for FY 2011 through FY 2013.

^c This represents a sample of less than 1 percent of all patent determinations in any given year.

⁶ For a description of the new position of Deputy Commissioner for Patent Quality, see USPTO, "Patent Quality Initiative," http://www.uspto.gov/patents/init_events/Patent-Quality-Initiative.jsp (accessed January 30, 2015).

⁷ "Request for Comments on Enhancing Patent Quality," 80 FR 6475 (February 5, 2015)

Objectives, Findings, and Recommendations

We conducted this audit to assess USPTO's quality assurance programs. Our audit objectives were to:

1. determine the sufficiency of USPTO's quality assurance program's processes to prevent the issuance of low-quality patents⁸ and
2. assess the additional quality reviews performed to measure examiner performance and ensure that examiners are fully qualified to issue patent determinations without supervisory review.

To perform this assessment, we conducted interviews with staff and collected quantitative data when available. We interviewed staff involved in the OPQA, performance appraisal, and signatory review programs at USPTO's offices in Alexandria, Virginia. We also collected data from OPQA independent quality reviews, performance ratings, and performance warnings issued from FY 2011 to FY 2013. Finally, we reviewed a sample of 60 individuals who participated in the Signatory Authority Program. However, USPTO could only provide data for the Signatory Authority Program from FY 2012 through the second quarter of FY 2014. According to USPTO, prior to FY 2012, it had not systematically collected information about the quality issues found during supervisory review of patent applications. Table 1 shows a summary of our audit findings as they relate to each audit objective.

Table 1. Audit Objectives and Results

Objective	What We Found
Determine the sufficiency of USPTO's quality assurance processes to prevent the issuance of low-quality patents.	• USPTO's official quality metrics may underrepresent the true error rate.
Assess the additional quality reviews performed to measure examiner performance and ensure examiners are fully qualified to issue patent determinations without supervisory review.	• USPTO's performance appraisal plan and related policies are ineffective at measuring whether examiners are issuing high-quality patents. • USPTO is not collecting data that could improve quality. • USPTO's response to patent mortgaging may not discourage abuse.

Source: OIG analysis

We also reviewed USPTO's performance appraisal system to determine whether it was an effective measure for determining whether examiners are issuing high-quality patents, and found that errors can be found in 75—and even 100—percent of an examiner's cases reviewed, yet an examiner could still obtain a rating of fully successful or higher on the quality performance element.

⁸ USPTO stated that inadequate examiner performance—such as including claims in patent determinations that should have been rejected and rejecting claims that should have been included—leads to low-quality patents.

During our review USPTO supervisors raised the issue of “patent mortgaging” (i.e. an employee knowingly submitting incomplete work to receive credit). We found that although USPTO treats patent mortgaging as an act of misconduct, provides distinct guidelines for punishment, and receives reports that allow it to potentially identify instances of abuse, the controls in place to detect and monitor the practice of patent mortgaging responses may not adequately discourage the practice.

Also, although we identified concerns with the collection of data within the Signatory Authority Program, we did not note significant instances of noncompliance with USPTO’s own internal policies for designating partial and full signatory authority. However, USPTO does not systematically collect data on which decisions contain errors and if errors are charged during this process.

I. USPTO’s Performance Appraisal Plan and Related Policies Are Ineffective at Measuring Whether Examiners Are Issuing High-Quality Patents

USPTO supervisors are responsible for measuring whether individual examiners are issuing high-quality patents. Their assessments are reflected in the examiners’ annual performance appraisals. During the course of the annual performance period, supervisors are required to conduct an in-depth review of a minimum of four patent determinations completed by the examiner, regardless of the total number of determinations completed. Although USPTO does not have records to confirm if these in-depth reviews actually occurred, OIG estimates that from FY 2011 to FY 2013 at least 23,000–30,000 reviews per year (out of a total of approximately 1.4 million patent determinations completed each year during this period⁹) would have been completed (see figure 1). This is more than three to four times the number of applications that were reviewed by OPQA between FY 2009 and FY 2013. In addition, until recently USPTO senior management did not require supervisors to systematically track when they found errors during these reviews. Thus, although supervisors conduct substantially more reviews than the official quality assurance program—that is, OPQA’s independent reviews—USPTO has less reliable data about these supervisory reviews.

As discussed below, we identified concerns with USPTO’s policies for measuring the quality of examiners’ written decisions. We found that USPTO’s performance appraisal plans and related policies cannot distinguish between examiners who issue high-quality decisions versus those who issue low-quality decisions. Rather, most examiners are rated on their annual performance appraisals as “above average.” This meant that, between FY 2009 and FY 2013, 99 percent of examiners received quality ratings that made them eligible for almost \$145 million in monetary awards.¹⁰ This averaged to more than \$6,000 in awards per examiner per year.

⁹ Excluding first-year examiners, who are not subject to corps-wide performance standards.

¹⁰ USPTO has awards for the production and docket management elements, but there are no awards specific to the quality element. Examiners can become ineligible for some awards if they are issued a marginal or unsatisfactory quality rating.

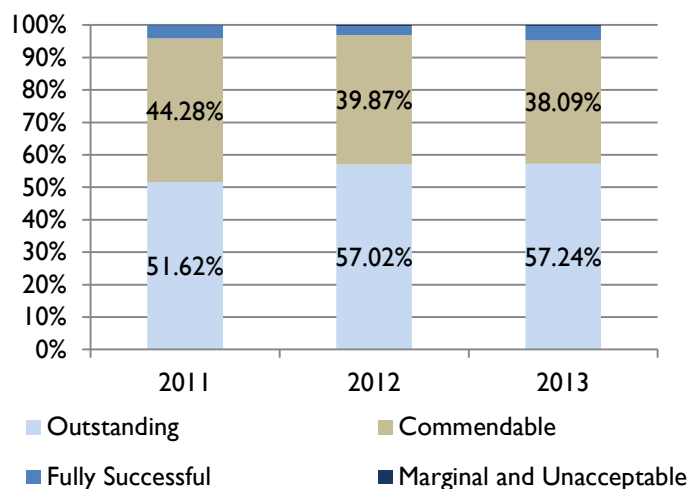
USPTO's supervisors rate patent examiners on four performance elements, which are graded on a five-point scale, outlined in the examiner's performance appraisal plans. The four performance elements (and their respective weights) for each examiner are:

- **Production:** examiners issue determinations on patentability within the assigned time frames (35 percent);
- **Quality:** examiners correctly determine whether a patent application should be approved or rejected (35 percent);
- **Docket management:** examiners manage respective caseloads and properly select cases for review per USPTO policies (20 percent); and
- **Stakeholder interaction:** examiners provide appropriate service to stakeholders (10 percent).

In descending order, the five rating grades are “outstanding,” “commendable,” “fully successful,” “marginal,” and “unacceptable.” As noted above, an examiner's quality rating makes up 35 percent of his or her total score.

During the period of FY 2011 through FY 2013, over 95 percent of all patent examiners received outstanding or commendable ratings for the quality element of their annual performance evaluations (see figure 2¹¹) even though the Department defines commendable performance as “unusually good” and outstanding performance as “rare, high-quality

Figure 2: Distribution of Patent Examiners' Annual Quality Ratings, FY 2011–FY 2013



Source: OIG analysis of USPTO data

¹¹ Examiners also received high ratings on the quality-related metrics in FY 2009 and FY 2010. During this period, there were multiple performance metrics that addressed quality.

performance” that “rarely leaves room for improvement.” This distribution of scores does not align with the ratings descriptions contained in the Commerce Department’s guidelines for performance appraisals.¹²

As shown in figure 2, over 50 percent of patent examiners received outstanding quality scores in FY 2011 through FY 2013.¹³ Furthermore, although the Department defines fully successful performance as the “level of accomplishment expected of the great majority of employees,” USPTO supervisors and Technology Center quality assurance specialists we interviewed indicated it is often difficult to justify not giving an examiner an outstanding performance rating.

