Regulatory Impact Analysis

Setting and Adjusting Patent Fees
in accordance with
Section 10 of the Leahy-Smith America Invents Act

Notice of Proposed Rulemaking

U.S. Department of Commerce
United States Patent and Trademark Office
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1 EXECUTIVE SUMMARY

1.1 Purpose

This document presents a Regulatory Impact Analysis (RIA) of setting or adjusting patent fees in accordance with section 10 of the Leahy-Smith America Invents Act (AIA or Act). The AIA grants the Director of the United States Patent and Trademark Office (USPTO or Office) authority to set or adjust by rule patent fees established, authorized, or charged under Title 35 of the United States Code (U.S.C.). Patent fees may be set or adjusted only to recover the aggregate estimated cost of the Office's patent operations, including administrative costs. This RIA analyzes the alternatives considered for the patent fee schedule presented in the Notice of Proposed Rulemaking (NPRM or proposed rule or rulemaking) (*see* "Setting and Adjusting Patent Fees" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1) and measures the costs and benefits of the proposed rule and the three alternatives that the Office considered in comparison to the Baseline (status quo or current fee schedule).

1.2 Conclusion

This RIA concludes that the estimated incremental monetized benefits to patent applicants, patent holders, other patent stakeholders, and society of the proposed fee schedule (i.e., Alternative 1 herein) over five years are approximately $7.7 billion. The most significant of the incremental benefits of the proposed fee schedule is an estimated increase in the average value of a patent, which stems from a decrease in patent application pendency (the time it takes to have a patent application examined). The Office estimates that total patent pendency will decrease by 12 months during the time period of this analysis (FY 2013 –

FY 2017), thereby permitting a patentee to obtain a patent sooner than he or she would have under the Baseline (status quo fee schedule).

The incremental estimated costs to the Office over the same period of time are approximately $0.8 billion. The most significant of the incremental costs that will be paid for by the proposed fee schedule is the increase in the cost of patent operations associated with: (1) the increased patent examination capacity to work on the large backlog of patent applications in inventory, thus reducing patent application pendency; and (2) building a three-month patent operating reserve by FY 2017 to support a sustainable funding model that will aid the Office in maintaining shorter pendency and a smaller backlog.

After considering the incremental estimated costs, the net benefit to patent applicants, patent holders, other patent stakeholders, and society of the proposed fee schedule is estimated to be approximately $6.9 billion. This net benefit of reducing patent pendency helps to advance commercialization of new technologies and the jobs they can create.

This RIA also concludes that the proposed fee schedule has qualitative net benefits related to the fee schedule design and reduced uncertainty in the scope of patent rights. Moreover, the proposed fee schedule achieves the strategies and goals of the rulemaking, as described in Part III of the NPRM and section 1.3 of this RIA. When examined against these strategies and goals, this RIA found the net benefits of the proposed alternative to be superior to the net benefits of the other alternatives considered.

1.3 Statement of Need for Proposed Action

The USPTO is issuing an NPRM using the fee setting authority in section 10 of the AIA to set or adjust patent fees to secure sufficient aggregate patent fee revenue for the Office to recover its aggregate cost of patent operations, including administrative costs, for implementing a sustainable funding model, decreasing patent pendency (the time it takes to have a patent application examined) and application backlog (patent applications awaiting examination), improving patent quality, and upgrading the Office's patent business information technology (IT) capability and infrastructure. The Office is also proposing to establish fees for micro entities under section 10(b) of the Act (75 percent discount). The design of the proposed fee schedule also furthers key policy considerations. For example, the proposal includes multipart and staged fees, both of which increase patent prosecution options for applicants.

A steady increase in patent application workload and insufficient hiring levels due to funding shortfalls has led to significantly longer patent application pendency and a large patent application backlog. A large patent application backlog delays the delivery of patented innovations to market. A long patent pendency negatively affects private patent value and increases uncertainty for both patent-seeking inventors and other technology innovators interested in understanding the competitive environment. Since 1982, the patent fees that generate most of the patent revenue (e.g., filing, search, examination, issue, and maintenance fees) have been set by statute, and the Office could only adjust these fees to reflect changes in the Consumer Price Index for All Urban Consumers (CPI-U), as determined by the Secretary of Labor. Because these fees were set by statute, the USPTO could not realign or adjust fees to quickly and effectively respond to market demand or

changes in processing costs other than for the CPI-U. Over the years, these constraints led to funding variations and shortfalls. During that same period, year-to-year application workload increased by over 300 percent. Section 10 of the AIA changed this fee setting model and authorizes the USPTO to set patent fees within the regulatory process so the Office would be able to respond to its rapidly growing workload better.

The rulemaking related to this RIA responds to this rapidly growing workload and is guided by strategies consistent with the Office's goals and obligations under the AIA. Specifically, the overall strategy of the rulemaking is to ensure that the fee schedule generates sufficient revenue to recover aggregate costs; another strategy is to set individual fees to further key policy considerations while taking into account the cost of the particular service. As part of the overall strategy, the fee schedule proposed in the rule (Alternative 1) would provide sufficient revenue to implement two significant USPTO goals: (1) implement a sustainable funding model for operations; and (2) optimize patent timeliness and quality. Implementing a sustainable funding model for operations includes continuing to build a three-month patent operating reserve to allow effective management of the U.S. patent system and responsiveness to changes in the economy, unanticipated production workload, and revenue. Optimizing patent quality and timeliness includes ensuring the quality of patent application review and reducing patent pendency. The strategy of setting individual fees is to further key policy considerations: (1) *fostering innovation*; (2) *facilitating effective administration of the patent system*; and (3) *offering patent prosecution options for applicants*.

The fee schedule strategies and goals are consistent with the strategic goals and objectives detailed in the USPTO 2010-2015 Strategic Plan (Strategic Plan) that is available at

http://www.uspto.gov/about/stratplan/USPTO_2010-2015_Strategic_Plan.pdf, as amended by Appendix #1 of the USPTO FY 2013 President's Budget (Budget) that is available at http://www.uspto.gov/about/stratplan/budget/fy13pbr.pdf (collectively referred to herein as "strategic goals"). The Strategic Plan defines the USPTO's missions and long-term goals and presents the actions the Office will take to realize those goals. The significant actions the Office describes in the Strategic Plan that are specific to the goals of this rulemaking are implementing a sustainable funding model, reducing the patent application backlog and pendency, and improving patent quality and IT capabilities.

Likewise, the fee rulemaking strategies and goals support the *Strategy for American Innovation* – an Administration initiative first released in September 2009, and updated in February 2011, that is available at http://www.whitehouse.gov/innovation/strategy. The *Strategy for American Innovation* recognizes innovation as the foundation of American economic growth and national competitiveness, and that public support for a workable intellectual property rights system is one of the fundamental ways that government supports innovation. Economic growth in advanced economies like the United States (U.S.) is driven by the creation of new and better ways of producing goods and services. This process triggers new and productive investments, which are the cornerstones of economic growth. Achieving the *Strategy for American Inn*ovation depends, in part, on the USPTO's success in reducing the patent application backlog and pendency – both of which stall the delivery of innovative goods and services to the market and impede economic growth and the creation of high-paying jobs.

1.4 Scope

Using section 10 of the AIA, the USPTO is proposing to set or adjust patent fees established, authorized, or charged under Title 35 of the U.S.C. In all, the Office proposes to set or adjust 352 patent fees – 94 apply to large entities (hereinafter the reference to "large entity" includes all entities other than small or micro entities); 94 apply to small entities; 93 apply to micro entities; and 71 apply irrespective of entity size.

Consistent with OMB Circular A-4, Regulatory Analysis (OMB Circular A-4), this RIA includes the costs and benefits that accrue to domestic society, specifically patent applicants, patent holders, and other patent stakeholders in the U.S. The Office is not proposing any changes in the NPRM that would impose different costs or burdens on applicants and patent holders based on their country of residence, i.e., United States or elsewhere (i.e., non-U.S. or foreign). From FY 2007 through FY 2011, when application origin is determined by the residence of the first-named inventor, non-U.S. utility patent applications filed in the U.S. accounted for 49 percent, on average, of all utility patent applications. For informational purposes and where data are available, this RIA separately presents impacts on non-U.S. (foreign) applicants and patent holders.

1.5 Points of Contact

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2 GENERAL INFORMATION

Developing this RIA required various data elements and methodologies to assess the alternatives. This section describes the:

- Overview of the patent system;
- Costs and benefits measured in this RIA;
- Data sources used to estimate costs and benefits and compare alternatives;
- Methodologies used to estimate costs and benefits; and
- Assumptions and constraints regarding the data and methodologies used.

2.1 Patent System Overview

An analysis of the costs and benefits associated with the proposed patent fee schedule requires a basic understanding of the overall patent system. A detailed description of the patent process can be found on the USPTO Web site at http://www.uspto.gov/patents/process/index.jsp.

A U.S. patent is a property right granted by the Government of the United States of America to an inventor to exclude others from making, using, offering for sale, or selling the invention throughout the U.S. or importing the invention into the U.S. for a limited time in exchange for public disclosure of the invention when the patent is granted.

The U.S. economy depends on a balanced intellectual property (IP) system that includes enforceable patents to provide incentives and benefits to conduct innovation. An efficient and effective patent system provides tools to protect new ideas and investments in innovation and creativity. Without timely, clear, and effective patent rights, the value of

intellectual property and capital decreases, and uncertainty in the legal rights of new products increases. As a result, investments are either misdirected or not undertaken, and costly litigation is more likely to occur.

Patents promote and incentivize innovation by granting inventors certain short-term exclusive rights to their inventions. This limited exclusive right is intended to stimulate inventive activity in multiple ways. First, the exclusivity made possible by a patent incentivizes inventors to undertake research and development (R&D) and inventive labor. Second, an exclusive patent right incentivizes commercialization of an invention in the marketplace. That is, inventors may bring their invention to market by self-commercialization or by either licensing (to earn royalties) or selling their inventions to other market participants (e.g., larger companies) who in turn commercialize that invention. Third, the exclusivity made possible by a patent provides a means for inventors to obtain capital financing (e.g., through venture capital) to self-commercialize. In exchange for exclusive rights to the invention, an inventor must disclose the invention to the public. Public disclosure of information helps avoid redundant R&D by others and promotes the dissemination of new technology and the development of innovations that build on current technology.

The economy benefits from new products and services that would not otherwise be invented. Patented technologies are the source of entirely new industries (e.g., semiconductors), help bring new products and services to market (e.g., drugs and medical devices), and support new job creation (*see* Intellectual Property and the U.S. Economy: Industries in Focus available at

http://www.uspto.gov/news/publications/IP_Report_March_2012.pdf.) In this way, an effective and efficient patent system benefits both inventors and the economy, and is an important part of the *Strategy for American Innovation* (*see* section 1.3).

This RIA also includes costs and benefits related to certain policy considerations in fee schedule design that encourage innovation and promote public disclosure. The policy consideration of *fostering innovation* entails balancing fee schedule design elements related to reducing barriers to entry in the patent system (e.g., low front-end filing, search, and examination fees) with recovering some of the cost of patent application processing from back-end maintenance fees. The associated maintenance fee renewal rates also indicate how well the fee schedule *fosters innovation* by influencing the number of patents made available for subsequent commercialization. The policy considerations are discussed in more detail later in this RIA.

2.2 Measuring Costs and Benefits Arising from Fee Adjustment

There are two over-arching elements involved in measuring costs and benefits related to the overall patent system – (1) patent pendency; and (2) the fee schedule design. Both are an integral part of the NPRM strategies and goals discussed in section 1.3. Each will be discussed in turn.

The pendency of patent applications impacts the value of the patent and the level of uncertainty related to innovation, as described below:

- ***Private Patent Value:*** Pendency reflects how quickly an application reaches final disposition (granted or abandoned), and when granted, influences how soon an invention is commercialized and the value of a patent. The sooner an applicant can obtain a granted patent, the sooner the patent holder can commercialize or otherwise obtain value from the exclusive right for the technology, thereby increasing the net present value of the patent, all else being equal. This RIA analyzes the expected monetized cost or benefit of private patent value in response to an increase or decrease in patent pendency.

- ***Uncertainty:*** Pendency also affects the level of uncertainty related to innovation for the applicant and other potential innovators. In general, shortening the pendency period reduces uncertainty regarding the claimed invention and scope of patent rights for patentees, competitors, and new entrants. Reducing uncertainty has an overall positive impact in terms of clarity of patent rights, freedom to innovate, and the efficient operation of markets for technology. Economists have studied various aspects of uncertainty in patent rights and overwhelmingly agree that reducing uncertainty is desirable for innovation. The overall impact of this effect is potentially large, but very difficult to monetize or quantify. Therefore, this RIA analyzes the qualitative cost or benefit related to the change in the level of uncertainty in response to an increase or decrease in patent pendency.

The second important element in measuring costs and benefits related to patents is the fee schedule design, which includes fee amounts, the relationship between fees, the estimated potential for the aggregate revenue to recover aggregate costs, and the ability to support the three key policy considerations of *fostering innovation*, *facilitating effective administration of the patent system*, and *offering patent prosecution options for applicants*. For example, setting filing, search, and examination fees below the Office's cost helps *foster innovation*. As another example, staging certain fees *offers patent prosecution options for applicants*. Many of the effects of fee schedule design are difficult to monetize or quantify so the Office analyzes them as qualitative costs or benefits, as appropriate, in this RIA.

OMB Circular A-4 requires that costs and benefits be presented in three categories: 1) monetized; 2) quantified but not monetized; and 3) qualitative. The analysis in this RIA incorporates monetized and qualitative costs and benefits. The Office did not identify any quantified but not monetized costs or benefits; therefore, this analysis does not include them.

2.2.1 Measuring Costs Arising from Fee Adjustment

The specific costs in each category (monetized and qualitative) that were used to assess the alternatives are described in greater detail below.

Monetized Costs:

- ***Decreased Private Value of Patents from an Increase in Pendency:*** When patent application pendency increases, it takes longer for a patent holder to obtain exclusive rights, which may decrease the present value of the patent, all else being equal. Longer

pendency can also delay commercialization and licensing of the innovation because it is more difficult to license a non-patented technology due to uncertainty over the final claims and the scope of protection. This delay decreases the private value of that patent, which is considered a cost to a patent holder. To measure this cost, the Office estimated the Baseline value of current patents relative to the Baseline pendency and then estimated the decrease in patent value associated with those alternatives that would result in longer pendency. In this analysis, patent value is treated as a "lump sum" payment on the day of grant, and the Office estimated the loss in private patent value by discounting this value by a number of months equal to the increase in pendency. Longer pendency can also sometimes decrease the effective term of a patent, in that a delayed grant would decrease the proportion of the 20-year statutory term that receives patent protection, given that the statutory term begins with the earliest effective filing date. This effect can be mitigated by the use of patent term adjustments (PTA) and patent term extensions (PTE)[1]. In order to provide conservative estimates, the monetized costs related to an increase in pendency do not account for the ability of applicants to obtain PTA and PTE. The methodology used to estimate changes in private patent value is detailed in section 2.4.3 and a step-by-step guide on calculating the private patent value is included in Appendix A, "Change in Private Patent Value Calculation."

