

*U.S. DEPARTMENT OF COMMERCE
Office of Inspector General*



*United States
Patent and Trademark Office*

*Stronger Management Controls
Needed over USPTO's
Projection of Patent Fee Collections*

Final Report OIG-11-014-A

December 14, 2010

FOR PUBLIC RELEASE

Office of Audit and Evaluation





UNITED STATES DEPARTMENT OF COMMERCE
The Inspector General
Washington, D.C. 20230

December 14, 2010

MEMORANDUM FOR: David J. Kappos, Under Secretary of Commerce for
Intellectual Property and Director, United States
Patent and Trademark Office

A handwritten signature in black ink that reads "Todd J. Zinser".

FROM: Todd J. Zinser

SUBJECT: Audit Report No. OIG-11-014-A, *Stronger Management
Controls Needed over USPTO's Projections of
Patent Fee Collections*

This memorandum transmits the final report of our audit of USPTO's process for projecting patent fee collections. The purpose of this audit was to determine whether USPTO has an effective process for projecting patent revenue that enables it to meet its mission and strategic goals for patents.

We briefed your staff regarding our findings and recommendations on August 19, 2010, and provided you with a draft report on September 9. In short, we found that USPTO has consistently over- and underestimated the amount of specific patent fees it will collect in a given fiscal year. As a result, stakeholders such as the Secretary, USPTO managers and executives, and the Congress, may not have clear expectations of what the agency will be able to fund because the differences between the estimated and actual patent fee collections have fluctuated considerably. We make a series of recommendations for stronger management controls that would enhance transparency and accountability in this very important area.

Your November 19 response to our draft report concurred with our recommendations. We have summarized the response in our report and included it in its entirety as an appendix. Separately, you provided technical comments, which we addressed in the report as appropriate. The report will be posted on our website pursuant to section 8L of the Inspector General Act of 1978, as amended.



In accordance with Department Administrative Order 213-5, please provide us with an audit action plan within 60 days of the date of this memorandum. We extend our appreciation to USPTO for the courtesies shown to us during our work. If you have any questions, please contact me at 202-482-4661 or Ronald C. Prevost, Ph.D., Assistant Inspector General for Economic and Statistical Program Assessment, at 202-482-3052.

cc: Scott B. Quehl, Chief Financial Officer and Assistant Secretary for Administration
Anthony P. Scardino, Chief Financial Officer, USPTO
Mark Olechowski, Deputy Chief Financial Officer, USPTO
Robert L. Stoll, Commissioner for Patents, USPTO
Welton Lloyd, Audit Liaison, Office of Corporate Planning, USPTO

Attachment



Report In Brief

U.S. Department of Commerce, Office of Inspector General

December 14, 2010



Why We Did This Review

The U.S. Patent and Trademark Office (USPTO) is a fully fee-funded agency. As such, its fees must fund its operations. In such an environment, it is especially important that USPTO assures its stakeholders that the best available fee collection projections are developed and used. Without such assurances, the agency risks having to adjust spending in ways that could disrupt key operations and initiatives to improve patent quality and timeliness.

Our objective was to determine whether USPTO has an effective process for projecting patent revenue and that enables it to meet its mission and strategic goals for patents.

Background

USPTO is the sole federal agency responsible for granting patents and registering trademarks, part of the nation's intellectual property system. Patents--which account for most of the agency's work--give inventors exclusive rights to their discoveries and contribute to the U.S. economy's vitality and strength. Fiscal year (FY) 2009 patent fees of \$1.7 billion accounted for about 90 percent of USPTO's total annual fee collection.

United States Patent and Trademark Office

Stronger Management Controls Needed over USPTO's Projection of Patent Fee Collections (OIG-11-014-A)

What We Found

For fiscal years 2006 through 2009, USPTO experienced significant disparities between projected and actual patent fee collections; these ranged from shortfalls of about \$56.6 million in FY 2006 to \$171 million in FY 2009 (not a typical year for the economy).

USPTO does not have clear guidance or a disciplined, documented process for forecasting patent fee collections. According to officials, keeping the overall process of developing projections "fluid" is the reason that a deliberate decision was made not to have mandated guidance or documentation. The patent production model, which generates data used to project fee collections, also lacks management controls such as written policies and procedures. Without these, it is difficult for USPTO to learn from the variances between forecasts and actual collections, and how to reduce them. As a result, in this operational environment, stakeholders may not have clear expectations of what the agency will be able to fund because the differences between the estimated and actual patent fee collections have fluctuated considerably. Stronger management controls would, therefore, enhance transparency and accountability.

While the aggregate differences between projections and collections appear to be within a generally acceptable margin of forecasting error, such data actually mask much greater differences for individual fees (of which there are almost 250). USPTO has repeatedly over- and underestimated the amount of specific patent fees that it will collect in a given year, sometimes by as much as 20 to 50 percent. These differences mask discrepancies of tens of millions of dollars annually for certain fees.