For the purpose of evaluating examiner performance, errors are clear instances in which the examiner did not comply with examining standards set forth in the performance appraisal plan. Errors are categorized from 1 to 3 based upon severity and examiner’s grade level. An examiner’s error rate is the key driver in determining his or her quality rating (see table 2). If a supervisor finds that an examiner committed an error, the supervisor can potentially charge it to the examiner’s error rate. When this happens, the examiner may rebut the error, either orally or in writing. The supervisor can either remove the error or inform the examiner why his/her rebuttal was unpersuasive. If this process does not resolve the disagreement, the examiner may raise the disagreement with the Technology Center Director and, if unsatisfied, file a grievance, in accordance with USPTO’s agreement with the union that represents patent examiners, the Patent Office Professional Association (POPA).¹⁴ In lieu of charging an error, a supervisor may choose to coach an examiner, which will not impact an examiner’s error rate. By not charging errors, the rebuttal process—which many supervisors referred to as time-consuming and laborious—is avoided.

Table 2. How USPTO Measures Quality in Performance Plans

Rating	Error Rate (percent)	Additional Factors Considered
Outstanding	0–4.49	• Clear and concise communication
Commendable	4.50–5.49	• Early patentable determinations during prosecution • Patentable subject matter allowed early in the review
Fully Successful	5.50–6.49	None
Marginal	6.50–7.49	None
Unacceptable	7.5 or higher	None

Source: OIG analysis of the error rate from the GS-15 examiner performance appraisal plan

¹² Generic performance standards are contained in appendix A of the Department’s FY 2014 Performance Management Record (form CD-516B LF).

¹³ Figure 2 excludes examiners hired within the previous 12 months. Thus, the figure excludes 902 examiners in FY 2011, 698 in FY 2012, and 493 in FY 2013.

¹⁴ See memorandum of understanding between USPTO and POPA dated October 22, 2010.

USPTO management claims that supervisors review more than the one case per quarter; however, there is no way to verify this because supervisors currently do not document which cases they review. In addition, USPTO supervisors and other Technology Center quality assurance staff we interviewed indicated that there is an incentive to not charge errors in order to avoid the potential time-intensive error rebuttal process. Furthermore, and as discussed in more detail below, the current standards often make it difficult to justify giving an examiner a rating other than “outstanding.”

According to USPTO’s performance appraisal plan,¹⁵ an examiner’s error rate is defined as the number of charged errors found during the supervisor’s review divided by the total number of patent determinations the examiner completed during the review period. However, multiple errors are counted as one if in the same determination, thus underrepresenting the error rate.

One reason that examiners rarely receive average or poor ratings is due to the relationship between the limited number of reviews required of supervisors and how USPTO measures the error rate. Supervisors currently only need to review one decision per quarter, or four per year. In FY 2013, USPTO examiners averaged 73 final determinations per year.¹⁶

Table 3. How Patent Examiner Error Rates are Calculated

Calculation	Corresponding Rating ^a		
	Fully Successful	Commendable	Outstanding
Number of cases reviewed with errors	4	4	3
÷ Number of determinations	÷ 62	÷ 73	÷ 68
= Error Rate (converted to percent)	6.45%	5.47%	4.41%

Source: OIG analysis, based upon four reviews annually

^a See table 2 for a breakdown of error rates and ratings.

To provide context, table 3 illustrates that errors can be found in 75—and even 100—percent of the cases reviewed, yet an examiner could still obtain a rating of fully successful or higher on the quality performance element. If a supervisor reviews the minimum of four determinations during the annual performance period, as required, and errors are found in all four, the examiner will still achieve a rating of fully successful if at least 62 determinations were completed during the year and a commendable rating as long as the average number of 73 determinations was completed. Thus, every patent examiner meeting USPTO’s average case workload can receive, at a minimum, a rating of commendable. If 75 percent of the four determinations reviewed contain errors, an examiner completing 67 or more determinations during the year would qualify for an outstanding rating.

¹⁵ U.S. Patent and Trademark Office, “Classification and Performance Management Record,” FY 2014.

¹⁶ In FY 2013, 8,051 examiners issued 605,994 final determinations on patent applications. The number of determinations an examiner must issue is based on their grade and the technology they review.

Supervisors can downgrade examiners from outstanding to commendable based upon non-error factors known as indicia, but as indicated in table 2, this only applies to examiners receiving outstanding or commendable quality ratings. These indicia include the quality of the examiner's communications with the applicant and the examiner's ability to identify patentable claims early in the application process (see the full list in table 2). However, supervisors cannot assign examiners a rating of less than "fully successful" based on these factors.

Although USPTO implemented changes in FY 2011 to examiner performance appraisals to "align the patent examiner performance appraisal plans to organizational goals, and ensure strategic alignment at all levels"¹⁷—some of the changes have made it more difficult to tie examiner performance to the issuance of high-quality patents. For example, USPTO relaxed the error rate for some examining activities by eliminating or combining multiple metrics into one quality error rate. Additionally, the new plan required some types of errors to have occurred multiple times before a supervisor could charge them to an examiner's error rate.

Another impact on measuring examiner quality occurred prior to the introduction of changes to the performance appraisal system in FY 2011. We were informed that the Commissioner for Patents verbally announced that errors found by OPQA could not be used to calculate an examiner's error rate. This change became effective in FY 2010 and may have contributed to inflated performance ratings. We confirmed that from FY 2011 to FY 2013, examiners with an error identified by an OPQA independent reviewer still received an outstanding or commendable quality rating over 95 percent of the time.¹⁸ With the inclusion of OPQA-identified errors, examiner error rates and quality ratings would have been more accurate reflections of their performance.

One indicator that the performance appraisal process is an inadequate means for assessing the quality of examiner's work is that USPTO issues far fewer written warnings for quality compared to those issued for two other performance elements—docket management and production. Underperforming examiners receive a series of escalating warnings before receiving a written warning.¹⁹ Examiners who receive three written warnings in 5 years can be terminated. As shown in figure 3 (see next page), during the period of FY 2011 through FY 2013, of the approximately 6,000 to 8,000 patent examiners employed by USPTO during this time, 264 examiners received at least one written warning for production problems, and 233 received warnings for the docket management problems. However, only 7 examiners received written warnings for low-quality decisions. Of note, an individual who

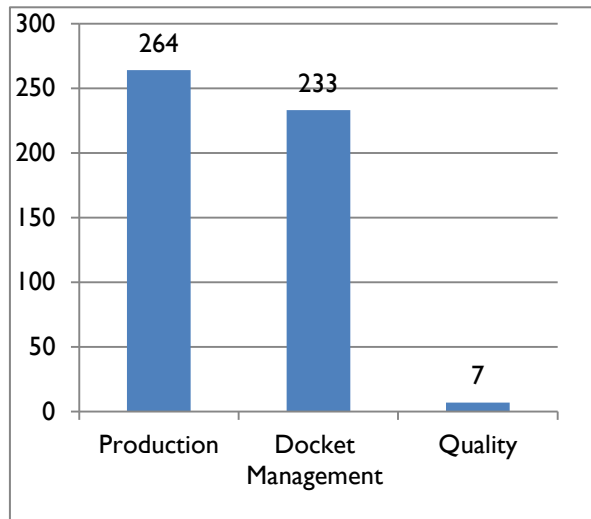
¹⁷ USPTO, "Briefing to Patent Professionals," internal training document, October 2010.

¹⁸ We limited our analysis to instances in which both OPQA and the Technology Centers agree that the examiner committed an error.