- ***Increase in the Office's Cost of Patent Operations:*** The Office estimated the incremental cost of patent operations for each alternative. Additional incoming work (e.g., patent applications filed) typically arrives with a limited amount of additional

[1] This discussion focuses on PTA and PTE available under 35 U.S.C. § 154 and does not include PTE available under 35 U.S.C. § 156.

revenue since the Office sets fees for initial prosecution activities below the cost to the Office. However, in response to incoming work, the Office would be required to expand the patent examination capacity, which would lead to an increase in the Office's costs (e.g., overtime, salaries, benefits, etc.). Therefore, the cost of the Office's patent operations varies across the four alternatives considered relative to the amount of revenue and resources available (fees generated plus operating reserve) to execute the operating requirements associated with the amount of work required. Estimated increases in the Office's cost of patent operations are presented as costs.

- ***Lost Patent Value From a Decrease in Patent Applications Filed:*** Where an alternative increases filing, search, and examination fees, the Office expects that fewer patent applications would be filed due to price elasticity, (*see* "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1 for a definition of price elasticity and how the Office applies this economic concept). In general, the Office expects that a portion of applications innovators chose not to file (due to higher fees) might have resulted in patents under the Baseline. Therefore, lost patent value represents the Office's estimate of the cost to society from the expected decrease in successful patent application filings (serialized applications) due to an increase in filing, search, and examination fees. The higher the increase in fees, the larger the decrease in filings, the greater the loss in patent value, and the greater the loss to society of that foregone innovation. This estimate is inherently conservative since it assumes that no innovation would occur if patenting was not chosen, and that society would suffer the full cost of lost innovation. In reality, some amount of the unpatented innovation will be

undertaken, with innovators choosing methods other than patents, such as secrecy, to protect their profits. The methodology used to estimate this cost is detailed in section 2.4.4 and a step-by-step guide on calculating the lost patent value from a decrease in applications is included in Appendix B, "Lost Patent Value from a Decrease in Patent Applications Calculation."

Qualitative Costs:

- ***Fee Schedule Design Costs:*** The fee schedule design can affect how well each alternative achieves key policy considerations, as discussed previously. Some key policy considerations, such as *fostering innovation* and *facilitating effective administration of the patent system*, may impact individual patent applicants, patent stakeholders, or society in different ways. For example, the amount of information disclosed publicly (i.e., the publication of applications and patents) may change due to the number of patent applications filed, or the maintenance fee renewal rates, which can affect how many patents are not maintained and thus their subject matter is made freely available in the public domain for subsequent commercialization. The fee schedule design effects for an alternative are presented as a qualitative cost if, overall, the design primarily has a negative impact on policy considerations. The Office recognizes that the same effect may be viewed as either a cost or a benefit depending on the perspective of the affected entity (e.g., individual applicants, the Office, or society). Where applicable, this discussion includes opposing effects and attempts to categorize their magnitude to substantiate the overall assessment as a cost or a benefit.

- ***Increase in Uncertainty:*** An increase in patent pendency results in longer uncertainty in terms of the clarity and scope of patent rights, which is expected to reduce the incentives and freedom to innovate. Patenting innovators can be expected to have fewer incentives to patent if delay interferes with their ability to earn profits from the invention. Other innovators working in the field of the patent application can be expected to misdirect their investments since they would not know the final boundaries of the pending patent in a timely manner. For purposes of this analysis, the Office considers this effect a cost to the patent system because reduced innovation negatively impacts economic growth and the market for technology.

2.2.2 Measuring Benefits Arising from Fee Adjustment

The type of benefits related to fee adjustment mirrors the costs described above. Only the result of the calculation is different, i.e., the direction of the change. For example, each fee setting alternative presented in this RIA impacts average pendency differently. If an alternative reduces average pendency, the outcome is presented as a benefit; if average pendency increases, it is presented as a cost. The benefits in each category (monetized and qualitative) that the Office used to assess the alternatives are described in greater detail below.

Monetized Benefits:

- ***Increased Private Value of Patents from a Decrease in Pendency:*** When patent application pendency decreases, the patent holder obtains exclusive rights sooner, which increases the present value of the patent. Shorter pendency can also facilitate faster commercialization and licensing of the innovation because it is more difficult to license

a non-patented technology due to uncertainty. These effects increase the private value of that patent, which is considered a direct benefit to a patent holder and a general benefit to the IP system. To measure this benefit, the Office estimated the Baseline value of current patents relative to the Baseline pendency and then estimated the increase in patent value associated with alternatives that would result in shorter pendency. In this analysis, patent value is treated as a "lump sum" present value payment on the day of grant, and the Office estimated the private gain by discounting this value forward by a number of months equal to the decrease in pendency. Shorter pendency can also sometimes increase the effective term of a patent. This effect can be mitigated by the use of PTA and PTE, as previously discussed. In order to provide conservative estimates, the monetized benefits related to a decrease in pendency do not account for the ability of applicants to obtain PTA and PTE. The methodology used to estimate the benefit associated with private patent value is detailed in section 2.4.3 and a step-by-step guide on calculating the private patent value is included in Appendix A, "Change in Private Patent Value Calculation."

- ***Decrease in the Office's Cost of Patent Operations***: The Office estimated the incremental cost of its patent operations for each alternative. Less incoming work (e.g., patent applications filed) typically means less revenue. In turn, the Office would provide fewer services with this reduced revenue, which would lead to a decrease in the Office's cost of patent operations. Therefore, the Office's cost of patent operations varies across the alternatives relative to the amount of revenue and resources available (fees generated plus operating reserve) to execute the operating requirements associated

with the amount of work required. If there is an estimated decrease in the Office's cost of patent operations, it is presented as a benefit.

Qualitative Benefits:

- ***Fee Schedule Design Benefits:*** The fee schedule design can affect how well the alternative achieves key policy considerations, as discussed previously. Some key policy considerations, such as *fostering innovation* and *facilitating effective administration of the patent system*, may impact individual patent applicants, patent holders, other patent stakeholders, or society in different ways. For example, the amount of information disclosed publicly (i.e., applications and patented subject matter) may change due to the number of patent applications filed, or the maintenance fee renewal rates, which can affect how many patents are not maintained and thus their subject matter is made freely available in the public domain for subsequent commercialization. The effects of each alternative's fee schedule design are presented as a qualitative benefit if, overall, the design has a positive impact on policy considerations. The Office recognizes that the same effect may be viewed as either a cost or a benefit depending on the perspective of the affected entity (e.g., individual applicants, the Office, or society). Where applicable, this discussion includes opposing effects and attempts to categorize their magnitude to substantiate the overall assessment as a cost or a benefit.

- ***Decrease in Uncertainty*:** A decrease in patent pendency results in shorter uncertainty over patent scope, term, and rights, which is expected to increase the incentives and freedom to innovate, and decrease the delay in innovation. Patenting innovators can be

expected to have greater incentive to patent if there is a reduction in the delay for their ability to earn profits from the invention. Further, other innovators working in the field of the patent application can be expected to focus their investments since they know the final boundaries of the pending patent sooner. For purposes of this analysis, this effect is considered a benefit to the patent system because increased innovation would positively affect economic growth and the market for technology.

2.3 Key Indicators

The Office based estimates of costs and benefits on a number of key indicators. The Office analyzed the change in indicator values of each alternative against the Baseline to determine whether the result was a cost or benefit, or to determine whether the alternative assisted in achieving the goals of the Office and the rulemaking. The text below describes the key indicators used in this RIA.

- ***Aggregate Fee Revenue/Cost of Patent Operations:*** The estimated aggregate fee collections by fiscal year are used to estimate the Office's cost of patent operations and the alternative's ability to achieve the sustainable funding model goals (a three-month operating reserve). This indicator is useful because a change in incoming work (e.g., patent applications filed) typically correlates with a change in revenue. The change in incoming work also correlates with a change in the amount of services that would be provided, which in turn correlates with a change in the Office's cost of patent operations.

- ***Serialized Utility Application Filings:*** Serialized applications represent the Office's estimates about new patent application filings (excluding RCEs and reissues that are derivative of original serialized applications). RCEs are requests to reopen prosecution of a closed application with new evidence in support of patentability. It is important to exclude RCEs in this key indicator because they are not new patent applications and consequently would not be affected by the changes in new application fees. The Office bases these estimates on an analysis of historical data and prospective economic indicators. The Office used this indicator to estimate lost patent value. The Office determined that serialized patent applications filed would be those most affected by changes in fees (i.e., responsive to price elasticity of demand). The Office used this indicator to calculate the lost patent value from a decrease in patent applications filed.

- ***First Action Average Pendency and Total Average Pendency:*** The USPTO measures patent pendency at two points in time. The first is the average time for the Office to take a First Action on the Merits (FAOM) for a patent application. The first action average pendency was not used to estimate any costs or benefits. The second is the average time from when a patent application is filed to when it achieves final disposition, i.e., when granted by the Office or abandoned by the applicant. For purposes of this analysis, the Office used this average total pendency as an indicator of the total time required to obtain a patent. The Office used this indicator to calculate private patent value and as an input into evaluating how a change in pendency affects uncertainty.

- ***Patents Granted:*** This indicator measures the number of patents granted (allowed), as estimated by the Patent Pendency Model (PPM). The number of patents granted reflects

the Office's ability to process patent applications. The Office used this indicator to calculate private patent value from a decrease in pendency. Consequently, this indicator is closely related to patent pendency and the cost of patent operations. Granted patents are used as an input to calculate the monetized cost or benefit of the change in private patent value described in Appendix A.

- ***Maintenance Fee Renewal Rates (Stage 1, Stage 2, and Stage 3):*** Maintenance fees must be paid at defined intervals (stages) – 3.5 years, 7.5 years, and 11.5 years – after the Office grants a utility patent in order to keep the patent in force. The indicator measures the percentage of patent holders who pay the fee to maintain a patent in force at each of the three stages across the term of a patent. Patent owners must reassess the value of their patent at each stage and determine if that patent is at least as valuable as the fee. The Office did not use maintenance fee renewal rates to directly estimate any costs or benefits. Instead, the Office used these indicators to analyze how a change in maintenance fees (and resulting change in maintenance fee renewal rates) affects patents entering the public domain and the potential impacts on commercialization. The Office expects maintenance fee renewal rates to decrease when maintenance fees are increased, and this decrease in maintenance fee renewals could facilitate commercialization because subject matter previously covered by a patent would become available in the public domain to improve upon and spur innovation. The Office defines maintenance fee renewal stages below:

    - ***Maintenance Fee Renewal Rate – Stage 1:*** measures the percentage of patent holders who pay the patent maintenance fee 3.5 years after a patent is granted.

- ***Maintenance Fee Renewal Rate – Stage 2:*** measures the percentage of Stage 1 patent holders who pay the patent maintenance fee 7.5 years after the patent is granted. The effects of Stage 2 maintenance fee renewal rates are similar to Stage 1 maintenance fee renewal rates, although they are expected to be more sensitive to fee increases at this stage because the patent is even further along in its life cycle.

- ***Maintenance Fee Renewal Rate – Stage 3:*** measures the percentage of Stage 2 patent holders who pay the patent maintenance fee 11.5 years after the patent is granted. The effects of Stage 3 maintenance fee renewal rates are similar to Stage 1 and 2 maintenance fee renewal rates, although they are expected to be more sensitive to fee increases at this stage because the patent is further along in its life cycle.

2.4 Methodology

Preparing this RIA required developing estimates of several costs and benefits for each alternative. As discussed above, the Office used key indicators to assist in developing the cost and benefit estimates. This section presents five methodologies used to develop information for this RIA: 1) activity-based costing; 2) aggregate fee revenue projections; 3) private value of patents; 4) lost patent value from a decrease in patent applications filed; and 5) cost of the Office's patent operations.

2.4.1 Activity-based costing

The activity-based costing (ABC) methodology is used when executing the fee setting strategy of setting individual fees to further key policy considerations while taking into account the cost of the particular service. The historical cost of a particular service is derived from the Office's Activity-Based Information (ABI). The ABI provides historical cost for activities and outputs for each individual fee using the ABC methodology. ABC is commonly used for fee setting throughout the Federal Government. Additional information about the methodology, including the cost components related to respective fees, is available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1 in the document titled "USPTO Section 10 Fee Setting – Activity-Based Information and Costing Methodology."

While the historical cost information was not used to directly estimate any costs or benefits in this RIA, it allowed the Office to consider different fee amounts relative to cost. The ABI cost data was also used to guide some individual fee amounts in the cost recovery alternative (Alternative 2).

2.4.2 Aggregate Fee Revenue Projections

To estimate aggregate revenue for the Baseline and each alternative, the Office initially analyzed relevant factors and indicators to estimate prospective workloads (e.g., number of applications and requests for services and products), growth estimates, and resulting fee workload volumes (quantities) for the five-year planning horizon (FY 2013 – FY 2017). Economic activity is an important consideration when developing workload and revenue forecasts for the USPTO's products and services because economic conditions affect the

propensity of patenting activity, as most recently exhibited in 2009 when incoming workloads (e.g., patent application filings) and maintenance fee renewal rates declined.

Major economic indicators include the overall condition of the U.S. and global economies, spending on R&D activities, and investments that lead to the commercialization of new products and services. The most relevant economic indicator that the Office uses is the real gross domestic product (RGDP), which is the broadest measure of economic activity and is anticipated to grow approximately three percent for FY 2013. The Bureau of Economic Analysis (http://bea.gov) reports RGDP each year. The Office of Management and Budget (http://www.whitehouse.gov/omb) forecasts RGDP each February in the Economic and Budget Analyses section of the Analytical Perspectives, and the Congressional Budget Office (http://www.cbo.gov/) forecasts the indicator each January in the Budget and Economic Outlook. These economic indicators correlate with patent application filings, which are a key driver of patent fee workloads. Economic indicators also provide insight into market conditions and the management of IP portfolios, which influence process requests for the year and post-issuance decisions to maintain patent protection.

When developing workload forecasts, the Office also considers other influential factors including overseas patent activity, legislation, process efficiencies, fee changes, and anticipated applicant behavior. Significant changes in overseas patent activity (e.g., propensity to apply for and/or maintain patents) may indicate future adjustments in patent activity at the USPTO. The Office also analyzes legislative changes, such as the AIA, to determine if patenting activity would be affected. For example, the AIA created a new class of applicants called “micro entities” that the Office accounted for in its estimates. A

description of the calculation used to estimate the number of micro entities can be found in Part IV of the NPRM. Lastly, the Office evaluates known process efficiencies to determine if workloads would be affected, e.g., if compact prosecution would decrease the demand for requests for extensions of time to reply to an examiner's action.

Anticipated applicant behavior is measured using an economic principle known as price elasticity, which for the purposes of this RIA, means how sensitive applicants and patentees are to fee (price) changes. If elasticity is low enough (i.e., demand is inelastic), when fees increase, patent activities would decrease relatively less in response to increases in fees, and overall revenues would still increase. Conversely, if elasticity is high enough (i.e., demand is elastic), when fees increase, then there would be a significant enough decrease in patenting activity to also decrease the Office's aggregate revenue. The Office applied elasticity adjustments to major fees, defined as those that have the most significant impact on patent services to stakeholders, related innovation, and patent revenue. A more detailed description of calculations for price elasticity is in the "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1.