During the time of our review, the patent application backlog grew from 701,000 to nearly 736,000. Similarly, the amount of time it took to reach a decision on a patent application grew between FY 2006 and FY 2009 from about 31 months to about 35 months. While not demonstrably connected to forecast accuracy and transparency, a better forecasting process would give stakeholders more comprehensive data with which to develop expectations. As USPTO implements a new strategic plan, a framework recognizing the importance of risks associated with variances in fee-collection forecasts will be increasingly important.

What We Recommend

In order to strengthen USPTO operations over patent fee forecasting, we are making three detailed recommendations to the Under Secretary of Commerce for Intellectual Property/USPTO Director. These entail (1) directing the agency's Chief Financial Officer (CFO) to establish and implement written policies and procedures for developing fee-collection forecasts; (2) requiring the CFO to annually report on the variances between projected and actual patent fee collections, including their causes and any noted trends; and (3) directing the Commissioner for Patents to establish and implement written policies and procedures for the patent production model.

Contents

Introduction.....	1
Findings and Recommendations.....	3
Stronger Management Controls Would Enhance Accountability and Transparency in USPTO’s Projection of Patent Fee Collections	3
<i>Documentation Lacking for Projecting Patent Fee Collections</i>	3
<i>Documentation Lacking for Patent Production Model</i>	4
<i>Aggregate Patent Fee Data Mask Differences between Projected and Actual Fee Collections</i>	4
<i>An Enhanced Control Environment over Patent Fee Forecasting Would Strengthen Operational and Strategic Planning</i>	6
Conclusion and Recommendations.....	7
Summary of USPTO Comments and OIG Response	8
Appendix A: Scope and Methodology.....	9
Appendix B: Differences between Projected and Actual Patent Fee Collections for USPTO’s Three Largest Fee Categories.....	10
Appendix C: Agency Response	14

Introduction

An agency within the Department of Commerce, the United States Patent and Trademark Office (USPTO) is responsible for ensuring that the intellectual property system within the United States contributes to a strong global economy, encourages investment in innovation, and fosters an entrepreneurial spirit. USPTO accomplishes this mission by serving as the sole federal agency responsible for granting patents and registering trademarks. Patents, which account for the majority of USPTO's work, provide inventors with exclusive rights to their discoveries and contribute to the strength and vitality of the U.S. economy.

As a fully fee-funded agency, USPTO relies upon the patent and trademark fees it collects to fund its operations and fulfill its mission. These fees are used to support all segments of USPTO operations, including staffing, information technology systems, and training. Patent fees of \$1.7 billion accounted for approximately 90 percent of USPTO's annual fee collections in fiscal year (FY) 2009.¹ Patent fee projections play an integral role in planning for upcoming operations and informing stakeholders—such as the Secretary, agency managers and executives, and the Congress—about what the agency plans to accomplish. Without assurances that the best available projections for patent fee collections are being used, USPTO risks having to adjust spending in ways that would disrupt key initiatives to improve patent quality and timeliness and hinder its ability to accomplish its goals.

What Is a Patent?

A patent for an invention is the grant of a *property right* to the inventor, usually for 20 years from the patent application's U.S. filing date and subject to the payment of maintenance fees. The patent confers the right to exclude others from making, using, offering for sale, selling, or importing the invention. Once USPTO issues a patent, the patentee must enforce the patent without aid from USPTO.

In FY 2009, USPTO collected approximately \$171 million less in patent fee collections than estimated in the FY 2009 budget. While this significant shortfall occurred during a time of economic recession, it raised concerns about USPTO's overall budget process. During the same time that the backlog of patent applications awaiting review had grown to almost 736,000, the average time to review patent applications had increased to almost 35 months.

This audit's objective was to determine whether USPTO has an effective process for projecting revenue and expenses for its patent operations that enables it to meet its operating costs and achieve its mission and strategic goals for patents. Because the patent fee projections play an integral role in operational and strategic planning, we focused on USPTO's process for developing patent fee forecasts. We met with USPTO program officials about the process for projecting patent fee collections and analyzed data on projected and actual patent fee collections for FYs 2006–2009. Appendix A outlines in further detail the scope and methodology we followed for this audit.

¹Congress, through statute, sets the majority of USPTO's patent fees; it also sets spending ceilings for USPTO through the annual appropriations process.

Summary of Findings

USPTO funds operations with the fees it collects, necessitating clear guidance and a disciplined and documented process for forecasting patent fee collections. The agency, however, lacks documented management controls over its patent fee forecasting operations. In the process, USPTO has consistently over- and underestimated the amount of specific patent fees it will collect in a given fiscal year. While the aggregate differences between projections and collections appear to be within a generally acceptable margin of forecasting error, such data actually mask much greater differences for individual fees (of which there are almost 250). For example, one fee was over its estimate by 30-55 percent between 2006 and 2009; another fee was under its estimate during those years by 35-42 percent. When actual fee collections do not reach projected levels, USPTO must respond with spending reductions that, in turn, affect the agency's ability to sustain and improve its patent operations. More transparent forecasts—including the assumptions and uncertainties about revenue streams—would have provided internal and external stakeholders with more realistic expectations of what could and could not be accomplished, and supported decision making necessary to institute a stable funding and budgeting process.