¹⁹ An October 2010 memorandum of understanding between USPTO and POPA outlines USPTO's current system of escalating warnings for underperforming examiners. Examiners first receive "safety zone" and then oral warnings before they receive a written warning. A safety zone warning is designed to give examiners whose performance is just below the acceptable range an opportunity to improve before they are issued an oral warning.

received a written warning under the quality element still received an overall rating of commendable in the end-of-year rating.²⁰

Figure 3. Number of Examiners Issued Warnings, by Performance Element, FY 2011–FY 2013



Source: OIG analysis of USPTO data

Overall, we found that since the introduction of the new performance appraisal standards in FY 2011, an examiner is more likely to obtain an outstanding or commendable quality rating. To determine this, we analyzed examiner quality metrics before and after the implementation of the FY 2011 standards. Our analysis found that a GS-13 examiner with partial signatory authority had an 89 percent chance of obtaining a commendable or outstanding rating under the previous plan. Under the new performance appraisal plan, a GS-13 examiner with partial signatory authority now has a 96 percent chance of obtaining a commendable or outstanding quality rating, holding all other variables constant.²¹

These quantitative results support the information we gained from interviews with representatives from USPTO's nine Technology Centers. Seven of the nine individuals we interviewed indicated that USPTO's performance appraisal policies do not allow for a sufficient understanding of an examiner's patent quality; six felt that the current system of performance evaluation was insufficient to gain an understanding of an examiner's overall performance. The interviewees cited various issues, such as the calculation of the error rate, policies regarding the charging of errors, and the time-consuming and onerous nature of justifying a less-than-outstanding quality rating for a less-than-outstanding examiner.

The weaknesses we identified with the current performance plan make it difficult to distinguish between patent examiners who are issuing high-quality patents and those who are not. In July 2014, the Deputy Director of USPTO stated that "issuing high-quality patents not only improves the overall vitality of our patent system but can also play a significant role in curtailing abusive patent litigation." We are concerned with USPTO's inability to distinguish and reward examiners performing at a truly outstanding level of performance versus those who are not.

²⁰ USPTO noted that quality issues may be masked in production warning data, because re-work of low-quality applications may affect an examiner's ability to meet production goals. While this may be true for examiners at a GS-11 level or lower, examiners at higher grades do not need a supervisor's approval before they receive production credit for some of their work. Thus, this concern would not apply to them.

²¹ Our logistic regression model controlled for such variables as the time period, the Technology Center of the employee, his or her grade, and the signatory authority level.

II. USPTO's Official Quality Metrics May Underrepresent the True Error Rate

Although different offices within USPTO check whether examiners' written determinations have errors, OPQA is the official quality assurance program within USPTO. OPQA is independent of the management chain to which an examiner reports, and its independent reviewers assess whether randomly selected patent decisions contain any errors. It is important to note that, on average, OPQA annually reviews less than 1 percent of all office actions. OPQA management indicated that it was their role to generate statistically significant results of the quality of determinations, not to catch or prevent the issuance of all low-quality patents. The office also performs reviews to assess whether examiners' decisions conform to examination best practices and whether examiners perform a thorough search of technology relevant to the patent application. For all reviews, OPQA systematically records why a determination had an error or did not conform to best practices. For example, OPQA determines which area of patent law the examiner did not follow in a decision. OPQA reviews a statistical sample of both preliminary and final examiner decisions to generate a corps-wide measurement of patent examination quality at USPTO. In its review, OPQA looks for errors, which are defined as unreasonable failures by the patent examiner to reject patent claims for one or more reasons provided in the patent laws. Errors also occur when an examiner incorrectly rejects patent claims. Within USPTO, all of these mistakes are known as *clear errors*.

The results of OPQA's analysis feed into several components of USPTO's official quality metrics,²² but these results are not used to assess the quality of particular offices within USPTO, nor are they used to assess the performance of individual examiners. Rather, the results are used to generate USPTO's official quality metrics and provide corps-wide accuracy rates that affect the bonuses awarded to the supervisors of patent examiners. In addition, the potential areas of training needs are identified. USPTO's February 5, 2015, *Federal Register* notice seeks public input about a proposed mechanism that would allow an applicant to request OPQA to review a particular application. Such targeted reviews could add to the data OPQA collects for identifying and targeting specific examiner training needs.

Table 4 shows the accuracy rate estimates generated from OPQA reviews for FY 2009 through FY 2013. Over this period, OPQA performed between 6,000 and 8,000 reviews each year. (USPTO issued over 1.2 million preliminary and final decisions each year during that same time period.)

²² OPQA's official quality metrics are combined into a composite that "compares current performance against historical achievement and charts USPTO's progression towards desired levels of performance," according to Commissioner for Patents Robert Stoll, "August Patents Dashboard Overview," Director's Forum (blog post), U.S. Patent and Trademark Office, September 23, 2011.

Table 4. Results of OPQA's Accuracy Rate Tests, FY 2009–FY 2013 (percent)

Quality Assurance Tests	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Accuracy rate for final decisions	94.4	96.3	95.4	96.6	96.2
Accuracy rate for cases still being processed	93.6	94.9	95.2	95.9	96.3

Source: USPTO

We identified concerns both with USPTO's policies for charging errors and with OPQA's internal auditing procedures. We found that some OPQA independent reviewers do not always record errors on the patent determinations that they review when new examination guidance is issued. Every year, USPTO issues new guidance in response to executive actions, Patent Trial and Appeal Board decisions, or federal court decisions. By ignoring some errors, OPQA may have underrepresented the true error rate when it calculated official quality metrics. We also determined that OPQA's internal audits are not structured to assess unwritten or informal policies and procedures—such as not charging errors for 6 to 12 months after new patent guidance has been issued.

A. OPQA Reviewers Do Not Always Charge Errors for 6 to 12 Months after New Patent Guidance Has Been Issued

OPQA is composed of reviewers and supervisors who are independent of the patent examiners' chain of command. The duties of these independent reviewers and supervisors include providing ad hoc advice to examiners, teaching examiners in one-on-one and group settings, and reviewing a sample of patent determinations issued by examiners.²³ OPQA performed 6,484 reviews of preliminary and final decisions out of the 1.2 million patent determinations issued by USPTO in FY 2013. For the times when OPQA chooses its sample, it randomly selects from any office action made in a given FY for its review sample. Although OPQA samples less than 1 percent of determinations, the office still generates statistically significant results for estimating the accuracy rates of the examiner corps. As mentioned earlier in this finding, OPQA management indicated that it was their role to generate statistically significant results of the quality of determinations, not to catch or prevent the issuance of all low-quality patents.

OPQA's independent reviewers look at a number of factors when they judge the quality of examiners' work. For example, they assess whether examiners properly rejected the individual claims in a patent application and identified appropriate reasons to approve a patent application. The reviews also check whether examiners' written decisions conform to best practices. As illustrated in table 5, these independent reviews make up the first four of seven components that compose USPTO's official composite quality metric.

²³ Patent determinations are known within USPTO as patent actions.

Based on interviews conducted with OPQA staff, we were informed that OPQA reviewers may identify, but not record, some errors. This practice is not based on written policy direction. There are two categories of instances where errors can be made by examiners. One is when an examiner omits a rejection in a non-final, final or allowed action, where there are reasons provided in the patent laws to make the rejection. The other category is when, in a final or non-final action, there is an unreasonable rejection or restriction, or in the case of a final action, when the action is improperly made final.

Table 5. Seven Components of USPTO's Composite Quality Metric

Component	Description	Weight
1. Final Disposition Compliance Rate	Percent of final decisions without errors	20%
2. In-process Compliance Rate	Percent of preliminary decisions without errors	15%
3. First Action on the Merits Search Review	Score given for the quality of the patent examiners' initial search for related technology, known in USPTO as "prior art" ^a	10%
4. Complete First Action on the Merits Review	Score given for the degree to which the preliminary decision conforms to USPTO best practices	10%
5. Quality Index Report	Statistical representation of different quality-related issues during the patent examination process ^b	20%
6. External Quality Survey	Survey that measures quality concerns expressed by patent attorneys and applicants	15%
7. Internal Quality Survey	Survey that measures quality concerns expressed by USPTO's patent examiners	10%

Source: OIG interviews and USPTO policies

^a Examiners search for prior art to determine whether an application is novel.

^b This data comes directly from the Patent Application Location and Monitoring System (PALM), which is the IT tool that tracks events related to patent processing. For example, one factor included in this data is the frequency with which applications are reopened after an examiner closes the review by issuing a rejection.