The Office considers each of the aforementioned factors and data points (e.g., overseas patent activity, legislation, price elasticity, and new applicant distinctions) when estimating and projecting aggregate revenue. The Office also prepares a high-to-low range of fee collection estimates that includes a +/- five percent outer bounds to account for the inherent sensitivity and volatility of: predicting fluctuations in the economy and market environment; interpreting policy and process efficiencies; and developing fee workload and

fee collection estimates from assumptions. The Office used five percent because historically the Office's actual revenue collections have typically been within five percent of the projected revenue. After calculating the five percent outer bounds, the Office identified the likely impacts of the changes in fee revenue. These potential impacts are considered in the evaluation of the Office's cost of patent operations (*see* section 2.4.5). Potential impacts include changes in examination capacity, which affect the backlog and pendency goals; and changes to the operating reserve balance, which affect the sustainable funding goal. Additional detail about the Office's aggregate fee revenue estimates, including projected workloads by fee is available in "USPTO Section 10 Aggregate Revenue Tables" at http://www.uspto.gov/aia_implementation/fees.jsp.

2.4.3 Private Value of Patents

To estimate the monetized gain or loss of private patent value, the Office used the change in total pendency as the basis to estimate the change in average per patent value for large and small entities. To accomplish this, the Office used the mean patent values for large and small entities from two economic studies.[2] Bessen (2008) uses data on patent renewal decisions from a sample of U.S. origin utility patents issued to estimate the mean patent value. Based on this study, the Office used a mean patent value of $115,684 for large entity patents. For small entity patents, the Office used a mean patent value of $70,232 based on Serrano (2005) (as cited by Bessen), which uses renewal and re-assignment data to estimate

[2] As a newly established class of applicants under the authority of the AIA, there are currently no studies establishing patent value for micro entities. For the purpose of this analysis, the Office used the small entity mean patent value for micro entities.

patent value for smaller entities (*see* Appendix A, "Change in Private Patent Value Calculation" for more details).

The Office estimated that these patent values accrue to patentees at the end of the third year measured from filing and are held over an average 17-year period of patent protection. The Office used this information to estimate the increase (or decrease) in patent value from the reduction (extension) in pendency under each alternative relative to the Baseline pendency and patent value.

The calculation methodology recognizes that when using requests for continued examination (RCEs) to complete patent prosecution, the pendency would be longer than the average total pendency included in the key indicator tables in section 4. The Office estimated this extended pendency for the Baseline and each alternative. To do so, the Office started with the average total pendency (discussed previously) and applied a fixed ratio of average total pendency with RCEs to average total pendency for each alternative to account for additional pendency from employing RCEs. This estimated adjustment of patent pendency would be more consistent with the pendency that patent applicants experience when using RCEs.

There are two effects related to private patent value: earlier patent grant and longer patent term. The Office describes these effects in the sections below:

Earlier Grant: When an applicant is granted a patent earlier, the patent's value is higher. The Office estimated this gain in private patent value by discounting Baseline private patent

value forward by the amount of time that pendency decreases. That is, an increased value to patent holders depends on patent holders being sensitive to the time value of money – in essence preferring profits earlier as opposed to later in time. Unlike other estimates expressed in this analysis, this decrease in pendency does not constitute a new revenue stream; rather, it is the incremental benefit to the patent holder from receiving a lump sum (patent) earlier in time, and is calculated using the concept of discounting. Therefore, a higher discount rate increases the relative benefit of reduced pendency because the value of the patent early in time is greater when compared to future, smaller realized values.

Longer Patent Term: A longer effective patent term can also increase the value of a patent, although this effect is much smaller than the effect of an earlier grant. The Office applied an upper bound and lower bound to its calculation to account for PTA and PTE. By statute, PTA and PTE grant to a patentee, in certain circumstances, additional patent term by the amount of time the patent application was delayed by the Office during prosecution. PTA provides additional patent term to the patentee that is due to delays by the Office in failing to meet prosecution objectives, but it is offset by delays attributable to the patentee and applies to applications filed after May 29, 2000. PTE, on the other hand, provides additional patent term to the patentee when certain prosecution events occurred, e.g., interference, secrecy orders, or appellate review which resulted in delay of issuance of a patent and applies to applications filed between June 8, 1995, and May 28, 2000. The relationship between PTA/PTE and reduced pendency can affect private patent value.

To show the potential range in this cost, the Office calculated an upper and lower bound to reflect different impacts from PTA/PTE. In the upper bound calculation, a reduction in

pendency leads to an applicant being granted a patent sooner compared to the Baseline and extends the patent term by an amount of time equal to the reduction in pendency. The potential patent term increase is not due to PTA/PTE. In the lower bound calculation, a reduction in pendency leads to an applicant being granted a patent sooner compared to the Baseline but the patent term is not extended. In the lower bound calculation, the potential benefit for a "longer term" attributable to reduced pendency is not realized since it is already captured by the patentee in PTA/PTE. The monetized costs or benefits associated with the change in pendency use the lower bound calculation mentioned above, so this model assumes the change in pendency does not change the effective term (time from patent filing date to when the patent term expires) of the patent but does extend the actual patent term (time from when patent is granted to when the patent term expires). This provides a conservative estimate because it tends to underreport the benefits associated with reductions in application pendency.

The Office also conducted a sensitivity analysis to determine how a change in the average value of a patent affects the estimated change in total private patent value. The sensitivity analysis was performed by substituting the average values for small and large entities and incorporating the upper and lower bound adjustments for PTA/PTE discussed above. The low end of the range was calculated using the small entity average ($70,232) for all entities (both small and large). Conversely, the high end of the range was calculated using the large entity average ($115,684) for all entities (both small and large). This approach was used because the scholarly sources for average patent value did not provide information necessary to calculate a distribution around the mean, so it was not possible to develop a sensitivity analysis based on the associated probabilities.

OMB Circular A-4 states that analyses should express monetary estimates in both constant, undiscounted dollars and discounted dollars when possible. However, the Office's methodology for estimating the change in private patent value is based on the relationship of time to value, and therefore undiscounted estimates would not be a meaningful. As discussed previously, because time is a critical element in the benefits and costs that flow to the innovation system from patent-office delay, discounting is necessary to calculate the gain from earlier patent grant due to the time value of money. Accordingly, estimating private patent value gains prior to discounting under each scenario was not a meaningful method. A step-by-step guide on calculating the private patent value from a change in pendency is located in Appendix A, "Change in Private Patent Value Calculation."

2.4.4 Lost Patent Value from a Decrease in Patent Applications Filed

This RIA includes a monetized cost associated with an expected decrease in the number of patent applications filed in response to an increase in filing, search, and examination fees. The Office estimates that there may be some patent applications that would not be filed due to higher fees, and that some share of these unfiled applications also represents foregone innovation. In order to provide conservative (high) estimates, the Office assumes that if these unfiled applications had been granted, total private value would have increased consistent with the estimates of patent value. Thus, the Office treats the value of foregone patents as representing a private loss in total patent value due to fee increases under each alternative. While it is possible that some share of the unfiled applications would have resulted in innovations protected by other methods (e.g., trade secrets), by assuming all of

the unfiled applications would result in a loss of value, the Office is taking an inherently conservative approach to estimate the upper bound of the cost.

To calculate this loss, the Office applied elasticity estimates (*see* "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1 for a definition of elasticity and how the Office applies this economic concept) to the filing, search, and examination fee increases for each alternative to estimate the decline in expected serialized applications filed relative to the Baseline. As discussed in the Key Indicators section (*see* section 2.3), the Office estimated foregone applications only for serialized applications (new filings only, which exclude RCEs and reissues) in each fiscal year. The Office determined that the arrival of new (serialized) patent applications filed would be those most affected by changes in prices (i.e., by price elasticity of demand). The percentage change in filing, search, and examination fees is different for each alternative and, therefore, the estimated decrease in serialized filings is different for each alternative. For calculation purposes, the Office relied on USPTO data to estimate that approximately 50 percent of applications not filed would have been granted when filed under the Baseline. This estimate is based on FY 2011 USPTO data indicating that approximately 50 percent of applications result in patent grants. The Office recognizes that 50 percent is a conservative (high) estimate as applicants would typically self-select the less valuable patent applications from filing. The grant rate for these less valuable patents would most likely be lower than 50 percent. For all foregone patent grants, the Office estimated a per-patent value of $10,619 based on the median patent value estimate from Bessen (2008). The Office used the median value, which is lower than the mean value, because it is expected that the applications not filed in response to filing,

search, and examination fee increases would be the less valuable patents. This assumption is consistent with the basic economic understanding that as prices rise, buyers with lower expected value of the benefits associated with buying a service will be the ones less likely to pay for the service after the price rises. Applying this understanding to the patent context suggests that patent applicants who expect a lower value stream of profits from their invention would be less likely to file an application when fees are raised, because with higher fees, patent filing would not have a net positive balance, after taking the expected costs and benefits into account.

The Office also estimated a three-year lag between application and grant so that an application not filed in FY 2013 represents lost private value in FY 2015. Consequently, patent value losses are discounted back three (FY 2015 grant) to seven (FY 2019 grant) years. Total losses represent the value of foregone patents (granted in FY 2015 – FY 2019 under the Baseline) derived from lost applications in FY 2013 – FY 2017. The Office generated estimates of domestic and foreign losses by applying the FY 2011 50 percent grant rate to serialized patent applications. Based on FY 2011 USPTO data, domestic grants account for 49 percent of total applications filed while foreign grants make up the remaining 51 percent. The Office also conducted a sensitivity analysis, generating low and high estimates by applying the range of patent-office fee elasticity estimates calculated by de Rossenfosse and van Pottelsberghe de la Potterie (2012). The Office applied short-run and long-run elasticity estimates in the same manner as it applied point estimates for low and high figures. A step-by-step guide on calculating the lost patent value from a decrease in patent applications filed is presented in Appendix B, "Lost Patent Value from a Decrease in Patent Applications Calculation."

2.4.5 The Office's Cost of Patent Operations

The basis for calculating the cost of patent operations is the routine USPTO budget formulation process. The Budget is a five-year plan (prepared annually) for carrying out base programs and implementing strategic goals and objectives. A description of the methodology for calculating prospective aggregate costs for patent operations can be found in Part IV of the NPRM and in the USPTO Congressional Justification supporting the Budget available at http://www.uspto.gov/about/stratplan/budget/fy13pbr.pdf. The Office's cost of patent operations varies across the alternatives relative to the amount of revenue and resources available (fees generated plus operating reserve) to execute the budgetary operating requirements associated with the anticipated incoming amount of workload. The cost of patent operations for the Baseline and Alternative 4 is derived from the amounts found in the Budget. The cost of patent operations (planned operating requirements) for Alternative 1 is the same as for Alternative 4, except that less would be deposited in the operating reserve. Given that on average examination costs represent around 70 percent of the total patent operating costs, the Office concentrated on the change in these costs for estimating the cost of patent operations for Alternatives 2 and 3. The Office conducted a sensitivity analysis of its cost of patent operations using a range of +/- five percent for the outer bounds.

2.5 Assumptions and Constraints

2.5.1 Assumptions

General:

- The time horizon for the analysis is FY 2013 – FY 2017.

- All dollar estimates are in current year dollars and discounted by three percent and seven percent, consistent with the requirements of OMB Circular A-4: Regulatory Analysis.

- The Patent Pendency Model (PPM) was used to estimate patent production, workload, changes in backlog and pendency, and associated staffing levels for each alternative. A description of the PPM, including a simulation tool, is available for review at http://www.uspto.gov/patents/stats/patent_pend_model.jsp.

- The average growth of patent application filings is 5.4 percent for the Baseline over the period from FY 2013 through FY 2017. The Office estimates the growth in application filings using a regression model with RGDP controls derived from the Congressional Budget Office (CBO), available at http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/120xx/doc12039/economictables[1].pdf.

- For calculating the across-the-board fee increase for Alternative 3, estimated fiscal year CPI rates used by year are: 1.4 percent in 2013, 1.5 percent in 2014, 1.6 percent in 2015, and 2.0 percent in 2016. The CBO estimated these rates, and they are available at http://www.cbo.gov/sites/default/files/cbofiles/attachments/Jan2012_EconomicBaseline_Release.xls.

- Based on FY 2011 USPTO data on patent grants, the Office estimates that 49 percent of patent grants are domestic and 51 percent are foreign. This data is available at http://www.uspto.gov/about/stratplan/ar/2011/oai_05_wlt_00.html.

Change in Private Patent Value from a Change in Pendency:

- The Baseline mean patent value for large ($115,684) and small ($70,232) entities accrues to patentees at the end of the third year measured from filing and are held over an average 17-year period of patent protection. Section 2.4.3 and Appendix A, "Change in Private Patent Value Calculation" provide additional information about the data sources and calculations.

- For the private patent value sensitivity analysis, the low end of the range was calculated using the small entity average ($70,232) for all entities (both small and large). Conversely, the high end of the range was calculated using the large entity average ($115,684) for all entities (both small and large).

Lost Patent Value from a Decrease in Patent Applications Filed:

- The Office estimated that 50 percent of applications would have been granted under the Baseline. The Office anticipates that the 50 percent estimate would be the maximum grant rate, as most applicants would self-select the less valuable patent applications from filing. This estimate was based on the Office's recent patent grant statistics from FY 2011. This data is available at http://www.uspto.gov/about/stratplan/ar/2011/oai_05_wlt_00.html.

- The Office used a per patent value of $10,619 based on the median patent value estimate taken from calculations made in Bessen (2008).

- The Office estimated that the lost patent value arrive to patentees at the end of the third year measured from filing and are held over a 17-year period of patent protection.

- The sensitivity analysis for lost patent value was based on the range of patent-office fee elasticity estimates taken from de Rassenfosse and van Pottelsberghe de la Potterie (2012).

Aggregate Fee Revenue:

- Based on an analysis related to the new micro entity class, the Office estimates that 31 percent of entities that claim small entity status would qualify as a micro entity for the 75 percent fee reduction. The NPRM (*see* Part IV, Fee Setting Methodology) describes the calculation used to estimate the number of micro entities.

- The planned effective date for the new fee rates, except for changes to patent issue and publication fees (sections 1.18(a) through (d)) in Alternatives 1 and 4 and the $0 eFiling for assignments fee (section 1.21(h)(1)) in Alternative 1, is March 1, 2013. The Office is planning for fee changes for patent issue and publication fees in alternatives 1 and 4 and the $0 eFiling for assignments fee in Alternative 1 to take effect on January 1, 2014.

- To calculate the aggregate revenue estimates for each alternative, the Office used a CPI increase (1.9 percent effective October 1, 2012) to estimate the amount of aggregate revenue from October 1, 2012 through these estimated dates upon which the proposed fees in the NPRM are expected to be final. In a separate rulemaking, (CPI Adjustment of Patent Fees for Fiscal Year 2013, 77 FR 28331 (May 14, 2012)), the USPTO proposed to adjust certain patent fee amounts to reflect fluctuations in the CPI under 35 U.S.C. 41(f) (referred to herein as the "CPI proposed rule"). The CPI proposed rule sets forth particular fees to be adjusted and describes how the adjustment will be calculated based on the fluctuation in the CPI over the twelve months preceding the issuance of the final CPI rule. The aggregate revenue estimates presented in the section 10 proposed rule use the estimate of a CPI increase of 1.9 percent (estimated as of December 2011), following the figure included in the Budget, published on February 13, 2012. In the CPI proposed rule, the Office used a hypothetical estimate of 2.9 percent for the CPI increase, which was taken from the estimated annual CPI increase as of February 2012 (the annual increase of February 2012 over February 2011). The actual CPI percentage will not be known until the CPI rule is final. The section 10 final rule will subsequently be updated to reflect the actual CPI percentage included in the CPI final rule.