Findings and Recommendations

Stronger Management Controls Would Enhance Accountability and Transparency in USPTO's Projection of Patent Fee Collections

As a fee-funded agency, USPTO may only spend what it collects in patent and trademark fees. Operating solely with these fees, USPTO develops its budget and spending plans based upon its operating requirements and its projected fee collections. If the agency's estimated fee collections and projected revenues do not materialize, the agency must make management decisions to adjust fee rates or modify performance requirements, which ultimately disrupt the patent review process.

In fiscal years 2006 through 2009, total patent fees collected by USPTO have been less than projected. Forecasting any type of revenue collection is difficult and is not an exact science, as forecasts can include assumptions about future economic events and policy decisions. Differences between forecasts and actual collections naturally occur² and should be reported, as they directly affect budgeting and spending plans. Therefore, strong management oversight and controls are necessary to guide forecasting and ensure accountability and transparency.

Documentation Lacking for Projecting Patent Fee Collections

Responsibility for projecting collections from approximately 250 different patent fees rests with the Forecasting and Analysis Division within the Office of Corporate Planning/Office of the Chief Financial Officer. The staff includes a director, three economists, a statistician, and a budget analyst. The collection forecasts for each of the fees are developed using data as well as professional judgment.

This important segment of USPTO operations lacks management controls, such as operational policies and procedures, for projecting patent fee collection. According to USPTO officials, no documented process currently exists for developing fee projections; this is deliberate, to ensure that the development process remains fluid. Yet the lack of written guidance and documentation prevents agency management from ensuring that reliable and timely information is available to guide decision making; similarly, analyzing and reporting risks associated with the projections to internal and external stakeholders becomes difficult at best.

For those patent fee collections that were either much greater or much less than projected, USPTO could not provide any documented analysis of these variances or whether it had identified opportunities to narrow them. Further, USPTO does not document any work processes related to reconciling assumptions and components of fee forecasts to actual collections. Without such documented reconciliation of projected fee collections to actual collections and analysis of the underlying components used to forecast collections, managers cannot compare actual

²There is no set standard for what constitutes an acceptable variance between projected and actual revenues. Based upon a review of budget forecasting literature, the degree of accuracy needed or the margin of error tolerated—usually within 5 percent of actual receipts—is generally deemed reasonable.

performance with planned or expected results, nor can they analyze significant differences to identify any risk or potential flaws in the existing fee-projection methodology. Therefore, the agency cannot provide documentation to support or defend what actions should be taken to limit the differences between projected and actual collections.

USPTO officials noted that staff needs to provide forecasts for current and upcoming years and that they are not always available to provide retrospective analysis. For example, a few years ago, an economist prepared supporting statistical and econometric analyses; however, after that individual left the agency, the position remained vacant and staff was not available to complete this work. Further, USPTO has not conducted any external validation or internal reviews of the forecasting model used to project fee collections. Such a periodic external validation would not only provide the organization with independent validation of formulas and calculations, but would also identify areas for improvement in the model.

Documentation Lacking for Patent Production Model

USPTO's patent production model,³ which generates data related to patent production, is one of the many sources of data used to project patent fee collections. Patent production model outputs used for fee forecasting include the expected number of patents to be allowed and the number of initial decisions on a patent application. These and other model outputs are associated with activities for which USPTO then charges fees. However, USPTO lacks management controls over the model, including written policies and procedures for its operations.

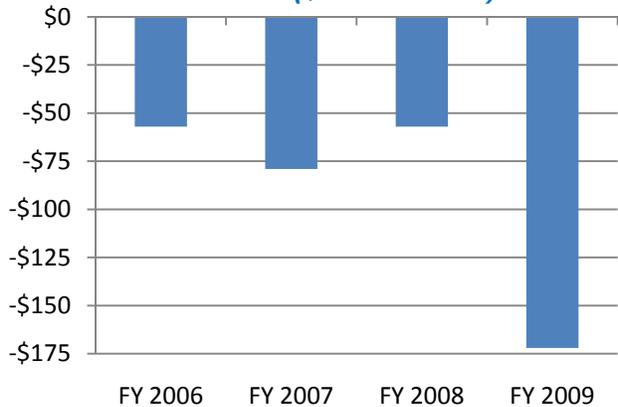
When asked to provide any written documentation regarding policies and procedures for the patent production model, USPTO officials referenced only the 100⁺ pages of computer programming code and provided no further written documentation. USPTO could not, then, document any management directives regarding the model; roles and responsibilities for the model and its outputs; data sources to be used in the model; requirements for documenting and explaining any changes made to the model and the rationale for those changes; oversight functions for the model; or requirements for periodic internal and external assessments of the model. Such tools are necessary to ensure that USPTO obtains, maintains, reports, and uses reliable and timely information for decision making; they likewise provide for continuity of operations and assist the agency in appropriately carrying out management directives.

Aggregate Patent Fee Data Mask Differences between Projected and Actual Fee Collections

From FY 2006 through FY 2009, the total amount of patent fees collected was less than what USPTO had originally projected in the President's annual budget submissions (see figure 1). Although patent fee collections had grown to about \$1.7 billion in FY 2009, the collections were between \$56.6 million and \$78.5 million less than projected during FYs 2006, 2007, and 2008.