USPTO periodically issues new patent guidance, such as it did early in 2014 in response to a Supreme Court decision involving patents that covered DNA sequences owned by one company.²⁴ OPQA staff reported that whenever new patent examination guidance is issued by USPTO they normally allow patent examiners a grace period of 6 to 12 months before charging applicable errors. If they find an error during this grace period, instead of recording an error OPQA reviewers flag applications about which they have

²⁴ *Association for Molecular Pathology v. Myriad Genetics*, 133 S.Ct. 2107 (2013).

concerns with the label “Needs Attention.” This label is applied in lieu of an error and is not an official error as defined in OPQA policy.

“Needs Attention” may be used by OPQA reviewers to identify issues with patent examination that do not rise to the level of an error, such as pointing out an unchecked box on a patent examination form that should have been checked; making note of what would otherwise be an error were it not for the new patent examination guidance grace period; or acknowledging exceptional examination—use of best practices—of a patent determination. The percentage of applications flagged with “Needs Attention” has risen in the past 5 years. In FY 2009, the rate was around 15 percent; for the past 3 fiscal years it has hovered around 21 percent (or about 1,200–1,300 decisions per year).²⁵ The OPQA director explained that this rise may be because, in recent years, OPQA reviewers have been encouraged to use the “Needs Attention” flag to highlight issues that are not errors.

Interviews with OPQA personnel brought to our attention the practice of not always charging errors until new examination guidance has been issued and in effect for 6 to 12 months. This practice reduces our confidence in the accuracy of USPTO’s official quality metric. Components 1 and 2 (see table 5) together comprise 35 percent of USPTO’s official metric. That 35 percent is based on OPQA’s review of examiner decisions, which in turn is dependent on the number of errors identified by reviewers. For those patent actions examined by OPQA, USPTO was unable to provide an estimate on the number of errors that were recorded as “Needs Attention” instead of as an error. However, since FY 2009, USPTO has issued new examination guidance 19 times in response to federal court decisions and Patent Trial and Appeal Board decisions. Thus, the practice of not appropriately recording errors has had an ongoing impact on OPQA reviews and the official quality metric.

The decision to not charge errors occurs when case law behind the new patent examination guidance is, in OPQA management’s opinion, unsettled—meaning it may be subject to change in the foreseeable future. We found that OPQA reviewers do not apply a consistent standard in response to instances of “unsettled” law. In our interviews, some reviewers noted that they wait 6 months before recording errors, while others wait 12 months. If OPQA issued written policies to assist reviewers, OPQA could avoid inconsistency about when to start recording errors.

Accurate inputs in this process are imperative, since the composite quality metric that OPQA calculates from them is meant to accurately assess the overall quality of patent examination by USPTO’s examiner corps. Errors identified during OPQA reviews do not affect the performance ratings of an individual patent examiner; rather, the quality metric derived from them is used by stakeholders to assess the quality of decisions issued by USPTO. Thus, once USPTO has issued examination guidance to interpret changes in case law, OPQA should assess whether examiners are following this guidance.

²⁵ We have excluded instances where OPQA used the “Needs Attention” field to identify best practices.

Beyond the potential impact on the composite quality metric, there is also a negative secondary effect related to OPQA's practice of recording errors as "Needs Attention" rather than as errors. When OPQA reviewers identify an error, the Technology Centers must provide a response to this determination. Although OPQA feels that decisions flagged as "Needs Attention" are ones that could also serve as teaching moments for examiners, the Technology Centers are not required to provide a response in these instances. Furthermore, because some errors were not flagged, Technology Centers were not fully informed about the number of errors occurring and therefore may not have been taking the necessary corrective actions.

B. OPQA's Periodic Internal Audits Have Shortcomings

We also identified an area where OPQA could improve its internal auditing procedures. OPQA follows the quality management system standards set by the International Organization for Standardization (ISO). ISO standards require OPQA to conduct internal audits of its operations and to also periodically have an external entity conduct such a review. Eight of the 10 OPQA staff members we interviewed participated in such internal audits. These individuals stated that the internal audits reviewed OPQA's standard operating procedure (SOP) and asked OPQA staff to demonstrate how they follow them. Yet, not every OPQA procedure is included in the SOP.

We previously mentioned the example of the 6- to 12-month grace period for charging errors regarding new patent examination guidance. This example is not covered in an SOP and therefore represents an attribute that could not be tested during any internal examination or audit. The SOP also fails to specify the procedure that OPQA's reviewers should follow when they need to recuse themselves due to a conflict of interest. Thus, audit procedures that follow the SOP may not identify a lack of compliance with some policies and the informal practices followed by some OPQA reviewers. It is possible that, if the audit were structured in this way, OPQA could have already identified the fact that some of its reviewers were allowing a 6-month grace period after new examination guidance had been issued, while others were allowing a 12-month grace period. Furthermore, audits that follow the same routine from period to period, as described by the OPQA staff, may not be effective if the auditee knows and anticipates the audit steps beforehand and learns only those aspects best, rather than focusing on learning all aspects of the job.

III. USPTO Is Not Collecting Data That Could Improve Patent Quality

USPTO's FY 2014–2018 strategic plan states that USPTO will maximize the use of quality data it obtains from examiner reviews to ensure the issuance of high-quality patents. However, we learned that USPTO supervisors have not systematically collected information about the quality issues that were found during the supervisory review of patent applications. Furthermore, USPTO is not collecting valuable information from the program that assesses whether examiners are qualified to issue patent decisions without supervisory

review.²⁶ (This latter program is known as the Signatory Authority Program.) As a result, data that could be used to improve examiner quality is not being collected and analyzed.

A. USPTO Has Not Required Supervisors, Until Recently, to Spend Time Recording Errors in a Database

USPTO created a database called the Supervisory Patent Examiner (SPE) Management Database (SMD) to serve the needs of supervisors and USPTO management. The system allows supervisors to record performance ratings and bonuses, record which cases were reviewed as part of the Signatory Authority Program, and track when supervisors find errors in examiner decisions. SMD was available in May 2011 to track examiner errors found in written decisions. However, it wasn't until after we initiated our audit that USPTO mandated (in April 2014) that all supervisors record errors in the system.

Although USPTO is using SMD to collect some quality data, we identified additional information that is not collected which could be used to measure the quality of examiner decisions (see table 6, next page). For example, USPTO cannot determine what percentage of decisions has certain types of errors because supervisors still do not record which cases they review. Furthermore, USPTO cannot evaluate the types of errors and error rates that were upheld during the Signatory Authority Program. For example, USPTO could not confirm whether a sample, selected by OIG, of 60 examiners participating in signatory reviews had attained error rates of 6.49 percent or less, the level needed to obtain a performance rating of fully successful. Thus, USPTO cannot conduct a systematic analysis of errors and trends found from partial and full signatory reviews.

²⁶ Supervisors review and sign all patent applications reviewed by examiners who have not passed what is known as the Signatory Authority Program. Supervisors only review selected applications of senior examiners who have obtained partial and full signatory authority.

Table 6. USPTO Data Not Collected by Supervisors from Performance Reviews and Signatory Reviews

Program	Data Not Collected/Tracked	Why Data Collection Might Be Helpful
Performance Review	Cases reviewed	• Ensures supervisors reviewed the required number of cases for examiner performance appraisals. • Allows supervisors access to the error data USPTO started to collect in April 2014.
Signatory Authority Review	Cases with errors	• Allows Technology Centers to identify trends in errors committed by senior examiners.
	Error rate achieved by examiners	• Allows USPTO to determine whether the error rates of examiners completing the partial and full signatory authority are rising or not, and to document the error rate.