- The Office also included the fees from the new AIA programs in the aggregate revenue calculation. The AIA directs the Office to implement four new trial proceedings – *inter partes* reviews, post-grant reviews, derivations, and the transitional program for covered business method patents. In separate rulemakings, the Office proposed both procedures and fees for these services. Specifically, on

January 5, 2012 (77 FR 448), the Office proposed fees for filing third party submissions; on January 25, 2012 (77 FR 3666), the Office proposed fees for *ex parte* reexaminations and supplemental examinations; on February 9, 2012 (77 FR 6879), the Office proposed fees for *inter partes* reviews, post-grant reviews, covered business method reviews, and derivation proceedings. Collectively, these rules are referred to herein as the "January and February 2012 Proposed Rules." The Baseline and each alternative include the fees (as adjusted through the final rule) for these new services in the aggregate revenue calculations.

2.5.2 Constraints

- Monetizing and quantifying certain impacts of patent fees on the economy and the rate of innovation are inherently difficult and limited by the availability of data. This is due to the number of variables involved and the difficulty in predicting economic activity. The Office took several steps to provide reasonable estimates within these constraints, including:

    - Using the best available data for projections and historical data, including CBO, Department of Labor, and USPTO systems,
    - Using peer reviewed academic sources where appropriate,
    - Developing conservative estimates for costs and benefits, and
    - Conducting sensitivity analysis for estimates.

3 OVERVIEW OF THE COSTS AND BENEFITS ANALYSIS

3.1 Overview of Alternatives

The Office identified three alternative patent fee schedules in addition to the proposed fee schedule (Alternative 1) set forth in the NPRM and assessed the costs and benefits of each against the current patent fee schedule (Baseline or status quo). The Baseline maintains the current patent fee schedule as of September 30, 2012, including the 15 percent surcharge (effective September 26, 2011) established by the AIA. Alternative 2 would set most large entity individual fees at the cost of performing the activities related to the particular service. Alternative 3 generally applies a 6.7 percent inflationary factor to the Baseline fee amounts. Alternative 4 is the Office's original proposal delivered to the Patent Public Advisory Committee (PPAC) on February 7, 2012. All alternatives implement the 75 percent discount for micro-entities, but the Baseline maintains the status quo fee schedule and does not include the micro-entity discount.

Over the five-year period included in this analysis (FY 2013 – FY 2017), Alternative 4 would generate the most aggregate revenue and Alternative 2 would generate the least (less than the Baseline). The proposed patent fee schedule (Alternative 1) would generate less revenue than Alternative 4, but more than the Baseline and all other alternatives. Alternatives 1 and 4 provide a sufficient amount of aggregate revenue to implement the two significant USPTO goals of: (1) implementing a sustainable funding model for operations and (2) optimizing patent timeliness and quality (*see* section 1.3 of this RIA and Part III of the NPRM). Alternative 1 builds the three-month patent operating reserve by FY 2017, while Alternative 4 reaches the three-month patent operating reserve level in FY 2015, placing a more significant financial burden on patent applicants and patent holders.

Likewise, both Alternatives 1 and 4 achieve patent pendency goals as planned for in FY 2015 and FY 2016 (*see* Budget). Alternative 3 also builds the three-month patent operating reserve by FY 2017, but does not achieve the patent pendency goals because there is not sufficient aggregate revenue to accomplish both significant USPTO goals. The Baseline and Alternative 2 do not accomplish either goal of sustainable funding or optimizing patent timeliness.

The aggregate revenue the USPTO receives from patent fee payers is considered a transfer payment from one group to another and, for purposes of this RIA, is not considered to affect total resources available to society. Therefore, transfers are not considered either a cost or a benefit in this analysis. A description of transfers, including a summary of total aggregate revenue generated by the Baseline and each alternative, is presented in section 3.4 of this RIA. Additional descriptive information about the Baseline and each alternative is included in section 4 of this RIA. A summary of the costs and benefits of the proposed patent fee schedule (Alternative 1) is provided below in section 3.2 and an overview of the costs and benefits of all alternatives as compared to the Baseline is provided in section 3.3.

3.2 Summary of the Proposed Fee Schedule (Alternative 1)

The Accounting Statement (as shown in Table 3-1) summarizes the estimated monetized and qualitative benefits, costs, and other impacts of the proposed patent fee schedule (Alternative 1) included in the NPRM. Overall, the proposed fee schedule (Alternative 1) has estimated monetized benefits to patent applicants, patent holders, other patent stakeholders, and society (over five years based on a seven percent discount rate) totaling approximately $7.7 billion (*see* Table 3-1), with estimated monetized costs to the Office

totaling $0.8 billion (*see* Table 3-1), resulting in a net benefit of $6.9 billion. The benefit to cost ratio is therefore 9.6 to 1, or nearly 10 to 1.

Table 3-1

Agency/Program Office: United States Patent and Trademark Office **OMB #:** 0651-00xx **Rule Title: Setting and Adjusting Patent Fees** **RIN#:** 0651-AC54 **Date:** 9/6/2012				
Monetized Impacts				
Category	***Primary Estimate***	***Minimum Estimate***	***Maximum Estimate***	***Source Citation***
	FY2013 – FY2017 **(Dollars in millions, Discounted at 7%)**			
BENEFITS (*see* section 6.2 for a detailed explanation of benefits)				
Incremental Monetized Benefits	$7,694	$5,245	$8,640	RIA Section 7
Incremental Quantified But Not Monetized Benefits	n/a	n/a	n/a	n/a
Incremental Unquantified (Qualitative) Benefits	The proposed alternative reduces patent pendency from that which would have been achieved under the status quo fee schedule by approximately 19 percent. This significantly reduces uncertainty regarding the scope of patent rights, which *fosters innovation* and has a positive effect on economic growth. The fee schedule design is also improved over the status quo fee schedule to better support key policy considerations.			RIA Sections 6 and 7
COSTS (*see* section 5.2 for a detailed explanation of costs)				
Incremental Monetized Costs	$817	$776	$858	RIA Section 7
Incremental Quantified But Not Monetized Costs	n/a	n/a	n/a	n/a
Incremental Unquantified (Qualitative) Costs	n/a			n/a

Agency/Program Office: United States Patent and Trademark Office

OMB #: 0651-00xx

Rule Title: Setting and Adjusting Patent Fees

RIN#: 0651-AC54

Date: 9/6/2012

Monetized Impacts

Category	*Primary Estimate*	*Minimum Estimate*	*Maximum Estimate*	*Source Citation*
	FY2013 – FY2017 (Dollars in millions, Discounted at 7%)			
TRANSFERS (*see* section 3.4 for a detailed explanation of Transfers)				
Total Monetized Transfers: "On Budget"	$11,756	$11,168	$12,344	RIA Section 3
From Whom to Whom	From patent applicants and owners to the U.S. Government			
Total Monetized Transfers: "Off Budget"	n/a	n/a	n/a	n/a
From Whom to Whom	n/a			n/a

Other Impacts

Category	*Effects*	*Source Citation*
Effects on State, Local, and/or Tribal Governments	n/a	n/a
Effects on Small Businesses	Changes in patent fees can affect further innovation and commercialization by small entities. The patent fee schedule includes discounts for small and micro entities for certain fees. The estimated impact on small businesses is addressed in the Initial Regulatory Flexibility Analysis.	Initial Regulatory Flexibility Analysis (IRFA)
Effects on Wages	n/a	n/a
Effects on Growth	The impact of patent fee changes on fostering innovation, which helps drive economic growth, was an important factor in this analysis. The proposed alternative reduces pendency, resulting in a decrease in uncertainty. It also has a strong positive effect on the private value of patents.	RIA

The estimated monetized benefit of the proposed patent fee schedule (Alternative 1) is an increase in the average value of a patent that stems from the decrease in patent application pendency (the time it takes to have a patent application examined). The Office estimates that total patent pendency will decrease by 12 months during the time period of this analysis, thereby permitting a patentee to obtain a patent sooner than it would have under the Baseline (status quo fee schedule). When a patentee secures the exclusive right to the invention sooner, the private value of that patent increases, according to the concept of time value of money.

The estimated monetized costs of the proposed patent fee schedule (Alternative 1) include the incremental cost of patent operations and the lost patent value from an estimated reduction in new (serialized) patent application filings. As to the former, the cost of patent operations associated with the proposed fee schedule (Alternative 1) is higher than the Baseline cost of patent operations. The additional funds will pay for: (1) the increased patent examination capacity to work on the large backlog of patent applications in inventory, thus reducing patent pendency; and (2) building the three-month patent operating reserve by FY 2017. Regarding the latter, as patent filers adjust to the new fees, the Office expects that the proposed fee schedule (Alternative 1) will result in a short-term moderate reduction in the growth of patent applications compared to the Baseline (i.e., application filings are expected to increase, but at a lower rate). The Office estimates that year-over-year application filing growth rates, however, will return to Baseline levels beginning in FY 2015.

The estimated qualitative benefits of the proposed fee schedule (Alternative 1) are improvements in the design of the fee schedule when bearing in mind key policy considerations and the reduction in uncertainty associated with the scope of patent rights via reduced pendency.

The design of the proposed fee schedule (Alternative 1) includes several changes that would better achieve policy goals than the current fee schedule. Specifically, the proposed fee schedule continues to *foster innovation* by keeping front-end fees below the Office's cost to minimize barriers to entry into the patent system. The proposed fee schedule (Alternative 1) also *fosters innovation* in society. The increase in maintenance fees is estimated to reduce maintenance fee renewal rates, which may affect how many patents are not maintained and thus the underlying subject matter is made available in the public domain for subsequent commercialization. Lastly, the proposed fee schedule (Alternative 1) provides additional *patent prosecution options for applicants* through multipart and staged fees for RCEs and appeals.

Early certainty due to reduced pendency offers the patentee confidence that their innovations will be protected by the patent system long enough to recoup their initial investments. Moreover, it allows the patentee to make commercial investments with more certain knowledge about the protection, and other capital investors to have more certainty over the scope of the investment they are being asked to make. Certainty over the boundaries of the patent right also gives other innovators that are considering doing R&D in the technology area more information, earlier, about what actions would constitute redundant and infringing innovation, and what actions would constitute a non-infringing

improvement, thus allowing for more efficient allocation of society's scarce innovation resources earlier in time.

In sum, based on the analysis of the estimated monetized and qualitative costs and benefits, the proposed fee schedule generates the largest net benefit. It increases private patent value by over seven billion dollars at a cost of less than one billion dollars, provides a benefit to cost ratio of nearly 10 to 1, and better supports key policy considerations while decreasing uncertainty in the scope of patent rights for patentees and other innovators alike.

3.3 Overview of the Costs and Benefits Across Alternatives

The Office selected the proposed patent fee schedule (Alternative 1) because the benefits significantly outweighed the costs, and it was superior to the Baseline and the other alternatives analyzed in its ability to meet the rulemaking's strategies and goals. A high-level overview of the monetized and qualitative costs and benefits is presented below. Section 4 presents a more thorough description of each alternative, including the key indicators analyzed to assess costs and benefits. Section 5 presents detailed information related to each monetized and qualitative cost for the years included in this analysis (FY 2013 – FY 2017). Correspondingly, Section 6 presents detailed information related to each monetized and qualitative benefit for the years included in this analysis (FY 2013 – FY 2017).

3.3.1 Monetized Costs and Benefits

The Office identified monetized costs and benefits for each alternative (*see* Table 3-2).

Table 3-2

MONETIZED COSTS AND BENEFITS					
Alternative: **Description**	**Baseline** **Status Quo**	**1** **Proposed Patent Fee Schedule**	**2** **Fee Cost Recovery**	**3** **Across-the-Board Adjustment**	**4** **Initial Proposal to PPAC**
Key Indicators (*see* sections 2 and 4 for additional information)					
Average First Action Pendency in FY 2015	12.7 months	10.1 months	23.5 months	12.7 months	10.1 months
Average Total Pendency in FY 2016	21.1 months	18.3 months	34.5 months	21.1 months	18.3 months
Total Serialized Application Filings FY 2013 – FY 2017	2.3 million	2.2 million	1.7 million	2.3 million	2.2 million
Total Patents Granted FY 2013 – FY 2017	1.4 million	1.6 million	1.1 million	1.4 million	1.6 million
Monetized Benefits for FY 2013 – FY 2017, Discounted at 7% (U.S. Only) (*see* section 6)					
Decrease in Cost of Patent Operations	N/A	*see costs*	$.9 billion	*see costs*	*see costs*
Increase in Private Patent Value from an Decrease in Pendency	N/A	$7.7 billion	*see costs*	None	$7.7 billion
Total Monetized Benefits	**N/A**	**$7.7 billion**	**$.9 billion**	**$0**	**$7.7 billion**
Monetized Costs for FY 2013 – FY 2017, Discounted at 7% (U.S. Only) (*see* section 5)					
Increase in Cost of Patent Operations	N/A	($.7 billion)	See Benefits	($.5 billion)	($1.3 billion)
Decrease in Private Patent Value from an Increase in Pendency	N/A	*see benefits*	($22.5 billion)	*see benefits*	*see benefits*
Lost Patent Value from a Decrease in Applications Filed	N/A	($.1 billion)	($1.1 billion)	($0 billion)	($.2 billion)

MONETIZED COSTS AND BENEFITS					
Alternative: **Description**	**Baseline** **Status Quo**	**1** **Proposed Patent Fee Schedule**	**2** **Fee Cost Recovery**	**3** **Across-the-Board Adjustment**	**4** **Initial Proposal to PPAC**
Total Monetized Costs	**N/A**	**($.8 billion)**	**($23.6 billion)**	**($.5 billion)**	**($1.5 billion)**
Net Monetized Benefits/(Costs)	**N/A**	**$6.9 billion**	**($22.7 billion)**	**($.5 billion)**	**$6.2 billion**

The monetized benefits of Alternative 1 are the same as the benefits of Alternative 4 ($7.7 billion discounted at seven percent from FY 2013 – FY 2017). The benefits are equal because the estimated key indicator amounts for patent pendency and patents granted (*see* section 2.3 for a description of key indicators) are the same. Under both alternatives, the Office estimates that it will achieve its 10-month average first action pendency goal in FY 2015 and its 20-month average total pendency goal in FY 2016. Likewise, with equal examination capacity, the Office estimates that it will grant the same number of patents over the five-year period of this analysis (1.6 million from FY 2013 – FY 2017). With the lowest estimated patent pendency and highest estimated number of patents granted, Alternatives 1 and 4 have the greatest monetized benefit of private patent value.

This data relationship is also true when comparing indicators for the Baseline and Alternative 3. The estimated examination capacity for Alternative 3 is the same as that estimated for the Baseline, therefore patent pendency and the number of patents granted does not improve for Alternative 3. Given that there is no improvement in pendency for Alternative 3, there is no increase in the private patent value.