³The patent business area within USPTO primarily uses this simulation tool to plan and manage patent examination operations and to support budget requests.

Figure 1. Dollar Differences Between Actual and Projected Patent Fee Collections (\$ in millions)



Source: OIG based on USPTO data

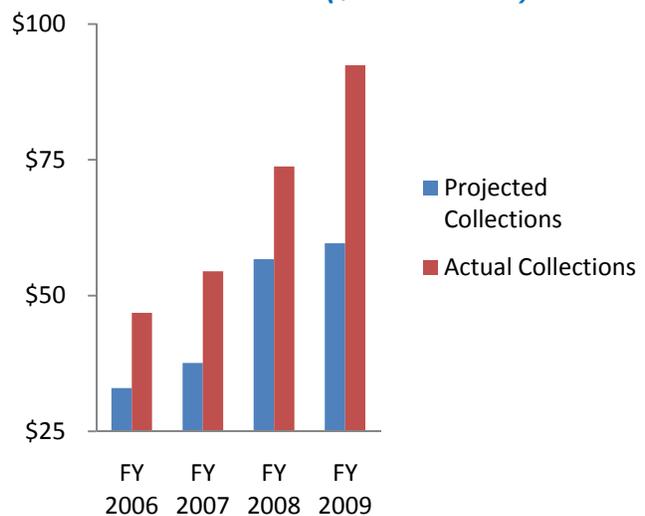
In FY 2009, patent fee collections were \$171 million less than what USPTO had originally projected in the President’s FY 2009 budget. This 9-percent difference was much greater than the 3–5-percent difference of previous years, due in part to the worldwide economic downturn.

These differences, when examined in the aggregate (except for FY 2009) show USPTO to be operating within a generally accepted margin of forecasting error. However, the aggregate data mask much greater differences between the projected and actual fee collections for individual patent fees, with the differences translating into tens of millions of dollars for USPTO’s budget and spending plans.

To further identify the differences in disaggregated fee data, we analyzed eight fees, which represent approximately half of USPTO’s annual patent fee collections.⁴ For three of the eight fees, projected collections were near the amount collected, while for four of the fees, the amounts collected were less than projected. In one case, collections were more than projected. Appendix B contains detailed information on the eight patent fees analyzed.

Collections for one patent fee, “request for continued examination”, consistently surpassed projections by more than 30 percent (see figure 2). Patent applicants pay this fee when asking USPTO to continue to examine a patent application after the agency has made an initial decision to close the review and not grant a patent. USPTO’s collections from this one fee almost doubled from FY 2006 to FY 2009, from \$47 million to \$92 million, and annually account for 3–6 percent of USPTO’s total patent fee collections. The

Figure 2. Projected and Actual Fee Collections for "Requests for Continued Examination" (\$ in millions)



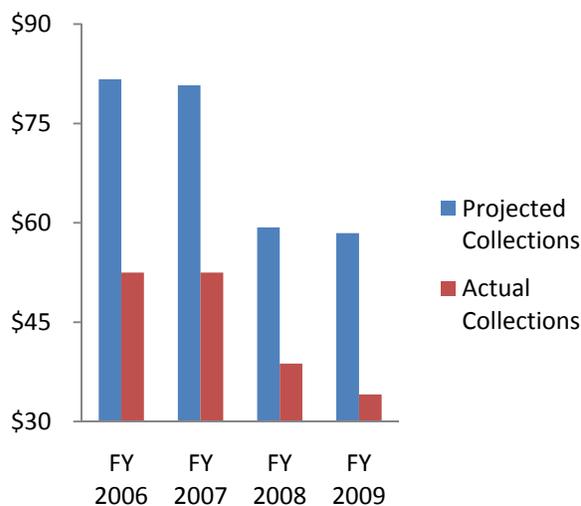
Source: OIG based on USPTO data

⁴We did not independently evaluate the models or the data used; rather, we reviewed any existing agency process and documentation to assess whether management controls were in place to provide an overall structure to the process and to require mechanisms for analyzing the models and identifying and reporting the risks associated with possible forecasting differences.

agency underestimated projected collections by 30–55 percent, which translated into USPTO’s collecting an additional \$14 million to \$33 million. According to USPTO officials, they had anticipated some growth and then a leveling off of the growth rate for these requests. However, agency officials could not provide any written analysis regarding the continued large gap between projected and actual collections for this fee.

Conversely, collections for one type of patent application fee were consistently 35 percent less than what was projected. This fee, for patent applications for which the total number of claims exceeds 20,⁵ annually accounts for 2–4 percent of USPTO’s patent fee collections (see figure 3). From FY 2006 to FY 2009, the agency typically collected about \$35 million–\$50 million for this fee, yet this was up to 42 percent less than projected. These differences resulted in USPTO’s collecting \$21 million–\$29 million less than projected for this fee. USPTO staff explained that the agency modified its formula for projecting collections from this fee, but these expected changes that would affect collections did not occur to the extent anticipated. As with the requests for continued examination, USPTO could not provide any written analysis regarding the continued large gap between projected and actual collections for this fee.