Source: OIG Analysis of USPTO documents

USPTO also checks for errors in examiners' determinations during the Signatory Authority Program. This program is a two-stage process that assesses whether examiners are qualified to issue patent determinations without additional supervisory review. (See appendix C for a description of the steps in the program.) The first stage of the process is the partial signatory authority. It occurs after an examiner has reached the GS-13 level. The second stage of the process is full signatory authority (see table 7, next page, for a breakdown of the examiner corps by grade and signatory authority). Once the examiner obtains full signatory authority, he or she does not need to be recertified to maintain this authority. During both stages, supervisors and Technology Center quality assurance specialists review at least 17 decisions per examiner for errors.²⁷ Each decision is reviewed by two different individuals who sit on a panel. The panelists identify potential errors, but ultimately the Technology Center director decides whether these errors should be considered when deciding whether the examiner receives partial or full signatory authority. Between FY 2012 and the second quarter of FY 2014, 1,040 examiners received full signatory authority. During the same period, 1,063 examiners received partial signatory authority. Unfortunately, USPTO does not systematically collect data on which decisions contain errors and if errors are charged during this process. Therefore, USPTO lacks key data to improve examiners' quality performance.

In contrast to its failure to collect information related to the quality element of examiner performance, USPTO has invested significant time to measure examiner

²⁷ The number of examiner decisions reviewed accounts for about one-half of the examiner decisions during the 6-month review timeframe.

productivity.²⁸ To track each examiner's productivity, supervisors receive automated biweekly reports from USPTO's Patent Application Location and Monitoring (PALM) System. In addition, USPTO created its Supervisory Patent Examiner (SPE) Dashboard, which includes numerous metrics to track examiner productivity and docket management compliance.

Table 7. Patent Examiner Corps, by Grade and Signatory Authority, as of June 5, 2014

Grade	Number
GS-05	4
GS-07	442
GS-09	737
GS-11	862
GS-12	1,091
GS-13 (no signatory authority)	969
GS-13 (partial signatory authority)	539
GS-14 and higher (full signatory authority)	3,342
Total	7,986

Source: USPTO data

USPTO has used some of the case tracking and productivity data found in PALM to help identify potential quality issues. USPTO refers to this subset of PALM information as Quality Index Report (QIR) data. QIR data tallies how often certain events occur that could indicate a potential quality concern. For example, the data tracks when an examiner reopened a case that had been closed and the number of determinations an examiner made on an application.²⁹ USPTO supervisors stated that they rely heavily on QIR data to identify potential productivity and quality issues. USPTO managers we interviewed indicated that this data could allow supervisors to focus their reviews on examiners whose examining behavior differs from their peers. We agree that this data is a valuable means for identifying examiners whose behavior deviates from the norm or expectations. However, this data does not track why certain types of errors, and issues related to them, are matters of concern across the entire examiner corps.

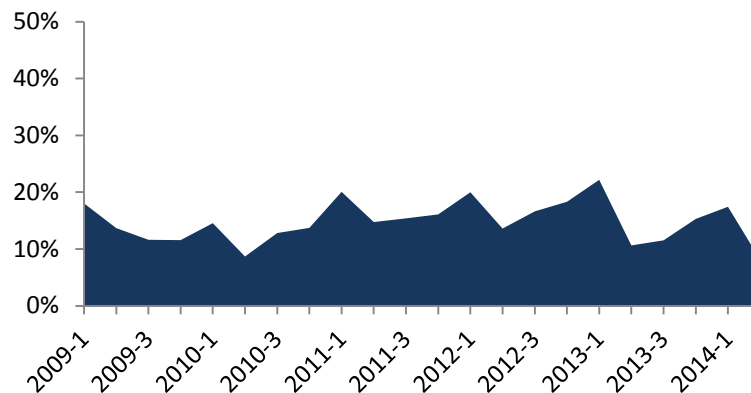
USPTO misses an opportunity to monitor the impact of specific actions or examiner behavior by not collecting information from supervisory reviews. For example, during our interviews with USPTO staff, some individuals identified the practice of "end

²⁸ Productivity goals are expressed as the average number of hours spent by the examiner on each application. The number varies by grade level and subject matter. On average, examiners review 73 patents per year.

²⁹ Typically, an examiner would issue two determinations on a patent application.

loading” as a matter of concern. End loading refers to the practice engaged in by some patent examiners of submitting a high volume of written decisions at the end of each quarter. This practice allows examiners to meet quarterly production goals for written decisions, but presents an appearance that the quality of the determinations could be compromised. We interviewed three supervisors who noted that end loading made it difficult to monitor the quality of the submissions. Others indicated that they enlist the assistance of Technology Center quality assurance specialists to review cases submitted by examiners who end loaded. Without knowing which cases a supervisor or other quality specialist has reviewed, USPTO cannot analyze what impact end loading had on the quality of determinations issued to applicants. We found that between October 1, 2009, and March 31, 2014, in any given quarter, between 543 and 1,767 (up to 20 percent) of examiners submitted more than 50 percent of their work in the last four weeks of the quarter (see figure 4).

Figure 4. Percent of Patent Examiners Who Submitted More than Half of Their Work in the Last Two Biweekly Periods of a Quarter, FY 2009–FY 2014



Source: OIG analysis of USPTO data

USPTO recently investigated end loading, interviewing a random sample of 49 supervisory patent examiners and all 26 Technology Center directors.³⁰ Of those employees, 71 percent of supervisors and 90 percent of the directors felt that end loading could negatively affect the quality of examiner work. As one supervisor explained, since end loaders provide the bulk of their work before deadlines, “There is pressure to review and approve, and you cannot spend enough time reviewing.” Between FY 2009 and the second quarter of FY 2014, OPQA found more than 150 errors in decisions issued by examiners who end loaded. Given that end loading is not a rare occurrence at USPTO, continually monitoring the practice and collecting information on it would help USPTO to identify and address quality concerns.

³⁰ Memo from Chief Administrative Officer, U.S. Patent and Trademark Office, to Office of Inspector General, August 10, 2014, “Inspector General Referral No. PPC-CI-12-1196-H; Re: Abuse of Telework Program at USPTO.” This memorandum discusses USPTO’s concerns about various time-and-attendance abuses, mortgaging, and end loading.

IV. USPTO's Response to Patent Mortgaging May Not Discourage Abuse

One type of work credit abuse, referred to as “patent mortgaging,” was mentioned in three of the nine interviews we conducted with Technology Center representatives. Patent mortgaging occurs when an employee knowingly submits incomplete work for credit in order to, for example, receive an award or avoid a performance warning. USPTO treats patent mortgaging as an act of misconduct and follows guidelines for punishment that are different from the escalating warning process for performance we described in finding I.³¹ Although supervisors receive reports that allow them to potentially identify instances of this abuse, we found that USPTO's response to allegations of patent mortgaging varied widely and may not discourage the practice.

The practice of patent mortgaging occurs, in part, because some examiners can receive credit for their work without supervisory review. All decisions made by an examiner who is below the GS-12 level are reviewed by a supervisor or senior examiner, making this practice less likely for them. However, examiners at the GS-12 level and above are able to receive credit for non-final decisions before undergoing supervisory review.³² Furthermore, examiners who have achieved full signatory authority are able to issue decisions (and thus receive credit for their work) without any supervisory review. The credit that examiners receive allows them to help meet their, and USPTO's, quarterly productivity expectations. Although examiners earn credit for incomplete work, the incomplete decisions are not mailed to applicants. Rather, administrative staff review specific aspects of all determinations and return incomplete decisions to examiners for correction before they are mailed.

It may be difficult for supervisors to monitor patent mortgaging. Supervisors can use the SPE Dashboard to monitor the number of administrative returns per examiner; however, there may be legitimate reasons why an examiner received a returned application. For example, in FY 2012 and FY 2013, 83 percent and 91 percent of examiners respectively had at least one decision returned by administrative staff for corrections (see table 8, next page).

³¹ A memorandum of understanding issued on October 22, 2010, between USPTO and POPA outlines USPTO's current system of escalating warnings for underperforming examiners. Examiners first receive a “safety zone” warning and then an oral warning before they receive a written warning. A safety zone warning is designed to give examiners whose performance is just below the acceptable range an opportunity to improve their performance before they are issued an oral warning.