On the other hand, in Alternative 2, the Office estimates that patent pendency will increase and the number of patents granted will decrease when compared to Baseline, which would result in a monetized cost due to reducing the private patent value. This reduction in private patent value is the direct result of reducing examination capacity to ensure aggregate costs equal aggregate revenue. The lower examination capacity also results in a lower cost of patent operations when compared to the Baseline, which is considered a monetized benefit.

Again, this same data relationship holds true for Alternatives 1 and 4. The greater examination capacity that is required to reduce patent pendency and increase the number of patents granted increases the cost of patent operations. Another increase in the cost of patent operations is building the three-month operating reserve. Alternative 4 has a cost of operations that is greater than Alternative 1 because the three-month operating reserve is accumulated over three years (by FY 2015), instead of over five years (by FY 2017), as with Alternative 1. Similarly, although the examination capacity for Alternative 3 is estimated to be the same as the Baseline, the cost of operations is higher because the Office estimates that three-month operating reserve will accumulate over five years (by FY 2017) in Alternative 3, but not for the Baseline.

Finally, all alternatives have a monetized cost associated with the lost patent value from an estimated decrease in patent applications filed. The monetized cost for lost patent value in Alternative 2 is significantly higher than the other alternatives because the increase in patent application filing, search, and examination fees (to achieve cost recovery) is the highest. The Office estimates that serialized applications filed in Alternative 2 would decrease from

the Baseline by at least 25 percent over the five-year period of the analysis, resulting in a $1.1 billion monetized cost in lost patent value. Although significantly less at $0.2 billion, Alternative 4 has the next highest monetized cost related to the lost patent value because the increase in patent application filing, search, and examination fees is higher than Alternatives 1 and 3, but less than Alternative 2. This pattern holds true for Alternatives 1 and 3. The patent application filing, search, and examination fee increase for Alternative 1 is less than Alternative 4, but more than Alternative 3, and consequently the lost patent value ($0.1 billion) is also less than Alternative 4, but more than Alternative 3. The monetized cost associated with the lost patent value for Alternative 3 is minimal at only $32 million (*see* section 5.4.1).

To summarize, the costs of Alternatives 2 and 3 are greater than the benefits. The benefits of Alternatives 1 and 4 are equal, but the costs of Alternative 4 are higher. Therefore, the net benefit of Alternative 1 is greater than that of Alternative 4.

3.3.2 Qualitative Costs and Benefits

When analyzing qualitative costs and benefits, the Office evaluated the fee schedule design and the impact that patent pendency has on the uncertainty of the scope of patent rights (*see* Table 3-3). The Office assessed all alternatives except for Alternative 2 with an overall qualitative benefit. Alternative 2 was assessed with an overall qualitative cost for several reasons. First, the fee schedule design does not achieve the key policy considerations of *fostering innovation*, *effective administration of the patent system*, and *offering patent prosecution options to applicants*. In fact, the Office found that this fee cost recovery

alternative negatively impacted the policy considerations currently in place under the status quo fee schedule. For example, increasing the initial patent application filing, search, and examination fees to cost recovery does not *foster innovation* and would instead create barriers to entry into the patent system, as evidenced by the monetized cost associated with lost patent value. At the same time, under a cost recovery alternative (Alternative 2), maintenance fees would be lower, which would result in higher maintenance fee renewal rates. The higher renewal rates indicate that some patent owners may reevaluate their patent(s) at each stage and decide to retain their exclusive rights more often than they would under the Baseline fee schedule. In those circumstances, the exclusive right of the patent would be maintained, and the subject matter of the patent would not be available in the public domain for others to use. The Office estimates this result as a qualitative cost to society, because it may increase costs (e.g., licensing) for further innovation and commercialization. In addition, the estimated increase in patent pendency is expected to increase the uncertainty in the scope of patent rights, which is considered a qualitative cost to the patent system.

The fee schedule design and patent pendency of Alternative 3 (across-the-board adjustment) is the same as the status quo fee schedule. Therefore, there are substantially no qualitative costs or benefits when comparing Alternative 3 to the Baseline. On the other hand, both patent and pendency and the fee schedule design improve with Alternatives 1 and 4. Given that patent pendency is the same in both alternatives, the benefits associated with the reduction in uncertainty associated with the scope of patent rights are the same. In addition, both alternatives improve the fee schedule design when compared to the Baseline (*see* sections 6.2.2.1 and 6.5.2.1). However, Alternative 1 has some additional improvements

related to *offering patent prosecution options to applicants*. For example, Alternative 1 provides for multipart RCE fees and an option for a $0 fee for recording assignments electronically. Alternative 4 excludes both of these options. While the qualitative benefits of Alternatives 1 and 4 are substantially the same, Alternative 1 provides for some additional fee design benefits.

Table 3-3

QUALITATIVE COSTS AND BENEFITS					
Alternative: **Description**	**Baseline** **Status Quo**	**1** **Proposed Patent Fee Schedule**	**2** **Fee Cost Recovery**	**3** **Across-the-Board Adjustment**	**4** **Initial Proposal to PPAC**
Key Indicators (*see* sections 2 and 4 for additional information)					
Maintenance Fee Renewal Rate – Stage 1 (5 year average)	89.9%	86.1%	95.7%	89.6%	86.1%
Maintenance Fee Renewal Rate – Stage 2 (5 year average)	80.4%	77.3%	89.9%	79.9%	77.3%
Maintenance Fee Renewal Rate – Stage 3 (5 year average)	73.8%	67.0%	82.2%	73.2%	66.5%
Total Average Pendency as of FY 2017	22.3 months	18.1 months	38.6 months	22.3 months	18.1 months
Qualitative Costs (*see* section 5)					
Overall Fee Schedule Design Costs	N/A	*see benefits*	Significant	*see benefits*	*see benefits*

QUALITATIVE COSTS AND BENEFITS					
Alternative: **Description**	**Baseline** **Status Quo**	**1** **Proposed Patent Fee Schedule**	**2** **Fee Cost Recovery**	**3** **Across-the-Board Adjustment**	**4** **Initial Proposal to PPAC**
Increase in Uncertainty from an Increase in Total Pendency Over Baseline as of FY 2017	N/A	*see benefits*	16.3 month increase over Baseline	*see benefits*	*see benefits*
Qualitative Benefits (*see* section 6)					
Overall Fee Schedule Design Benefits	N/A	Moderate	*see costs*	Unchanged	Moderate
Decrease in Uncertainty from a Decrease in Total Pendency Over Baseline as of FY 2017	N/A	4.2 month decrease over Baseline	*see costs*	None	4.2 month decrease over Baseline

3.4 Description of Transfers

OMB Circular A-4 requires the Office to report estimated transfers separately and defines a transfer payment as monetary payments from one group to another that do not affect total resources available to society. For example, transfer payments include revenue collected through a fee, a surcharge in excess of the cost of services provided, and a tax. "Fees to government agencies for goods or services provided by the agency should not be considered a cost or benefit because the goods and services are already counted as government costs, and including them as private costs would entail double counting." *See* Regulatory Impact Analysis: Frequently Asked Questions (FAQs) at pg. 16 *available at* http://www.whitehouse.gov/sites/default/files/omb/circulars/a004/a-4_FAQ.pdf.

Accordingly, the Office estimates the amount of transfer payments from patent applicants and patent holders, but does not include this amount in the analysis of costs and benefits.

3.4.1 Transfer Estimates

The Baseline fee revenue for all patent fees was used to estimate the Baseline transfer amount. This is a reasonable Baseline estimate because these fees represent the patent status quo fee schedule, in the absence of section 10 rules.

Table 3-4, Table 3-5, and Table 3-6 compare the undiscounted and three and seven percent discounted amounts of transfers for each alternative to the Baseline. The Office calculates transfers as the total amount of fee revenue paid by patent applicants and patent holders to the Office over the Baseline estimate. Across undiscounted and three and seven percent discount rates, the Office estimates transfers to be the greatest for Alternative 4 and to be a close second for Alternative 1. The Office estimates Alternative 3 to have third highest increase compared to the Baseline and Alternative 2 to have a negative change. The negative change under Alternative 2 is a result of the decrease in the cost of the Office's patent operations due to an expected reduction in aggregate revenue. Aggregate revenue would decrease as a result of higher front-end fees which could create barriers to entry for applicants, thus reducing the number of patent applications to be filed and in turn generating revenue from back-end fees (e.g., patents that would be maintained).

Table 3-4

Patent Fee Transfers (Aggregate Fee Revenue) by Alternative - Undiscounted (dollars in millions)						
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Fee Revenue	$2,477	$2,707	$2,756	$2,788	$2,830	$13,558
Alternative 1: Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees - Fee Revenue	$2,604	$2,884	$2,934	$2,953	$3,022	$14,397
Transfer Amount from Baseline for Alternative 1	*$127*	*$177*	*$178*	*$165*	*$192*	*$839*
Alternative 2: Fee Cost Recovery - Fee Revenue	$2,336	$2,483	$2,419	$2,553	$2,599	$12,390
Transfer Amount from Baseline for Alternative 2	*($141)*	*($224)*	*($337)*	*($235)*	*($231)*	*($1,168)*
Alternative 3: Across-the-Board Adjustment - Fee Revenue	$2,529	$2,835	$2,911	$2,952	$2,991	$14,218
Transfer Amount from Baseline for Alternative 3	*$52*	*$128*	*$155*	*$164*	*$161*	*$660*
Alternative 4: Initial Proposal to PPAC - Fee Revenue	$2,643	$3,052	$3,098	$3,117	$3,200	$15,110
Transfer Amount from Baseline for Alternative 4	*$166*	*$345*	*$342*	*$329*	*$370*	*$1,552*

Table 3-5

Patent Fee Transfers (Aggregate Fee Revenue) by Alternative - 3% Discount (dollars in millions)						
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Fee Revenue	$2,405	$2,552	$2,522	$2,477	$2,441	$12,397
Alternative 1: Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees - Fee Revenue	$2,528	$2,718	$2,685	$2,624	$2,607	$13,162
Transfer Amount from Baseline for Alternative 1	*$123*	*$166*	*$163*	*$147*	*$166*	*$765*
Alternative 2: Fee Cost Recovery - Fee Revenue	$2,268	$2,340	$2,214	$2,268	$2,242	$11,332
Transfer Amount from Baseline for Alternative 2	*($137)*	*($212)*	*($308)*	*($209)*	*($199)*	*($1,065)*
Alternative 3: Across-the-Board Adjustment - Fee Revenue	$2,455	$2,672	$2,664	$2,623	$2,580	$12,994
Transfer Amount from Baseline for Alternative 3	*$50*	*$120*	*$142*	*$146*	*$139*	*$597*
Alternative 4: Initial Proposal to PPAC - Fee Revenue	$2,566	$2,877	$2,835	$2,769	$2,760	$13,807
Transfer Amount from Baseline for Alternative 4	*$161*	*$325*	*$313*	*$292*	*$319*	*$1,410*

Table 3-6

Patent Fee Transfers (Aggregate Fee Revenue) by Alternative - 7% Discount (dollars in millions)						
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Fee Revenue	$2,315	$2,364	$2,250	$2,127	$2,018	$11,074
Alternative 1: Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees - Fee Revenue	$2,434	$2,519	$2,395	$2,253	$2,155	$11,756
Transfer Amount from Baseline for Alternative 1	*$119*	*$155*	*$145*	*$126*	*$137*	*$682*
Alternative 2: Fee Cost Recovery - Fee Revenue	$2,183	$2,169	$1,975	$1,948	$1,853	$10,128
Transfer Amount from Baseline for Alternative 2	*($132)*	*($195)*	*($275)*	*($179)*	*($165)*	*($946)*
Alternative 3: Across-the-Board Adjustment - Fee Revenue	$2,364	$2,476	$2,376	$2,252	$2,133	$11,601
Transfer Amount from Baseline for Alternative 3	*$49*	*$112*	*$126*	*$125*	*$115*	*$527*
Alternative 4: Initial Proposal to PPAC - Fee Revenue	$2,470	$2,666	$2,529	$2,378	$2,282	$12,325
Transfer Amount from Baseline for Alternative 4	*$155*	*$302*	*$279*	*$251*	*$264*	*$1,251*

4 DESCRIPTION OF BASELINE AND ALTERNATIVES

The rulemaking for the proposed patent fee schedule is economically significant and requires an RIA under Executive Order 12866 Regulatory Planning and Review, 58 FR 51735 (Oct. 4, 1993). The Office identified alternative patent fee schedules and assessed them against the current patent fee schedule (Baseline or status quo) and their ability to meet a set of primary strategies and goals.

In discussing and comparing the Office's alternatives to the Baseline, three key areas warrant attention: (i) the treatment of small and micro entity fee reductions; (ii) the inclusion of fees proposed (and adjusted through the final rule) in earlier AIA rulemakings; and (iii) the treatment of CPI.

- *Small and Micro Entity Fee Reductions:* Section 10(b) of the AIA sets forth that the fees set or adjusted under section 10(a) "for filing, searching, examining, issuing, appealing, and maintaining patent applications and patents shall be reduced . . . by 75 percent with respect to the application of such fees to any micro entity as defined by [new 35 U.S.C.] 123." *See* 125 Stat. at 315-17. The Baseline does not include micro entity fee reductions and fewer fees are eligible for small entity fee reductions. Each of the four alternatives applies small and micro entity discounts to the eligible fees under section 10(b). Given the scope of section 10(b), small and micro entity discounts would be available for more than 25 patent fees that do not currently qualify for a small entity discount.

- *January and February 2012 Proposed Rules:* The Baseline and each alternative includes the fees (as adjusted through the final rule) for these new services in both the "current fees" column of the fee tables in this document and the aggregate revenue calculations.

- *Consumer Price Index:* The treatment of CPI differs between the Baseline and the four alternatives. The Baseline does not include the CPI adjustment proposed and estimated to be effective on October 1, 2012. Additionally, when estimating aggregate revenue, the Office used a 1.9 percent CPI increase (the figure included in the Budget) to estimate the amount of aggregate revenue from October 1, 2012 (FY 2013) through an estimated date the proposed fees in this rulemaking could be final.

  In a separate rulemaking, (*see* CPI Adjustment of Patent Fees for Fiscal Year 2013, 77 FR 28331 (May 14, 2012)), the USPTO proposed to adjust certain patent fee amounts to reflect fluctuations in the CPI under 35 U.S.C. 41(f) (referred to herein as the "CPI proposed rule"). The CPI proposed rule sets forth particular fees to be adjusted and describes how the adjustment will be calculated based on the fluctuation in the CPI over the twelve months preceding the issuance of the final CPI rule. The aggregate revenue estimates presented in the section 10 proposed rule use the estimate of a CPI increase of 1.9 percent (estimated as of December 2011), the figure included in the Budget, published on February 13, 2012, and the initial patent fee proposal delivered to the PPAC on February 7, 2012. In the CPI proposed rule, a hypothetical estimate of 2.9 percent was used for the CPI increase. This was the estimated annual CPI increase as of February 2012 (the annual increase of February

2012 over February 2011). The actual CPI percentage will not be known until the Office issues the CPI final rule. The section 10 final rule will be updated to reflect the actual CPI percentage included in the CPI final rule.

Consequently, for comparisons between proposed fees and current fees, the "current fees" column displays the fees that went into effect on September 26, 2011, but does not include an estimated CPI fee amount.