Figure 3. Projected and Actual Fee Collections for "Applications with More than 20 Claims" (\$ in millions)



Source: OIG Based on USPTO data

An Enhanced Control Environment over Patent Fee Forecasting Would Strengthen Operational and Strategic Planning

In organizations that operate on reimbursable funding streams, revenue forecasting plays an integral role in organizational decision making by establishing the anticipated funding levels for upcoming budgets and laying the foundation of an organization’s long-term planning and development. At USPTO, the patent fee forecasts are vital to the agency’s planning process. They provide the critical framework for informing key internal and external stakeholders about what operations can be maintained, what initiatives can be undertaken, and what strategic goals are attainable in the upcoming fiscal years. While the actual fee collections, along with spending ceilings set through the appropriations process, ultimately dictate what the agency can and cannot spend in a given fiscal year, the forecasts set the expectations and are critical to avoiding overly ambitious spending plans. Therefore, having strong controls over the forecasting segment of this process—ones that inform stakeholders about the uncertainties of the forecasts and attempt to minimize the eventual variance between projected and actual fee collections—can

⁵A claim is the portion of a patent that establishes the legal boundaries of the invention (that is, the exclusive rights of the owner). Patent claims, written in a formal style and precise terminology, serve as the basis for any determination of patent infringement.

provide a more realistic framework from which operational and strategic planning can be based, including plans to address the backlog and pendency of patent applications.

USPTO does not have a disciplined, documented, and replicable process that reconciles and improves its forecasting processes to the greatest extent possible from prior variances between forecast and actual fee collections. In each of the four fiscal years we reviewed, USPTO fee collections were less than projected. While the agency monitors incoming fee collections in executing its budget during a given fiscal year and adjusts planned spending accordingly, planned spending reductions were necessary each year because collections were less than forecast. Further, while USPTO provided a monthly spending and performance report to agency management during the period covered by our review, which included projected and actual fee collections, this important report did not include the ranges of possible fee collections or information on the underlying assumptions about the collections. Such relevant information was added to the monthly reports beginning in February 2010.

During the time of our review, USPTO's patent application backlog grew, as did the length of time it takes the agency to make a decision on a patent application. From FY 2006 through FY 2009, the number of patent applications waiting to be examined increased from about 701,000 to nearly 736,000. The average amount of time required to make a decision on a patent application also increased, from about 31 months in FY 2006 to about 35 months in FY 2009. More transparent forecasts, including the assumptions and uncertainties about revenue streams, may not have directly affected USPTO's ability to address these challenges; however, they would have provided internal and external stakeholders with more realistic expectations of what could and could not be accomplished. As USPTO implements its new strategic plan, a framework that recognizes the risks associated with possible variances in patent fee collection forecasts is all the more important as cost proposals are developed to implement strategic initiatives.

Conclusion and Recommendations

Patent fee projections play a vital role in developing and executing USPTO's budget and spending plans, calling for a disciplined, documented, and transparent process for forecasting these collections. Without an effective process that clearly outlines the assumptions and resulting uncertainties associated with the projections, USPTO risks not being able to implement much-needed initiatives and other improvements to operations because actual collections are much less than forecast. In order to strengthen USPTO operations over its patent fee forecasting, we recommend that the Under Secretary for Intellectual Property:

1. Direct the USPTO Chief Financial Officer to establish and implement written policies and procedures for developing fee collection forecasts, including policies and procedures for
 - defining roles and responsibilities for the models;
 - documenting and retaining, for a sufficient period of time, formulas, data, data sources, assumptions, and other underlying components used for patent fee forecasts;
 - adequate recording of the impact of policy, economic, regulatory, or other changes on patent fee collection;

- monitoring, reconciling, and analyzing assumptions used in projections, and actual data when they become available; and
 - assessing periodically the patent fee forecasting models, including discussions of possible emerging trends and USPTO's plans to address these trends within the patent fee forecasting models.
2. Require the Chief Financial Officer to report annually on the variances between projected and actual specific patent fee collections, including the potential causes for significant variances and possible trends to consider. Because of the many patent fees USPTO collects, the agency should consider focusing on those fees that make up a significant portion of USPTO's patent fee collections. The agency could report this information in public documents such as its annual *Performance and Accountability Report* or the President's budget, as it did for the fiscal year 2011 budget.
3. Direct the Commissioner for Patents to establish and implement written policies and procedures for the patent production model for
- defining roles and responsibilities for the model;
 - documenting and retaining, for a sufficient period of time, the formulas, data, data sources, assumptions, and other underlying components used for the patent production model;
 - adequately recording the impact of policy or other changes on the patent production model;
 - monitoring, reconciling, and analyzing assumptions used in projections, and actual data when they become available; and
 - assessing periodically the patent production model, including periodic external reviews and validation, discussions of possible emerging trends, and USPTO's plans to address these trends within the patent production model.