³² The October 22, 2010, memorandum of understanding between USPTO and POPA established the policy that GS-12 and GS-13 examiners who had not yet achieved partial signatory authority would be eligible to receive credit for preliminary decisions before they were reviewed by a supervisor. As of FY 2014, approximately 74 percent of examiners are at the GS-12 level or higher.

Table 8. Number of Examiners with at Least One Decision Returned by Administrative Staff, FY 2012 and FY 2013

	FY 2012	FY 2013
Number of examiners with at least one decision returned by administrative staff	6,570	7,329
Total number of examiners as of the end of the fiscal year	7,935	8,051

Source: OIG analysis of USPTO data

The number of patent mortgaging allegations has increased in recent years. Between October 2008 and August 2014, 121 examiners were accused of patent mortgaging. More than one-half of these allegations occurred over the 11-month period from October 1, 2013, to August 29, 2014 (see table 9). We cannot determine from this data whether the practice of patent mortgaging is increasing or whether USPTO has become more focused on identifying instances of patent mortgaging.

To determine what level of disciplinary action is appropriate to impose on an employee for an act of misconduct, USPTO policies identify the factors that supervisors must consider in determining the severity of discipline. Examples of these factors include the effect upon “the supervisors’ confidence in the employee’s work ability to perform assigned duties,” “the notoriety of the offense or its impact upon the reputation of the agency,” and “the consistency of the penalty with those imposed upon other employees for the same or similar offenses.”³³

Table 9. Allegations of Patent Mortgaging, FY 2009–FY 2014

Fiscal Year (FY)	Allegations of Mortgaging	Total Patent Examiner Corps
2009	2	6,243
2010	5	6,225
2011	11	6,780
2012	18	7,935
2013	21	8,051
2014	64	8,611

Source: OIG analysis of USPTO data received between October 1, 2009, and August 29, 2014

USPTO’s responses to allegations of patent mortgaging have varied widely, and in accordance with the factors referred to above. Between October 2009 and August 2014,

³³ POPA, “Work Credit Abuse,” June 12, 2013, <http://popa.org/2165/> (accessed January 30, 2015).

the penalty for a first occurrence ranged from counseling to as much as a 14-day suspension (see table 10). During this same time period, we found that the redress most commonly used by USPTO was an “abeyance agreement.” An abeyance agreement means that USPTO and the employee accused of misconduct have entered into an agreement whereby the agency determines the appropriate discipline for the employee’s misconduct—for example, a suspension—but does not actually impose the discipline, provided that the employee fulfills his or her obligations under the agreement (typically, to commit no further act of misconduct for a specific number of years). If the employee does not fulfill his or her obligations under the agreement, and does commit a further act of misconduct, then the original sanction is automatically imposed.

The second and third most common responses were, respectively, “no action taken” and a suspension of 7 days or less. A total of 27 patent examiners were suspended for some period of time, and 7 resigned, retired, or were terminated.

Table 10. Actions Taken in Response to Allegations of Patent Mortgaging, October 2009–August 2014

Action	Frequency
Abeyance Agreement	15
No Action Taken	13
Suspension (7 days or less)	13
Suspension (8–14 days)	12
Oral Counseling	7
Pending	7
Reprimand	7
Counseling Letter	6
Resignation	5
Employee Exonerated	2
Settlement	2
Suspension (more than 14 days)	2
Discharge during Probationary Period	1
Factual Situation Unproven	1
Insufficient Evidence	1
Rescinded Action	1
Retirement (Voluntary)	1

Source: OIG Analysis of USPTO data

Note: USPTO had reached a final decision for 96 of the 121 patent mortgaging cases.

Work credit abuse can negatively impact the reputation of USPTO and unfairly affect employees who complete their work in a timely manner. In our interviews, USPTO staff

commented that they had heard about patent mortgaging, but were unable to identify specific instances. While USPTO has applied disciplinary actions for patent mortgaging offenses, the disciplinary actions we reviewed appeared to be inconsistently applied and could result in real (or perceived) instances of unfair treatment.³⁴ USPTO should, as part of its supervisory oversight, ensure that adequate controls are in place to detect and monitor the practice of patent mortgaging and that penalties are consistent with those imposed upon other employees for the same or similar offense.

Recommendations

We recommend that the Undersecretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office:

1. Refine supervisory guidance, processes, and performance appraisal plans to effectively measure patent examiner quality efforts and distinguish levels of performance—including taking steps to avoid disincentives for supervisors to charge errors to examiners when assessing performance under the requirements set forth in the examiner performance appraisal plans.
2. Strengthen OPQA's (a) independent quality review procedures to ensure their consistent application, particularly with respect to the application of new case law and how errors are categorized, and (b) internal audit process, by minimizing the predictable nature of the audit steps and allowing for the identification of the informal practices followed by some OPQA reviewers.
3. Use available databases and systems to collect information on patent applications reviewed and errors found, to improve USPTO's ability to identify quality trends.
4. Develop and document additional controls to better detect and monitor the practice of patent mortgaging and continue to ensure consistent application of USPTO disciplinary policies that address instances of it.

³⁴ Obtaining the documentation and conducting a legal review of USPTO disciplinary actions was outside the scope of this audit. Because we do not have sufficient information, we are not making any determination as to the extent that USPTO has been, or currently is, consistently adjudicating instances of patent mortgaging.

Summary of Agency Response and OIG Comments

In response to our draft report, the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office concurred with our four recommendations and noted that the bureau had begun to make progress on improving patent quality, including creating and filling a new, full-time senior executive position, the Deputy Commissioner for Patent Quality. USPTO's response is included in appendix D of this final report.

With respect to the first recommendation, we advise USPTO to make changes to its guidance, processes, and performance appraisal plans for both supervisors and employees, where appropriate. We look forward to reviewing the actions USPTO plans to take to meet the intent of our recommendation.

USPTO also submitted technical comments to the draft report. We made some changes to the final report based on these comments and suggestions. In particular, we clarified that OPQA's practice of allowing a 6- to 12-month grace period in response to new patent examination guidance before charging errors was an informal practice, and not an approved policy.

Appendix A: Objectives, Scope, and Methodology

The objective our audit was to (1) determine the sufficiency of USPTO's quality assurance program's processes to prevent the issuance of low-quality patents and (2) assess the additional quality reviews performed to measure examiner performance and ensure that examiners are fully qualified to issue patent determinations without supervisory review.

To accomplish our objectives we:

- Reviewed public comments submitted to USPTO concerning the agency's quality metrics and practices.
- Reviewed patent laws and regulations, guidance, performance appraisal standards, and memorandums of understanding with the Patent Office Professional Association (POPA) that apply to examiner performance evaluations and signatory authority reviews.
- Collected data on examiner performance appraisals, oral and written warnings submitted to the USPTO's Office of Human Resource Management, and error records from the Office of Patent Quality Assurance (OPQA), between FY 2009 and the second quarter of FY 2014 (where available). We tested the reliability of the data through electronic testing and, in some cases, manual matching.
- Interviewed nine supervisory patent examiners or training quality assurance specialists drawn from different Technology Centers to (a) determine how examiner performance evaluations and signatory authority reviews are conducted and (b) assess the implementation of internal controls.
- Interviewed six review quality assurance specialists and four supervisors in OPQA to determine common themes or significant issues related to patent quality assurance.
- Interviewed USPTO management and union officials to gain an understanding of the agency's efforts to prevent the issuance of low-quality patents.
- Assessed whether USPTO followed its criteria for designating signatory authority for a random sample of 60 USPTO patent examiners participating in the partial and full Signatory Authority Programs during FY 2012 and FY 2013 and determined whether USPTO has followed its procedures for rescinding examiners' partial and full signatory authority for inadequate performance.
- Reviewed an internal USPTO report and interviews pertaining to USPTO time-and-attendance issues, patent mortgaging, and end loading.
- Prepared the Inspector General's testimony of November 18, 2014, before a joint hearing of the U.S. House of Representatives' Committee on Oversight and Government Reform and Committee on the Judiciary on "Abuse of USPTO's Telework Program: Ensuring Oversight, Accountability and Quality."