The sub-sections below provide a detailed description of the Baseline and each alternative. Each description contains an overview of the key indicators impacting the costs and benefits of the alternative. Sections 5 and 6 present a detailed discussion of the respective costs and benefits of each alternative. Section 7 provides an overall summary and comparison of the costs and benefits across all alternatives.

4.1 Retain Current Patent Fee Schedule (Baseline or Status Quo)

4.1.1 Description of the Baseline

The Baseline for this analysis is the current patent fee schedule that became effective on September 26, 2011, and includes the 15 percent surcharge set forth in the AIA. It represents the Office taking no action to set fees using section 10 authority. The Office estimates that the Baseline would generate approximately $2.5 billion in patent fees during FY 2013, which is approximately $200 million more than the Office anticipates collecting in FY 2012. As mentioned above, the Baseline aggregate revenue estimate includes the fee levels in the January and February 2012 Proposed Rules, but does not include a CPI adjustment estimated to be effective for October 2012 (FY 2013).

Under the Baseline, the Office expects to collect sufficient revenue to continue recovering the aggregate cost of steady state operations. The Baseline would also provide sufficient revenue to continue executing on some Office priorities. For example, the Office could continue with plans to reduce the current patent application backlog and pendency levels by hiring 1,500 examiners in FY 2012. However, when considering this increase in examination capacity through hiring, the Office must look beyond current year costs and evaluate the long-term cost of compensation and benefits in the out years. The Office estimates that it would cost an additional $121 million in FY 2013 to pay for USPTO employees hired in FY 2012 (patent examiner hires being the majority of the cost). *See* page 52 of the Budget. The additional $200 million in FY 2013 is sufficient to cover the out year costs for hiring the 1,500 examiners in FY 2012. However, the Baseline does not provide sufficient resources to pay for an additional 1,500 examiners to be hired in FY 2013, as planned for in the Budget and in Alternatives 1 and 4. Instead, the Office would only replace patent examiner attritions after FY 2012.

Given the limited hiring the Office can do with Baseline aggregate revenue, there would be only short-term improvements in patent pendency (and the related application backlog). For example, the average first action pendency would decrease to 12.7 months in FY 2015 – short of the 10 month target; and the average total pendency would decrease to 21.1 months in FY 2016 –short of the 20 month target. But, average first action and total pendency would begin to increase again in FY 2016 and FY 2017, respectively. Likewise, the Office would reduce the backlog to approximately 444,151 applications by the end of FY 2016, but would not meet the target of 330,000 patent applications by FY 2015. Also, the backlog would begin to grow again, rising substantially in FY 2017.

The Baseline patent fee schedule maintains the many statutory fees that were established based on policy factors rather than cost recovery. These policy factors include *fostering innovation* by providing ease of entry into the patent system through low front-end fees (e.g., filing, search, and examination) and by allowing patent holders to pay fees based on their ability to assess the value of their invention through higher back-end fees (e.g., issue and maintenance). However, the Baseline does not allow the Office to improve the fee schedule by altering relationships between fees or offering multipart or staged fees that *offer more patent prosecution options for applicants*. Finally, one of the biggest limitations of the Baseline is the limited range of fee reductions. In retaining the status quo, the Office would not expand the range of fees eligible for a small entity fee reduction (50 percent) or provide a micro entity applicant with the fee reduction (75 percent) that Congress set forth in section 10 of the Act.

4.1.2 Key Indicators for Baseline

Table 4-1 presents the key indicators used to estimate the costs and benefits for the four alternatives compared in sections 5 and 6, respectively. The main purpose of the information in the table is to display the inputs used in the cost and benefit estimates for each alternative, but the table also provides insight into the expected results against which the four alternatives are measured.

Table 4-1

Baseline – Retain Current Fee Schedule Key Indicators					
Indicator	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Aggregate Fee Revenue/Cost of Patent Operations (dollars in millions)	$2,477	$2,707	$2,756	$2,788	$2,830
Serialized Utility Application Filings (Total)	410,891	435,618	459,643	484,991	509,299
Average First Action Pendency (months)	17.3	17.3	12.7	13.2	14.3
Average Total Pendency (months)	30.1	25.2	24.6	21.1	22.3
Patents Granted (Total)	290,132	300,527	306,736	273,419	272,063
Maintenance Fee Renewal Rate – Stage 1	90.7%	89.6%	89.7%	89.7%	89.7%
Maintenance Fee Renewal Rate – Stage 2	80.8%	80.0%	81.5%	79.3%	80.6%
Maintenance Fee Renewal Rate – Stage 3	74.4%	73.5%	74.8%	72.6%	73.8%

- ***Aggregate Fee Revenue/Cost of Patent Operations:*** Overall, the Baseline provides sufficient aggregate revenue to pay for the current cost of patent operations, but does not make significant progress toward the Office's strategies and goals. For example, Baseline revenue would be adequate to continue with patent process reengineering and some patent IT improvements, but at a slower pace than proposed in the Budget. Baseline revenue would also allow the Office to continue with the nationwide workforce initiative to open the initial satellite office in Detroit, but may be inadequate to expand the nationwide workforce initiative to other locations. Finally, the Baseline revenue would be inadequate to build a three-month operating reserve. This indicator is used to calculate the monetized cost of patent operations in section 5 for each of the alternatives and therefore determine what initiatives the Office could pursue and complete. For every alternative that meets or exceeds Baseline

aggregate revenue, the Office could accomplish everything described in the Baseline.

- ***Serialized Utility Application Filings:*** Under the Baseline fee schedule, the Office anticipates year over year growth in serialized application filings.

- ***First Action Average Pendency and Total Average Pendency:*** As described above, Baseline pendency first decreases in FY 2014 and FY 2015 but begins to increase again in FY 2016 and FY 2017. The initial decrease is the result of the 1,500 additional examiners hired in FY 2012, while the gradual increase is the result of the Office not being able to hire 1,500 additional examiners in FY 2013 to keep up with the increasing workload. Thus, under the Baseline, the Office would not meet its pendency goals (10 months first action in FY 2015 and 20 months total in FY 2016) by FY 2015 and FY 2016 respectively. To perform better than the Baseline in achieving the pendency targets, any alternative must recover enough revenue to hire 1,500 examiners in FY 2013.

- ***Patents Granted:*** The number of patents granted reflects the Office's ability to process patent applications given examination capacity. This indicator is closely related to patent pendency and the cost of patent operations. Under the Baseline, examination capacity is adequate to make some gains in patent pendency, but as the rate of application filings increases each year, inadequate revenue does not allow the Office to further increase capacity. The result is that pendency begins to slowly

increase (*see* discussion above), and productivity, as measured by patents granted, begins to decrease in FY 2016 and FY 2017.

- ***Maintenance Fee Renewal Rates (Stage 1, Stage 2, and Stage 3):*** The Baseline maintenance renewal fees increase at each stage while the maintenance fee renewal rates decrease at each stage—an inverse relationship. Baseline renewal rates represent the Office's estimates based on current rates and historical trends.

Sections 5 and 6 use the above listed indicators to analyze Alternative 1's costs and benefits.

4.2 Alternative 1 – Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees

4.2.1 Description of Alternative 1

Alternative 1 is the recommended alternative and the patent fee schedule set forth in the NPRM. Transitioning to the proposed fee schedule in FY 2013 would provide the USPTO with a five percent increase in fee collections over the Baseline fee collection levels. Once fully transitioned to these new fee levels, the Office estimates that FY 2014 fee collections would exceed FY 2014 Baseline fee collections by seven percent. The aggregate revenue would be sufficient to recover the aggregate cost of patent operations for implementing the rulemaking goals and strategies and the Office's strategic goals to improve the timeliness of patent processing (through reducing patent application backlog and pendency) and implementing a sustainable funding model for operations (by establishing a three-month patent operating reserve by FY 2017). This alternative would include new small entity discounts and introduce micro entity discounts. It likewise makes the micro entity discount

applicable to more than 25 patent fees that do not qualify for a small entity discount under the Baseline.

Like the Baseline, Alternative 1 proposes many fees either below or above cost consistent with the key policy considerations of *fostering innovation*, *facilitating effective administration of the patent system*, and *offering patent prosecution options for applicants*. Section 6.2.2.1 presents the fee schedule design as a benefit of this alternative and presents numerous examples of how this alternative is uniquely responsive to stakeholder feedback in ways the other alternatives are not. However, the cost of patent operations would be higher under this alternative than under the Baseline and Alternatives 2 and 3 (discussed later).

Table 4-2 presents major fee changes between the Baseline and Alternative 1 for common fees that have the greatest impact on patent revenue for the Office. Proposed large and small entity dollar and percent changes are compared to current large and small entity fees. For purposes of comparison, where new micro entity fees are proposed, the dollar and percent changes are calculated from the current small entity fee amount (or large entity fee, where applicable). A complete list of fee changes for Alternative 1 can be found in the document titled "Table of Patent Fee Changes" available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1.

Table 4-2

Alternative 1 - Proposed Alternative – Set and Adjust Section 10 Fees Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Basic Filing, Search, and Exam - Utility (total)	$1,250	$625	$1,600 **28%**	$800 **28%**	$400 **-36%**
Request for Prioritized Examination	$4,800	$2,400	$4,000 **-17%**	$2,000 **-17%**	$1,000 **-58%**
Independent Claims in Excess of Three	$250	$125	$420 **68%**	$210 **68%**	$105 **-16%**
Claims in Excess of Twenty	$60	$30	$80 **33%**	$40 **33%**	$20 **-33%**
Multiple Dependent Claims	$450	$225	$780 **73%**	$390 **73%**	$195 **-13%**
Utility Application Size Fee – For each Additional 50 Sheets that Exceed 100 Sheets	$310	$155	$400 **29%**	$200 **29%**	$100 **-35%**
Extension for Response within First Month	$150	$75	$200 **33%**	$100 **33%**	$50 **-33%**
Extension for Response within Second Month	$560	$280	$600 **7%**	$300 **7%**	$150 **-46%**
Extension for Response within Third Month	$1,270	$635	$1,400 **10%**	$700 **10%**	$350 **-45%**
Extension for Response within Fourth Month	$1,980	$990	$2,200 **11%**	$1,100 **11%**	$550 **-44%**
Extension for Response within Fifth Month	$2,690	$1,345	$3,000 **12%**	$1,500 **12%**	$750 **-44%**
First Request for Continued Examination (RCE)	$930	$465	$1,200 **29%**	$600 **29%**	$300 **-35%**
Second and Subsequent Request for Continued Examination (NEW)	$930	$465	$1,700 **83%**	$850 **83%**	$425 **-9%**
Notice of Appeal	$620	$310	$1,000 **61%**	$500 **61%**	$250 **-19%**
Filing a Brief in Support of an Appeal in Application or *Ex Parte* Reexamination Proceeding	$620	$310	$0 **-100%**	$0 **-100%**	$0 **-100%**
Appeal Forwarding Fee (NEW)	NEW	NEW	$2,000 **N/A**	$1,000 **N/A**	$500 **N/A**
Total Appeal Fees (Paid before Examiner Answer)	*$1,240*	*$620*	*$1,000* ***-19%***	*$500* ***-19%***	*$250* ***-60%***

Alternative 1 - Proposed Alternative – Set and Adjust Section 10 Fees Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Total Appeal Fees (Paid after Examiner Answer)	*$1,240*	*$620*	*$3,000* ***142%***	*$1,500* ***142%***	*$750* ***21%***
Publication Fee for Early, Voluntary, or Normal Publication	$300	N/A	$0 **-100%**	$0 **-100%**	$0 **-100%**
Utility Issue Fee	$1,740	$870	$960 **-45%**	$480 **-45%**	$240 **-72%**
Combined Total – Pre-grant Publication and Issue Fee - Utility	*$2,040*	*$1,170*	*$960* ***-53%***	*$480* ***-59%***	*$240* ***-79%***
Maintenance Fee Due at 3.5 Years (1st Stage)	$1,130	$565	$1,600 **42%**	$800 **42%**	$400 **-29%**
Maintenance Fee Due at 7.5 Years (2nd Stage)	$2,850	$1,425	$3,600 **26%**	$1,800 **26%**	$900 **-37%**
Maintenance Fee Due at 11.5 Years (3rd Stage)	$4,730	$2,365	$7,400 **56%**	$3,700 **56%**	$1,850 **-22%**
Ex Parte Reexamination*	$17,750	N/A	$15,000 **-15%**	$7,500 **-58%**	$3,750 **-79%**
Processing and Treating a Request for Supplemental Examination - Up to 20 Sheets (NEW)*	$5,140	N/A	$4,400 **-14%**	$2,200 **-57%**	$1,100 **-79%**
Ex Parte Reexamination Ordered as a Result of a Supplemental Examination Proceeding (NEW)*	$16,120	N/A	$13,600 **-16%**	$6,800 **-58%**	$3,400 **-79%**
Inter Partes Review Request – Up to 20 Claims	NEW	N/A	$9,000 **N/A**	N/A **N/A**	N/A **N/A**
Inter Partes Review Post Institution Fee – Up to 15 Claims	NEW	N/A	$14,000 **N/A**	N/A **N/A**	N/A **N/A**
*Total Inter Partes Review Fee**	*$27,200*	*N/A*	*$23,000* ***-15%***	*N/A* ***N/A***	*N/A* ***N/A***
Post-Grant Review or Covered Business Method Patent Review Request – Up to 20 Claims	NEW	N/A	$12,000 **N/A**	N/A **N/A**	N/A **N/A**

* For purposes of comparing amounts, where a new fee has been proposed under 35 U.S.C. 41(d)(2) in the January and February 2012 Proposed Rules, that proposed fee (as adjusted through the final rule) is included in the current fee column and denoted with (*).

Alternative 1 - Proposed Alternative – Set and Adjust Section 10 Fees Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Post-Grant Review or Covered Business Method Patent Review Post Institution Fee – Up to 15 Claims	NEW	N/A	$18,000 **N/A**	N/A **N/A**	N/A **N/A**
Total Post-Grant Review Fees[*]	*$35,800*	*N/A*	*$30,000* ***-16%***	*N/A* ***N/A***	*N/A* ***N/A***
Correct Inventorship after First Action on the Merits (NEW)	NEW	NEW	$1,000 **N/A**	$500 **N/A**	$250 **N/A**
Derivation Petition Fee (NEW)*	$400	N/A	$400 **0%**	$N/A **-N/A**	$N/A **N/A**
Derivation Institution and Trial Fee (NEW)*	NEW	N/A	$0 **N/A**	$0 **N/A**	$0 **N/A**
Assignments Submitted Electronically (NEW)	$40	N/A	$0 **-100%**	N/A **N/A**	N/A **N/A**
Assignments Not Submitted Electronically (NEW)	$40	N/A	$40 **0%**	N/A **N/A**	N/A **N/A**

4.2.2 Key Indicators for Alternative 1

Table 4-3 presents the key indicators used to estimate the costs and benefits for Alternative 1. While the information in the table provides insight into the expected results of Alternative 1, the table's main purpose is to display the inputs used in the cost and benefit estimates.

[*] For purposes of comparing amounts, where a new fee has been proposed under 35 U.S.C. 41(d)(2) in the January and February 2012 Proposed Rules, that proposed fee (as adjusted through the final rule) is included in the current fee column and denoted with (*).