Summary of USPTO Comments and OIG Response

In its official response to our draft report, dated November 19, 2010, USPTO concurred with our recommendations and outlined steps it has begun to take to strengthen its patent fee forecasting operations. Separately, USPTO provided technical comments, which have been addressed in the report as appropriate. USPTO also notes that its aggregate fee forecasts have been within acceptable ranges with the exception of FY 2009. However, our analysis shows that in prior years, USPTO has consistently over- or underestimated some of its major patent fee revenue streams, raising concerns that significant variances and trends were not being addressed in the patent fee forecasting models. We reaffirm our findings and recommendations. Strengthened management controls over patent fee forecasting activities should provide increased accountability and transparency over these critical operations. The full USPTO response is included as Appendix C of this report.

Appendix A: Scope and Methodology

We conducted this performance audit from August 2009 through August 2010 at USPTO in Alexandria, Virginia. Our work covered FY 2006–2009. To assess the process for projecting patent fee collections and processes for budget development, execution, and monitoring of expenses for patent operations, we completed the following tasks:

- interviewed USPTO officials to obtain an understanding of the organizational structure, the budget development and execution process, the various offices involved in patent fee forecasting and budget development, and each office’s relevant policies and procedures;
- obtained and analyzed data on patent fee projections and actual collections for FYs 2006 through 2009 to determine the extent of variances between projected and actual patent fee collections;
- reviewed annual USPTO *Performance and Accountability Reports*, President’s budget submissions, and other documents related to its mission and goals; and
- analyzed USPTO’s spending adjustments for each fiscal year and obtained documentation on these adjustments and their impact on the agency’s mission and patent goals.

We obtained an understanding of internal controls for the patent fee forecasting process by interviewing staff involved in this process as well as reviewing the data and systems used. We reviewed USPTO compliance with applicable provisions of pertinent laws and regulations, including various PTO-related laws and the *GAO Standards for Internal Control in the Federal Government*.⁶ Our audit identified internal control deficiencies, which are discussed in this report; it did not identify any instances of fraud, illegal acts, violations, or abuse.

With regard to data reliability, we relied on prior independent audit work on USPTO’s Revenue Accounting and Management System and on its Momentum System. These systems serve as the sources for fee collection reports and monthly spending and performance reports. We determined that the actual patent fee collections data for FYs 2006 through 2009, and the spending adjustments made in those years, were sufficiently reliable for the purposes of this audit.

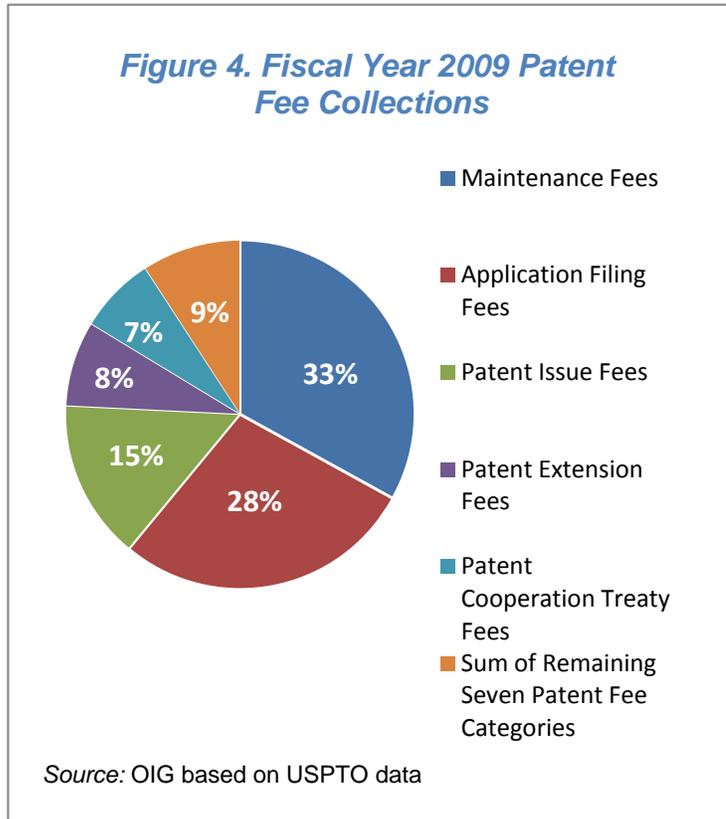
We conducted this performance audit under authority of the *Inspector General Act of 1978*, as amended; Department Organization Order 10–13 (dated August 31, 2006), as amended; and in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the 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.

⁶*Standards for Internal Control in the Federal Government* (the Green Book), U.S. Government Accountability Office (AIMD-00-21.3.1, November 1, 1999).

Appendix B: Differences between Projected and Actual Patent Fee Collections for USPTO’s Three Largest Fee Categories

USPTO charges approximately 250 individual fees for its various activities related to examining, issuing, and maintaining patents. It classifies the individual patent fees into 12 broad categories (see figure 4). Three of the 12 categories contain a total of 104 distinct patent fees; these three categories account for over 75 percent of the agency’s annual patent fee collections. The agency uses multiple variables, formulas, factors, and models to project the amounts it expects to collect from each of these fees.