Further, we gained an understanding of the internal controls related to independent review of patent decisions, OPQA's quality management system, USPTO's program for conferring

signatory authority, and USPTO's policies for preventing favoritism and abuse in the Signatory Authority Program and performance appraisal process.

There are additional quality-related processes and programs that were out of the scope of this audit. For example, our audit did not focus on the new examiner training, nor did we focus on whether supervisors and senior examiners provided adequate coaching and oversight to junior examiners. The programs we focused on address how USPTO ensures high-quality patents after completion of the initial examiner onboarding processes.

USPTO's Sensitive Application Warning System (SAWS) has been identified as a process for the additional examination of patent applications meeting certain identified criteria. Because SAWS is not incorporated into USPTO's *Manual of Patent Examining Procedure* (MPEP), its impact is not considered in this report.³⁵

As described in finding II, we found that OPQA lacks adequate procedures to capture unwritten policies and procedures that could affect the accuracy of USPTO's quality metric. However, we also found that USPTO has mostly sufficient internal controls regarding the approval of patent examiners into the Signatory Authority Program, but we lacked sufficient data to test some controls. We also found that USPTO had established reasonable controls to prevent most instances of favoritism, retaliation, and abuse of position in the performance appraisal and signatory review program. We did not identify any incidence of fraud, illegal acts, violations of laws, or abuse in our audit. We reviewed USPTO's monitoring and responses to work credit abuse committed by examiners because this concern was raised during our interviews.

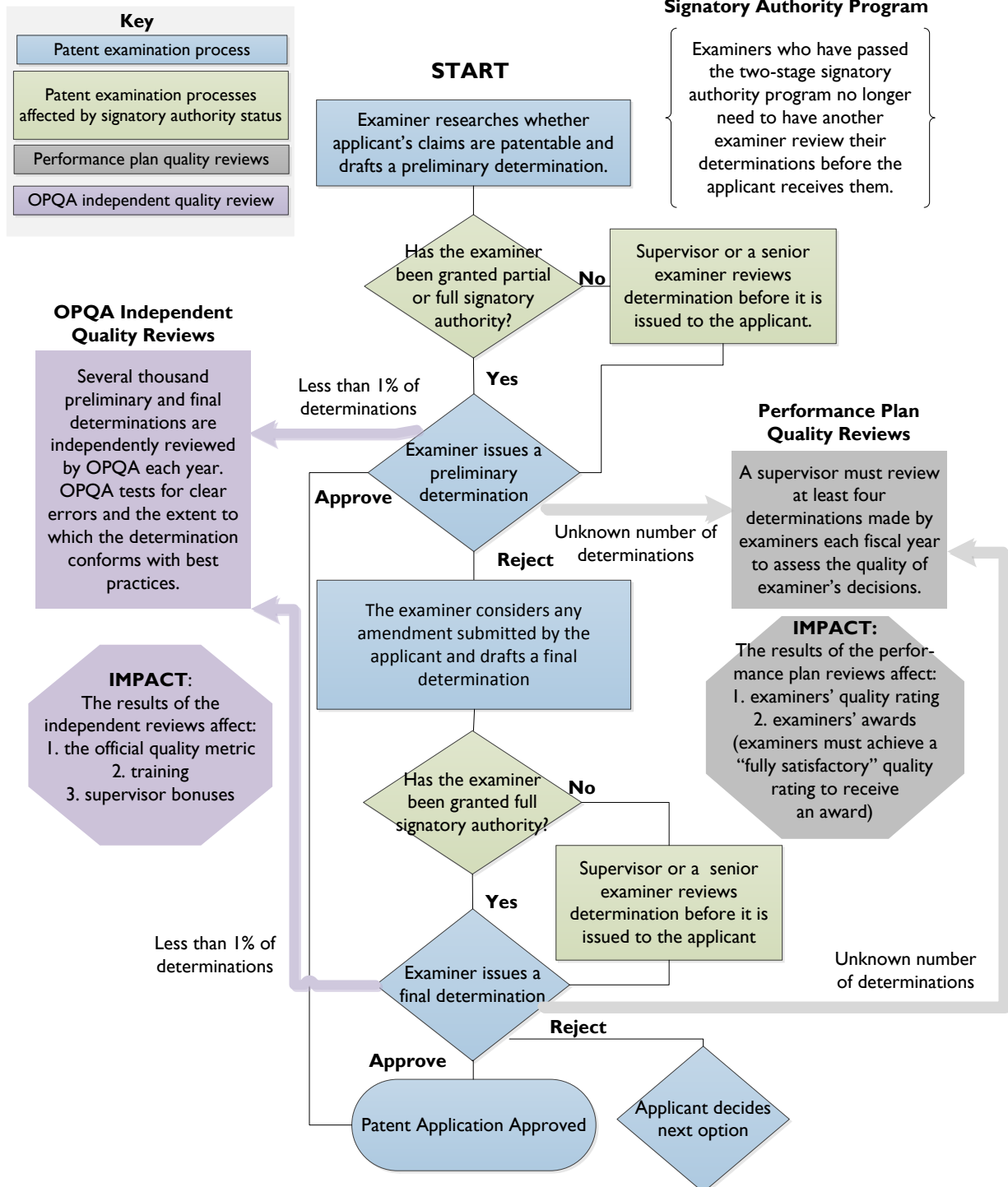
Because USPTO does not know what cases a supervisor or other person has reviewed, USPTO cannot analyze the reviews it has conducted to determine the impact of end loading has on the quality of determinations issued to applicants.

For our quantitative analysis, we relied on computer-generated data. We found the data sufficiently reliable to identify trends and create statistical models.

We conducted this audit from April 2014 through October 2014. The audit was conducted under the authority of the Inspector General Act of 1978, as amended, and Department Organizational Order 10-13, dated April 26, 2013, at USPTO offices located in Alexandria, Virginia. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

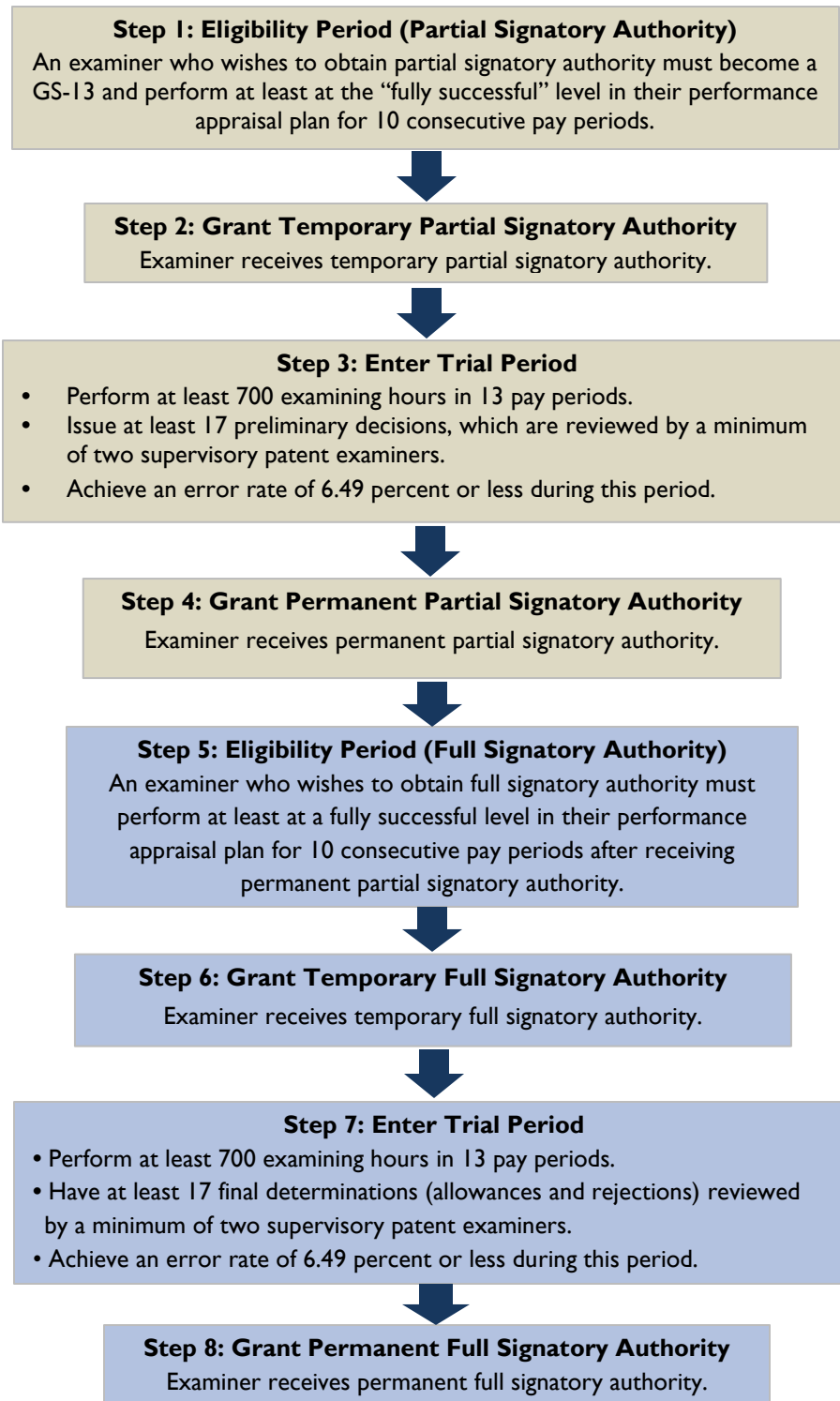
³⁵ U.S. Patent and Trademark Office, 2014. *Manual of Patent Examining Procedure*, 9th ed. Alexandria, VA: USPTO, March 2014.