Table 4-3

Alternative 1 - Proposed Alternative – Set and Adjust Section 10 Fees Key Indicators					
Indicator	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Aggregate Fee Revenue/Cost of Patent Operations (dollars in millions)	$2,604	$2,884	$2,934	$2,953	$3,022
Serialized Utility Application Filings (Total)	405,347	423,863	441,039	465,360	488,684
First Action Average Pendency (months)	16.9	15.9	10.1	9.4	9.4
Total Average Pendency (months)	30.1	24.6	22.9	18.3	18.1
Patents Granted (Total)	302,042	328,702	336,609	300,734	301,962
Maintenance Fee Renewal Rate – Stage 1	88.7%	85.8%	85.5%	85.2%	85.2%
Maintenance Fee Renewal Rate – Stage 2	79.1%	76.7%	78.0%	75.6%	76.9%
Maintenance Fee Renewal Rate – Stage 3	70.9%	66.4%	67.2%	64.8%	65.9%

- ***Aggregate Fee Revenue/Cost of Patent Operations:*** Overall, this alternative provides sufficient aggregate revenue to pay for the cost of patent operations that would achieve the NPRM rulemaking goals and strategies. This indicator is used to calculate the monetized cost of patent operations in section 5.2.

- ***Serialized Utility Application Filings:*** The serialized application filings are less than those that would be expected in the Baseline, but would still increase each year. The estimated reduction in new serialized application filings is a result of higher fees. Based on the estimated price elasticity of demand, the Office expects a slight decrease in new, serialized application filings in response to the increase in application filing fees (filing, search, and examination). The estimated decrease in

filings for Alternative 1 is more than Alternative 3, but less than Alternatives 2 and 4. Serialized application filings are used as an input to calculate the monetized cost of lost patent value described in section 5.2.1 and Appendix B.

- ***First Action Average Pendency and Total Average Pendency:*** The gradual reduction of first action average pendency and total average pendency demonstrate that, under Alternative 1, the Office would achieve the first action pendency target in FY 2015 and the total pendency target in FY 2016. Alternative 4 is the only other alternative to achieve these pendency targets. The total average pendency is used as an input to calculate the monetized benefit of increased private patent value described in section 6.2.1 and Appendix A and the qualitative benefit of decreased uncertainty described in section 6.2.2.

- ***Patents Granted:*** The Office anticipates that more patents would be granted under Alternative 1 than under the Baseline. This is consistent with the larger cost of patent operations and reduced patent pendency under Alternative 1. Granted patents are used as an input to calculate the monetized benefit of increased private patent value described in section 6.2.1 and Appendix A.

- ***Maintenance Fee Renewal Rates (Stage 1, Stage 2, and Stage 3):*** In Alternative 1, the maintenance fee renewal rates for all three stages are less than the renewal rates estimated for the Baseline. This estimated reduction is based on the price elasticity of demand – the Office expects a slight decrease in maintenance fee renewals in response to the increase in maintenance fees. The estimated decrease in maintenance

fee renewals for Alternative 1 is more than Alternatives 2 and 3 for all three stages. The decrease is the same as that estimated for the first and second stage maintenance fees in Alternative 4, but less than the third stage for Alternative 4. The maintenance fee renewal rate indicator is used to evaluate the fee schedule design benefits in section 6.2.2.

Sections 5 and 6 use the above listed indicators to analyze each alternative's costs and benefits.

4.3 Alternative 2 – Fee Cost Recovery

4.3.1 Description of Alternative 2

Alternative 2 is a fee structure that would set many of the individual large entity fees equal to the cost of each particular service, while implementing the small and micro entity fee reductions for eligible fees. In so doing, the fee schedule in Alternative 2 includes the highest combined filing, search, and examination fees and the lowest maintenance fees of any of the alternatives. Consequently, these high application fees would result in the lowest number of new serialized patent applications of any of the alternatives—a reflection of the significant impact on the patent community. Moreover, transitioning to the Alternative 2 fee schedule in FY 2013 results in a six percent decrease in fee collections from the Baseline fee collection levels. Once fully transitioned to these new fee levels, the Office estimates that FY 2014 fee collections would fall below FY 2014 Baseline fee collections by eight percent. Given that the estimated aggregate revenue for Alternative 2 does not approach the Baseline level of funding, this alternative is wholly insufficient to meet the Office's strategies and goals related to pendency and the backlog as well as sustainable funding.

Setting fees at cost recovery is a common practice in the Federal Government. OMB Circular A-25: User Charges provides guidance stating that user charges (fees) should be sufficient to recover the full cost to the Federal Government of providing the service, resource, or good when the Government is acting in its capacity as sovereign. However, there are several complexities in achieving individual fee cost recovery for the patent fee schedule. The most significant is the AIA requirement to provide a 50 percent discount on fees to small entities and a 75 percent discount on fees to micro entities. The Office looked at several options for designing this alternative. For example, the Office considered increasing the fee paid by large entities to recover the lost revenue associated with the 50 and 75 percent discounts. However, this would seem to be unduly punitive to large entities. Instead, the Office decided to adjust the large entity fee so that it reflects the full cost of the service provided, and then recover lost revenue from small and micro entity discounts through other fees (such as retaining fees for which cost data is not used to inform fee setting). However, because most fees are set at individual large fee cost recovery, there are not a lot of options available to provide subsidies that recover lost revenue. Except for rounding these fee amounts so that micro entity fees would be set at a whole dollar amount when applying the fee reduction, the Office left the fees that are not typically set using cost data as an indicator at current rates. A final complexity is that the Office did not receive revenue equal to the full cost of examining the applications currently comprising the backlog when those applications were filed (application fees are set below the cost of the Office). (*See* section 1.3 describing how the Office operated prior to fee setting authority under the AIA).

Given these complexities, the Office requires more revenue to sustain operations than a simple cost recovery alternative would generate. Therefore, the Office determined the level of maintenance fees that would ensure the Office is able to pay minimum expenses (which are at a level below the Baseline). As a result, this alternative includes maintenance fees set at approximately half of the amount of current maintenance fees. Additional information about the fee cost calculation methodology, including the cost components related to respective fees, is available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1 in the document titled "USPTO Section 10 Fee Setting – Activity-Based Information and Costing Methodology." A summary of the unit cost associated with the major fees is presented in Table 4-4. This unit cost information was used to inform the large entity fee amounts used in this alternative.

Table 4-4

Unit Cost Information	
Fee Description	**FY 2009/FY 2010/FY 2011**
Basic Filing, Search, and Exam - Utility (total)	$3,665/$3,906/$3,569
Request for Prioritized Examination*	$4,000
Request for Continued Examination (RCE)	$1,881/$1,696/$2,070
Notice of Appeal	$5,008/$4,960/$4,799
Filing a Brief in Support of an Appeal	
Publication Fee for Early, Voluntary, or Normal Publication	$243/$158/$181
Utility Issue Fee	$224/$231/$257
Ex Parte Reexamination**	$17,162/$16,647/$19,626 $17,750 (Prospective)

* Cost Calculation is available in the proposed rule. *See* Changes To Implement the Prioritized Examination Track (Track I) of the Enhanced Examination Timing Control Procedures, 76 FR 6369 (Feb. 4, 2011).

** The Office has both historical and prospective cost data for this fee. *See* Cost Calculation, 77 FR 3666 (Jan. 25, 2012), *available* at http://www.uspto.gov/aia_implementation/cost_calc_supplemental_exam.pdf.

Unit Cost Information	
Processing and Treating a Request for Supplemental Examination (NEW)***	$5,180
Ex Parte Reexamination Ordered as a Result of a Supplemental Examination Proceeding (NEW)***	$16,120
Inter Partes Review Petition****	$27,200
Post-Grant Review****	$35,800
Maintenance Fee Due at 3.5 Years (1st Stage)	$2/$1/N/A
Maintenance Fee Due at 7.5 Years (2nd Stage)	$2/$1/N/A
Maintenance Fee Due at 11.5 Years (3rd Stage)	$2/$1/N/A

Although this alternative provides sufficient aggregate revenue to pay for the minimum mandatory expenses, the Office projects a significant revenue shortfall and adverse impact on meeting the goals in the Strategic Plan. Specifically, Alternative 2 would not allow the Office to increase examination capacity through hiring; achieve the operating reserve target balance by FY 2017 (in fact, this alternative depletes the existing reserve); and make scheduled progress on key initiatives like IT improvements, opening satellite offices, and executing quality improvements. Alternative 2 also reverses the policy of *fostering innovation* via lower front-end fees. Under this alternative, the increase in front-end fees is the greatest of any of the alternatives considered.

Table 4-5 presents the major fee changes between the Baseline and Alternative 2 for common fees. Proposed large and small entity dollar and percent changes are compared to

*** This fee was first proposed under 35 U.S.C. Sec. 41(d)(2) in the January and February 2012 Proposed Rules. Given that the Office does not yet have historical cost data, the cost presented is the Office's prospective or anticipated costs. *See* Cost Calculation, 77 FR 3666 (Jan. 25, 2012), *available* at http://www.uspto.gov/aia_implementation/cost_calc_supplemental_exam.pdf.

**** This fee was first proposed under 35 U.S.C. Sec. 41(d)(2) in the January and February 2012 Proposed Rules. Given that the Office does not yet have historical cost data, the cost presented is the Office's prospective or anticipated costs. *See* Cost Calculation, 77 FR 6879 (Feb. 9, 2012), *available* at http://www.uspto.gov/aia_implementation/rin-0651-ac70.pdf.

current large and small entity fees. For purposes of comparison, where new micro entity fees are proposed, the dollar and percent changes are calculated from the current small entity fee amount (or large entity fee, where applicable). A complete list of fee changes for Alternative 2 is available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1 in the document titled, "Alternative 2 Aggregate Revenue Table."

Table 4-5

Alternative 2 - Fee Cost Recovery Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Basic Filing, Search, and Exam - Utility (total)	$1,250	$625	$3,920 **214%**	$1,960 **214%**	$980 **57%**
Request for Prioritized Examination	$4,800	$2,400	$4,000 **-17%**	$2,000 **-17%**	$1,000 **-58%**
Independent Claims in Excess of Three	$250	$125	$260 **4%**	$130 **4%**	$65 **-48%**
Claims in Excess of Twenty	$60	$30	$64 **7%**	$32 **7%**	$16 **-47%**
Multiple Dependent Claims	$450	$225	$460 **2%**	$230 **2%**	$115 **-49%**
Utility Application Size Fee – For each Additional 50 Sheets that Exceed 100 Sheets	$310	$155	$320 **3%**	$160 **3%**	$80 **-48%**
Extension for Response within First Month	$150	$75	$160 **7%**	$80 **7%**	$40 **-47%**
Extension for Response within Second Month	$560	$280	$580 **4%**	$290 **4%**	$145 **-48%**
Extension for Response within Third Month	$1,270	$635	$1,320 **4%**	$660 **4%**	$330 **-48%**
Extension for Response within Fourth Month	$1,980	$990	$2,060 **4%**	$1,030 **4%**	$515 **-48%**
Extension for Response within Fifth Month	$2,690	$1,345	$2,800 **4%**	$1,400 **4%**	$700 **-48%**
Request for Continued Examination (RCE)	$930	$465	$1,700 **83%**	$850 **83%**	$425 **-9%**

Alternative 2 - Fee Cost Recovery Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Notice of Appeal	$620	$310	$2,480 **300%**	$1,240 **300%**	$620 **100%**
Filing a Brief in Support of an Appeal	$620	$310	$2,480 **300%**	$1,240 **300%**	$620 **100%**
Publication Fee for Early, Voluntary, or Normal Publication	$300	$300	$160 **-47%**	$80 **-73%**	$40 **-87%**
Utility Issue	$1,740	$870	$240 **-86%**	$120 **-86%**	$60 **-93%**
Maintenance Fee Due at 3.5 Years (1st Stage)	$1,130	$565	$600 **-47%**	$300 **-47%**	$150 **-73%**
Maintenance Fee Due at 7.5 Years (2nd Stage)	$2,850	$1,425	$1,200 **-58%**	$600 **-58%**	$300 **-79%**
Maintenance Fee Due at 11.5 Years (3rd Stage)	$4,730	$2,365	$2,400 **-49%**	$1,200 **-49%**	$600 **-75%**
Ex Parte Reexamination*	$17,750	N/A	$17,760 **0.1%**	$8,880 **-50%**	$4,440 **-75%**
Processing and Treating a Request for Supplemental Examination (NEW)*	$5,140	N/A	$5,140 **0%**	$2,570 **-50%**	$1,285 **-75%**
Ex Parte Reexamination Ordered as a Result of a Supplemental Examination Proceeding (NEW)*	$16,120	N/A	$16,120 **0%**	$8,060 **-50%**	$4,030 **-75%**
Inter Partes Review Petition (NEW)*	$27,200	N/A	$27,200 **N/A**	N/A **N/A**	N/A **N/A**
Post-Grant Review (NEW)*	$35,800	N/A	$35,800 **N/A**	N/A **N/A**	N/A **N/A**
Petition for a Derivation Proceeding (NEW)	$400	N/A	$400 **0%**	N/A **N/A**	N/A **N/A**

* For purposes of comparing amounts, where a new fee has been proposed under 35 U.S.C. 41(d)(2) in the January and February 2012 Proposed Rules, that proposed fee (as adjusted through the final rule) is included in the current fee column and denoted with (*).

4.3.2 Key Indicators for Alternative 2

Table 4-6 presents the key indicators used to estimate the costs and benefits for Alternative 2 in sections 5.3 and 6.3, respectively. While the information in the table provides insight into the expected results of this alternative, its main purpose is to display the inputs used in the cost and benefit estimates.

Table 4-6

Alternative 2: Fee Cost Recovery Key Indicators					
Indicator	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Aggregate Fee Revenue/Cost of Patent Operations (dollars in millions)	$2,336	$2,483	$2,419	$2,553	$2,599
Serialized Utility Application Filings (Total)	367,519	343,654	314,090	331,410	348,021
First Action Average Pendency (months)	21.0	23.5	23.5	26.2	29.8
Total Average Pendency (months)	31.9	30.5	33.0	34.5	38.6
Patents Granted (Total)	222,588	221,945	218,054	210,801	201,551
Maintenance Fee Renewal Rate – Stage 1	93.7%	95.6%	96.2%	96.6%	96.6%
Maintenance Fee Renewal Rate – Stage 2	86.5%	89.7%	91.9%	89.9%	91.4%
Maintenance Fee Renewal Rate – Stage 3	78.9%	82.3%	84.2%	82.1%	83.4%

- ***Aggregate Fee Revenue/Cost of Patent Operations:*** Overall, Alternative 2 does not provide sufficient aggregate revenue to pay for the cost of patent operations to achieve the NPRM rulemaking goals and strategies. In fact, Alternative 2 recovers the least amount of revenue to pursue the Office's strategies and goals, resulting in inadequate staffing and increasing pendency. This indicator is used to calculate the monetized cost of patent operations in section 5.3.1.

- ***Serialized Utility Application Filings:*** The serialized application filings are significantly less than those expected under the Baseline. Based on the estimated

price elasticity of demand, the Office expects a significant decrease in new, serialized application filings in response to the increase in application filing fees (filing, search, and examination). The estimated decrease in filings for Alternative 2 is greater than the estimated decrease for all other alternatives considered. Serialized application filings are used as an input to calculate the monetized cost of lost patent value described in section 5.3.1 and Appendix B.