We reviewed eight patent fees from the three patent fee categories that account for the majority of USPTO’s patent fee collections, documenting the differences between projected and actual collections. We examined the underlying models, assumptions, and variables used, and discussed with USPTO staff the possible reasons for the differences. In addition, we discussed the availability of any written analysis addressing these differences. This appendix contains descriptions of the eight fees we reviewed and accompanying data.



Patent Maintenance Fees

In order to keep a patent in force, patent holders must pay maintenance fees to USPTO at set intervals after the patent is issued. These fees, if paid, are due in 3.5, 7.5, and 11.5 years (referred to as first-, second-, and third-stage maintenance fees, respectively). The patent maintenance fee category contains 15 fees related to the three different time frames, large and small entities,⁷ and late payments.

We selected for further review the three maintenance fees for large entities (fee codes 1551, 1552, and 1553). Since FY 2006, USPTO has annually collected \$437 million–\$510 million

⁷Small entity status is granted to an individual inventor, a nonprofit organization, or a small business that meets the size standards set forth in 13 CFR §§121.801-.805 to be eligible for reduced patent fees.

from these three fees, and they account for approximately 90 percent of the total patent maintenance fees collected each year.

Table 1. First Stage Maintenance Fee (Fee Code 1551)

Fiscal Year	Projected Collections (in millions)	Actual Collections (in millions)	Dollar Difference (in millions)	Percentage Difference
2006	\$106.96	\$107.92	\$0.96	0.9%
2007	112.18	112.63	0.45	0.4%
2008	113.96	105.31	(8.65)	-7.6%
2009	107.99	97.94	(10.05)	-9.3%

Source: OIG analysis of USPTO data

Table 2. Second Stage Maintenance Fee (Fee Code 1552)

Fiscal Year	Projected Collections (in millions)	Actual Collections (in millions)	Dollar Difference (in millions)	Percentage Difference
2006	\$176.46	\$182.76	\$6.30	3.6%
2007	194.33	202.96	8.63	4.4%
2008	215.83	224.79	8.96	4.2%
2009	228.53	205.86	(22.67)	-9.9%

Source: OIG analysis of USPTO data

Table 3. Third Stage Maintenance Fee (Fee Code 1553)

Fiscal Year	Projected Collections (in millions)	Actual Collections (in millions)	Dollar Difference (in millions)	Percentage Difference
2006	\$146.37	\$145.94	(\$0.43)	-0.3%
2007	150.93	160.04	9.11	6.0%
2008	171.36	180.39	9.03	5.3%
2009	179.50	185.47	5.97	3.3%

Source: OIG analysis of USPTO data

Patent Application Filing Fees

USPTO charges patent application filing fees for a variety of activities related to a patent application. This broad category includes fees that address the attributes of a patent application, such as the size of the application and the number of claims, as well as requests for continued examination. The agency divides approximately 80 fees in this broad category between fees for large and small entities.

We selected four of the 40 large-entity application fees for further review: search of utility patent application (fee code 1111), independent claims in excess of three (fee code 1201), total claims

in excess of 20 (fee code 1202), and request for continued examination (fee code 1801). We selected these based on the dollar differences between the projected and actual fee collections (whether positive or negative) and because large entities constituted over 80 percent of the total patent application filing fees collected.

Table 4. Search of Utility Patent Application (Fee Code 1111)

Fiscal Year	Projected Collections (in millions)	Actual Collections (in millions)	Dollar Difference (in millions)	Percentage Difference
2006	\$97.45	\$101.84	\$4.39	4.5%
2007	113.85	104.46	(9.39)	-8.2%
2008	118.41	105.75	(12.66)	-10.7%
2009	121.10	99.44	(21.66)	-17.9%

Source: OIG analysis of USPTO data

Table 5. Independent Claims in Excess of Three (Fee Code 1201)

Fiscal Year	Projected Collections (in millions)	Actual Collections (in millions)	Dollar Difference (in millions)	Percentage Difference
2006	\$50.12	\$36.67	(\$13.45)	-26.8%
2007	51.38	34.96	(16.42)	-32.0%
2008	39.90	31.15	(8.75)	-21.9%
2009	42.81	26.34	(16.47)	-38.5%

Source: OIG analysis of USPTO data

Table 6. Total Claims in Excess of 20 (Fee Code 1202)

Fiscal Year	Projected Collections (in millions)	Actual Collections (in millions)	Dollar Difference (in millions)	Percentage Difference
2006	\$81.67	\$52.49	(\$29.18)	-35.7%
2007	80.77	52.50	(28.27)	-35.0%
2008	59.30	38.74	(20.56)	-34.7%
2009	58.45	34.08	(24.37)	-41.7%

Source: OIG analysis of USPTO data

Table 7. Request for Continued Examination (Fee Code 1801)

Fiscal Year	Projected Collections (in millions)	Actual Collections (in millions)	Dollar Difference (in millions)	Percentage Difference
2006	\$32.98	\$46.82	\$13.84	42.0%
2007	37.61	54.48	16.87	44.9%
2008	56.69	73.78	17.09	30.1%
2009	59.62	92.41	32.79	55.0%

Source: OIG analysis of USPTO data

Patent Issue Fees

The nine fees in this category relate to fees USPTO charges for issuing various types of patents (for example, utility, plant, reissue, and design). We selected the utility issue fee (fee code 1501), which USPTO charges for issuing a utility patent to a large entity. Large entities account for about 87 percent of actual total patent issue fees collected for FY 2006–FY 2009, and fee code 1501 had the greatest dollar difference between projected and actual collections during this time.