Appendix B: Overview of USPTO's Patent Examination and Quality Assurance Processes



Source: OIG analysis of USPTO policies

Appendix C: Signatory Authority Program



Source: OIG analysis of USPTO policies

Appendix D: Agency Response



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

MAR 20 2015

MEMORANDUM FOR Andrew Katsaros
Principal Assistant Inspector General for Audit and Evaluation

FROM: Michelle K. Lee *Michelle K. Lee*
Under Secretary of Commerce for Intellectual Property and
Director of the U.S. Patent and Trademark Office

SUBJECT: Comments on OIG Draft Report "*USPTO Needs to Strengthen Patent
Quality Assurance Practices*" (February 2015)

Executive Summary

We appreciate the effort you and your staff made in reviewing the United States Patent and Trademark Office's (USPTO's) quality assurance processes and practices. We carefully reviewed the four recommendations made in the subject draft report.

In response to the America Invents Act, the USPTO has made meaningful progress with respect to strengthening patent quality. Further, the USPTO recently announced an Enhanced Patent Quality Initiative focusing more than ever on building a world-class patent quality system for American entrepreneurs and innovators. In furtherance of this Initiative, as noted in the OIG Draft Report "*USPTO Needs to Strengthen Patent Quality Assurance Practices*" (February 2015), the USPTO created and filled a new, full-time, senior executive position, the Deputy Commissioner for Patent Quality. Also, on February 5, 2015, the USPTO published a Federal Register request for comments, seeking public input and guidance on ways to enhance patent quality. The Federal Register notice sets forth five proposals and invites public input on these five proposals as well as any other proposals on how to enhance the quality of patents issued by the agency. Given that the USPTO is currently looking for ways to further improve patent quality, the OIG's input is particularly timely, and the agency appreciates the OIG's input.

Our response to each recommendation is discussed in detail below.

Response to Recommendations

IG Recommendation (1): Refine supervisory guidance, processes, and performance appraisal plans to effectively measure patent examiner quality efforts and distinguish levels of performance—including taking steps to avoid disincentives for supervisors to charge errors to examiners when assessing performance under the requirements set forth in the examiner performance appraisal plans.

USPTO Response:

The USPTO appreciates the IG's recommendation and concurs with the overall goals of the recommendation to refine supervisory guidance, processes and performance appraisal plans to effectively measure patent examiner quality efforts and distinguish levels of performance. In order to achieve these goals, the USPTO is evaluating how supervisors are currently administering the quality element of the examiner performance appraisal plan and will consider options for providing training and guidance to supervisors on how best to administer the quality element based upon the results of this evaluation.

IG Recommendation (2): Strengthen OPQA's (a) independent quality review procedures to ensure their consistent application, particularly with respect to the application of new case law and how errors are categorized, and (b) internal audit process, by minimizing the predictable nature of the audit steps and allowing for the identification of the informal practices followed by some OPQA reviewers.

USPTO Response:

The USPTO concurs with this recommendation.

As to (a), the USPTO agrees that OPQA should strengthen its quality review procedures to ensure their consistent application, particularly with respect to the application of new case law and how errors are categorized. Specifically, the USPTO agrees that policies concerning grace periods for charging errors following new case law should be memorialized in writing to ensure clarity and consistency. OPQA will formally document when grace periods apply following the issuance of new patent examination guidance. Additionally, if grace periods are implemented at any time in the future, they will be documented to ensure clear and consistent application by OPQA staff, and OPQA will document grace period "errors" found.

Regarding (b), the USPTO agrees that OPQA should continue to strengthen its internal audit processes, to take steps to minimize the predictable nature of audit steps, and to allow for the identification of informal practices. We are currently working to identify any undocumented OPQA procedures and policies that should be documented and included in the Quality Management System. Further, to address strengthening of OPQA's internal audit processes, the USPTO in the past twelve months, has utilized an external firm to train twenty new internal auditors and provide refresher training to its existing auditors. The training has enhanced OPQA's auditing strategies to include a combination of horizontal, vertical, process and clause audits. Additionally, in December 2014, OPQA underwent a recertification audit of its Quality Management System and was recommended for continued ISO 9001:2008 certification. OPQA's internal audit effectiveness was documented as "good" and the recertification audit highlighted the benefit of the training of new auditors and the use of its improved processes.

IG Recommendation (3): Use available databases and systems to collect information on patent applications reviewed and errors found to improve USPTO's ability to identify quality trends.

USPTO Response:

The USPTO concurs with this recommendation. The USPTO will utilize available databases and systems to collect information on patent applications reviewed and errors found to improve the ability to identify quality trends. The USPTO now requires all supervisory PAP reviews to be recorded in a database. To further improve examination quality, this information will be analyzed on an ongoing basis to determine the frequency of various types of errors in each Technology Center. This information in turn will be used to plan appropriate training to correct errors found in the analysis of the review.

IG Recommendation (4): Develop and document additional controls to better detect and monitor the practice of patent mortgaging and continue to ensure consistent application of USPTO disciplinary policies that address instances of it.

USPTO Response:

The USPTO concurs with this recommendation. The USPTO will develop and document additional controls to better detect and monitor the practice of patent mortgaging and continue to ensure consistent application of disciplinary policies that address instances of patent mortgaging. The USPTO has already taken steps to improve the consistency of submission of examiners work product by implementing the “consistent credit initiative” (CCI) program within the patent examining corps. During fiscal year 2014, one of the Technology Centers (TC) within the Patents business unit developed and implemented the CCI pilot which focused on encouraging and teaching examiners on the importance of producing work product on a consistent basis from bi-weekly period to bi-weekly period throughout the year. Based on the success from the pilot, the USPTO has expanded the initiative across all TCs. The CCI is now a patent examining, corps-wide program designed to 1) foster good work habits, 2) increase employee engagement, and 3) communicate clearly performance expectations to both managers and examiners on work flow production, with the goal of further reducing pendency and improving quality. The USPTO has also reviewed and revised the auto-count privilege provided to certain examiners to ensure that this is not contributing to undesirable behaviors such as mortgaging and in certain instances has suspended auto-count privileges for certain examiners.

Conclusion

Thank you again for providing us with this report. We will work hard to meet the recommendations in a timely manner and look forward to working with your office to further enhance and strengthen our patent quality assurance processes.