Table 8. Utility Issue Fee (Fee Code 1501)

Fiscal Year	Projected Collections (in millions)	Actual Collections (in millions)	Dollar Difference (in millions)	Percentage Difference
2006	\$190.36	\$161.48	(\$28.88)	-15.2%
2007	208.02	169.94	(38.08)	-18.3%
2008	200.71	176.32	(24.39)	-12.2%
2009	202.58	203.08	0.50	0.2%

Source: OIG analysis of USPTO data

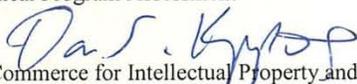


UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOV 19 2010

MEMORANDUM FOR Ronald Prevost, Ph.D.
Assistant Inspector General for
Economic and Statistical Program Assessment

FROM: David J. Kappos 
Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

SUBJECT: Response to Draft Report No. OAE-19833,
"Stronger Management Controls Needed Over USPTO's
Projections of Patent Fee Collections" (September 2010)

We appreciate the efforts of your staff in evaluating the process for projecting patent fee collections at the United States Patent and Trademark Office (USPTO). We concur with the three recommendations in the draft report, and we have begun documenting the policies and procedures that we use for managing the patent production model and forecasting patent fee collections. We will also work to improve our annual reporting on patent fees by formally reporting potential causes for significant variances and trends to consider.

The USPTO has a good track record of projecting its fees, and except for during the unprecedented recession in fiscal year 2009, has estimated patent fees within acceptable tolerance levels. As mentioned in your report, fee projections and actual collections are important data sets for managing the USPTO. My colleagues and I rely on the fee and patent production model information produced at the USPTO to make critical management decisions. We are also keenly aware of the level of uncertainty associated with forecasting fees and routinely share our fee information with the Department of Commerce, Office of Management and Budget, and Congress in an effort to continuously educate our partners on the flexibility necessary to accommodate the expected level of uncertainty.

We had asked that the detailed technical comments provided to you in a separate transmittal be incorporated into your report. We understand that all of our comments will not be incorporated into the final report, but we appreciate your efforts to address some of our concerns. Our response to each recommendation is discussed in detail below.

- **IG Recommendation (1):** Direct the Chief Financial Officer to establish and implement written policies and procedures for developing fee collection forecasts.

USPTO Response: The agency agrees to establish and implement written policies and procedures for developing fee collection forecasts. Written policies and procedures will provide for continuity of operations and a record for the underlying components of forecasts, but they will not eliminate the risk of reducing or stopping initiatives or operational improvements during a fiscal year due to actual fee collections being less than the amount forecasted. The USPTO has begun implementing this recommendation and we are documenting roles, responsibilities and underlying components used with fee collection forecasts. This includes developing written policies and procedures for analysis and modeling activities that are currently in place, but not fully documented.

- **IG Recommendation (2):** Require the Chief Financial Officer to report annually on the variances between projected and actual specific patent fee collections, including the potential causes for significant variances and possible trends to consider.

USPTO Response: The agency agrees to report annually on the variances between projected and actual specific patent fee collections, including potential causes for significant variances and possible trends to consider. As is noted in your report, we reported this information to the public in the fiscal year 2011 President's Budget. We will continue to assess the optimal public reporting vehicle for patent fee collections, including the appropriate level of detail.

- **IG Recommendation (3):** Direct the Commissioner of Patents to establish and implement written policies and procedures for the patent production model.

USPTO Response: The agency agrees to establish and implement written policies and procedures for the patent production model. Like documenting fee forecasting procedures, these written policies and procedures will not eliminate the risk of reducing or stopping initiatives or operational improvements during a fiscal year when actual fee collections are less than the amount forecasted. The Agency started its documentation effort by launching an interactive patent pendency model (PPM) on the USPTO Web site in December 2009. The model, along with supporting documents defining the calculation formulas, inputs and outputs, can be found in the Patent statistics area of the USPTO Web site (www.uspto.gov/patents/stats/patent_prod_model.jsp). The feedback from the public has been very positive and is being considered as we continue to enhance the model and increase transparency into our operations. We will improve upon our documentation effort by developing written policies and procedures that will provide for continuity of operations and a clear understanding of the underlying components of the model. We will document roles and responsibilities and develop the written policies and procedures for analysis and modeling activities that are currently in place, but not documented well.

In summary, while our policies and procedures around the patent production model and fee forecasting operations are not documented completely, we are confident that our methodologies are sound. Again, we thank you for your efforts and we intend to implement the recommendations in a diligent manner. We hope to work with the OIG in the future to help the USPTO address the challenges we face in implementing a sustainable funding model for operations.