- ***First Action Average Pendency and Total Average Pendency:*** Both first action and total average patent pendency would gradually increase over the five-year period under Alternative 2. Thus, the Office would not achieve its target pendency levels under Alternative 2. The increase in both first action and total average patent pendency is primarily because the fee schedule would not recover enough revenue to permit the Office to hire the examiners needed to respond to incoming workload and the backlog. This alternative would result in the greatest increase in patent pendency of the alternatives considered and the Baseline. The total average pendency is used as an input to calculate the monetized cost of decreased private patent value described in section 5.3.1 and Appendix A and the qualitative cost of increased uncertainty described in section 5.3.2.

- ***Patents Granted:*** The Office anticipates that fewer patents would be granted for Alternative 2 than under the Baseline. This is consistent with the longer patent pendency indicators under Alternative 2. Granted patents are used as an input to calculate the monetized cost of decreased private patent value described in section 5.3.1 and Appendix A.

- ***Maintenance Fee Renewal Rates (Stage 1, Stage 2, and Stage 3):*** In Alternative 2, the maintenance fee renewal rates for all three stages are higher than the renewal rates estimated for the Baseline. This estimated increase is based on the price elasticity of demand – the Office expects a significant increase in maintenance fee renewals in response to the decrease in maintenance fees. The maintenance fee renewal rate indicator is used to evaluate the fee schedule design costs in section 5.3.2.

Sections 5 and 6 use the above listed indicators to analyze Alternative 2's costs and benefits.

4.4 Alternative 3 – Across-the-Board Adjustment

4.4.1 Description of Alternative 3

In the past, the Office used its statutory authority to adjust statutory fees annually according to changes in the CPI, which is a commonly used measure of inflation. Building on this prior approach, Alternative 3 uses the Office's section 10 fee setting authority to apply the equivalent of a multiple year inflationary adjustment of 6.7 percent to the Baseline.

Transitioning to the Alternative 3 fee schedule in FY 2013 would provide the USPTO with a two percent increase in fee collections over the Baseline fee collection levels. Once fully transitioned to the new fee levels, the Office estimates that FY 2014 fee collections under Alternative 3 would exceed FY 2014 Baseline fee collections by five percent. The aggregate revenue is sufficient to recover the aggregate cost of steady state patent operations, but would not go far enough to meet the Office's strategic goals to improve the

timeliness of patent processing (through reducing patent application backlog and pendency) and implement a sustainable funding model for operations (by establishing a three-month patent operating reserve by FY 2017).

The Office developed the 6.7 percent inflationary factor using estimates from the Congressional Budget Office (CBO) for FY 2013 (estimated implementation date of a new fee schedule) to FY 2016 (estimated time frame that the Office could consider resetting fees once the operating reserve achieves the target level in FY 2017). As estimated by the CBO, inflationary rates by fiscal year are: 1.4 percent in FY 2013, 1.5 percent in FY 2014, 1.6 percent in FY 2015, and 2.0 percent in FY 2016. Each percentage rate for a given year also applies to the subsequent years, e.g., a 1.4 percent increase for FY 2013 is applied to FY 2014 and beyond. The Office multiplied these rates together to account for the compounding effect occurring from year-to-year and then rounded, resulting in an increase totaling 6.7 percent. The Office then added the 6.7 percent adjustment to all of the current (Baseline) fee amounts.

Alternative 3 retains the same fee relationships and subsidization policies as the Baseline. For example, it maintains the status quo ratio of front-end and back-end fees, given that all fees would be adjusted by the same escalation factor, thereby *fostering innovation* and allowing new applicants to gain access to the patent system through fees set below cost while patent holders pay maintenance fees above cost to subsidize the reduced front-end fees. However, the disadvantage of Alternative 3's reliance on the status quo fee relationships is the inability to implement policy considerations and effect benefits beyond

what exists in the Baseline via the fee schedule design (e.g., no multipart or staged fees to *offer patent prosecution options for applicants*).

Table 4-7 presents the major fee changes between the Baseline and Alternative 3 for common fees. Proposed large and small entity dollar and percent changes are compared to the current large and small entity fees. For purposes of comparison, where new micro entity fees are proposed, the dollar and percent changes are calculated from the current small entity fee amount (or large entity fee, where applicable). A complete list of fee changes for Alternative 3 is available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1.> in the document titled, "Alternative 3 Aggregate Revenue Table."

Table 4-7

Alternative 3 - Across-the-Board Adjustment Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Basic Filing, Search, and Exam - Utility (total)	$1,250	$625	$1,340 **7%**	$670 **7%**	$335 **-46%**
Request for Prioritized Exam	$4,800	$2,400	$5,120 **7%**	$2,560 **7%**	$1,280 **-47%**
Independent Claims in Excess of Three	$250	$125	$260 **4%**	$130 **4%**	$65 **-48%**
Claims in Excess of Twenty	$60	$30	$60 **0%**	$30 **0%**	$15 **-50%**
Multiple Dependent Claims	$450	$225	$500 **11%**	$250 **11%**	$125 **-44%**
Utility Application Size Fee – For each Additional 50 Sheets that Exceed 100 Sheets	$310	$155	$340 **10%**	$170 **10%**	$85 **-45%**
Extension for Response within First Month	$150	$75	$160 **7%**	$80 **7%**	$40 **-47%**
Extension for Response within Second Month	$560	$280	$600 **7%**	$300 **7%**	$150 **-46%**
Extension for Response within Third Month	$1,270	$635	$1,400 **10%**	$700 **10%**	$350 **-45%**
Extension for Response within Fourth Month	$1,980	$990	$2,200 **11%**	$1,100 **11%**	$550 **-44%**
Extension for Response within Fifth Month	$2,690	$1,345	$3,000 **12%**	$1,500 **12%**	$750 **-44%**
Request for Continued Examination (RCE)	$930	$465	$1,000 **8%**	$500 **8%**	$250 **-46%**
Notice of Appeal	$620	$310	$680 **10%**	$340 **10%**	$170 **-45%**
Filing a Brief in Support of an Appeal	$620	$310	$680 **10%**	$340 **10%**	$170 **-45%**
Publication Fee for Early, Voluntary, or Normal Publication	$300	$300	$320 **7%**	$160 **-47%**	$80 **-73%**
Utility Issue	$1,740	$870	$1,880 **8%**	$940 **8%**	$470 **-46%**
Maintenance Fee Due at 3.5 Years (1st Stage)	$1,130	$565	$1,220 **8%**	$610 **8%**	$305 **-46%**

Alternative 3 - Across-the-Board Adjustment Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Maintenance Fee Due at 7.5 Years (2nd Stage)	$2,850	$1,425	$3,100 **9%**	$1,550 **9%**	$775 **-46%**
Maintenance Fee Due at 11.5 Years (3rd Stage)	$4,730	$2,365	$5,140 **9%**	$2,570 **9%**	$1,285 **-46%**
Ex Parte Reexamination*	$17,750	N/A	$18,940 **7%**	$9,470 **-47%**	$4,735 **-73%**
Processing and Treating a Request for Supplemental Examination (NEW)*	$5,140	N/A	$5,520 **7%**	$2,760 **-46%**	$1,380 **-73%**
Ex Parte Reexamination Ordered as a Result of a Supplemental Examination Proceeding (NEW)*	$16,120	N/A	$17,200 **7%**	$8,600 **-47%**	$4,300 **-73%**
Inter Partes Review Petition (NEW)*	$27,200	N/A	$29,020 **7%**	N/A **N/A**	N/A **N/A**
Post-Grant Review (NEW)*	$35,800	N/A	$38,200 **7%**	N/A **N/A**	N/A **N/A**
Petition for a Derivation Proceeding (NEW)	$400	N/A	$420 **5%**	N/A **N/A**	N/A **N/A**

4.4.2 Key Indicators for Alternative 3

Table 4-8 presents the key indicators used to estimate the costs and benefits for Alternative 3 in sections 5.4 and 6.4, respectively. While the information in the table provides insight into the expected results of this alternative, its main purpose is to display the inputs used in the cost and benefit estimates.

* For purposes of comparing amounts, where a new fee has been proposed under 35 U.S.C. 41(d)(2) in the January and February 2012 Proposed Rules, that proposed fee (as adjusted through the final rule) is included in the current fee column and denoted with (*).

Table 4-8

Alternative 3: Across-the-Board Adjustment Key Indicators					
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Aggregate Fee Revenue/Cost of Patent Operations (dollars in millions)	$2,529	$2,835	$2,911	$2,952	$2,991
Serialized Utility Application Filings (Total)	409,586	432,852	455,266	480,372	504,448
First Action Average Pendency (months)	17.3	17.3	12.7	13.2	14.3
Total Average Pendency (months)	30.1	25.2	24.6	21.1	22.3
Patents Granted (Total)	290,132	300,527	306,736	273,419	272,063
Maintenance Fee Renewal Rate – Stage 1	90.5%	89.3%	89.4%	89.3%	89.3%
Maintenance Fee Renewal Rate – Stage 2	80.5%	79.4%	80.9%	78.6%	79.9%
Maintenance Fee Renewal Rate – Stage 3	74.1%	72.8%	74.1%	71.8%	73.0%

- ***Aggregate Fee Revenue/Cost of Patent Operations:*** Overall, this alternative provides sufficient aggregate revenue to meet steady state operations as under the Baseline and keep up with inflation over the next several years. However, the Office would not achieve the pendency and backlog targets during the five-year period ending FY 2017 due to insufficient revenue to hire an additional 1,500 patent examiners in FY 2013. This indicator is used to calculate the monetized cost of patent operations in section 5.4.1.

- ***Serialized Utility Application Filings:*** The serialized application filings are slightly less than what would be expected from the Baseline, but would still increase each year. The estimated reduction in new serialized application filings is a result of higher fees. Based on the estimated price elasticity of demand, the Office expects a slight decrease in new, serialized application filings in response to the increase in

application filing fees (filing, search, and examination). The estimated decrease in filings for Alternative 3 is less than that for Alternatives 1, 2, and 4. Serialized application filings are used as an input to calculate the monetized cost of lost patent value described in section 5.4.1 and Appendix B.

- ***First Action Average Pendency and Total Average Pendency:*** The gradual reduction in first action average pendency and total average pendency through FY 2016 reflects the Office's ability to manage steady state operations. The additional revenue above the Baseline can be leveraged into examiner overtime in lieu of new examiner hires. However, the results are not sustainable, and pendency starts to increase again in FY 2017, meaning that the Office never meets its targets during the five-year period. The total average pendency is used as an input to calculate the monetized benefit of increased private patent value; however, because Alternative 3 would achieve the same pendency as the Baseline, there are no benefits related to private patent value discussed in section 6.4.1.

- ***Patents Granted:*** The Office anticipates that fewer patents would be granted under Alternative 3 than under the Baseline. This is consistent with the larger cost of patent operations under Alternative 3. Granted patents are used as an input to calculate the monetized benefit of increased private patent value; however, as mentioned above, Alternative 3 would not achieve a benefit related to private patent value because the patent application pendency would not change compared to the Baseline. This indicator is used to calculate the monetized cost of lost patent value described in section 5.4.1and in Appendix B.

- ***Maintenance Fee Renewal Rates (Stage 1, Stage 2, and Stage 3):*** In Alternative 3, the maintenance fee renewal rates for all three stages are less than the renewal rates estimated for the Baseline. This estimated reduction is based on the price elasticity of demand – the Office expects a slight decrease in maintenance fee renewals in response to the increase in maintenance fees. The estimated decrease in maintenance fee renewals for Alternative 3 is less than the decrease for Alternative 1 and Alternative 4 and greater than the change in maintenance fee renewal rates for Alternative 2. The maintenance fee renewal rate indicator is used to evaluate the fee schedule design benefits in section 6.4.2.

Sections 5 and 6 use the above listed indicators to analyze Alternative 3's costs and benefits.

4.5 Alternative 4 – Initial Proposal to PPAC

4.5.1 Description of Alternative 4

Alternative 4 is the Office's initial proposed fee schedule that was delivered to the PPAC on February 7, 2012. Transitioning to the Alternative 4 fee schedule in FY 2013 would provide the USPTO with a seven percent increase in fee collections over the Baseline fee collection levels. Once fully transitioned to these new fee levels, the Office estimates that FY 2014 fee collections would exceed FY 2014 Baseline fee collections by 13 percent. The aggregate revenue would be sufficient to recover the aggregate cost of patent operations for implementing the rulemaking goals and strategies and the Office's strategic goals to improve the timeliness of patent processing (through reducing patent application backlog and pendency), and to implement a sustainable funding model for operations. In fact, this

alternative offers all the advantages of the proposed alternative (Alternative 1) including meeting the patent pendency and backlog targets in FY 2015 (first action pendency) and FY 2016 (average total pendency and backlog). However, Alternative 4 is unique, because the operating reserve achieves its target in FY 2015 instead of FY 2017 like Alternative 1.

Like Alternative 1 (the proposed fee schedule), this alternative would improve on the policy factors in the Baseline fee schedule (e.g., back-end fees subsidizing front-end fees) and includes staging certain fees that *offer patent prosecution options for applicants*. But Alternative 4 would not permit as many fees to be staged as Alternative 1, nor would it allow for multipart fees like Alternative 1. Further, many patent stakeholders viewed Alternative 4's emphasis on rapidly building the operating reserve (and the required higher fees to support this effort) as too aggressive. The Office's response to this concern was to create the proposed fee schedule (Alternative 1), where the operative reserve is built at a slower rate.

Table 4-9 presents the major fee changes between the Baseline and Alternative 4 for common fees. Proposed large and small entity dollar and percent changes are compared to the current large and small entity fees. For purposes of comparison, where new micro entity fees are proposed, the dollar and percent changes are calculated from the current small entity fee amount (or large entity fee, where applicable). A complete list of fee changes for Alternative 4 is available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1 in the document titled, "Alternative 4 Aggregate Revenue Table."

Table 4-9

Alternative 4 - Initial Proposal to PPAC Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Basic Filing, Search, and Exam - Utility (total)	$1,250	$625	$1,840 **47%**	$920 **47%**	$460 **-26%**
Request for Prioritized Exam	$4,800	$2,400	$4,000 **-17%**	$2,000 **-17%**	$1,000 **-58%**
Independent Claims in Excess of Three	$250	$125	$460 **84%**	$230 **84%**	$115 **-8%**
Claims in Excess of Twenty	$60	$30	$100 **67%**	$50 **67%**	$25 **-17%**
Multiple Dependent Claims	$450	$225	$860 **91%**	$430 **91%**	$215 **-4%**
Utility Application Size Fee – For each Additional 50 Sheets that Exceed 100 Sheets	$310	$155	$400 **29%**	$200 **29%**	$100 **-35%**
Extension for Response within First Month	$150	$75	$200 **33%**	$100 **33%**	$50 **-33%**
Extension for Response within Second Month	$560	$280	$600 **7%**	$300 **7%**	$150 **-46%**
Extension for Response within Third Month	$1,270	$635	$1,400 **10%**	$700 **10%**	$350 **-45%**
Extension for Response within Fourth Month	$1,980	$990	$2,200 **11%**	$1,100 **11%**	$550 **-44%**
Extension for Response within Fifth Month	$2,690	$1,345	$3,000 **12%**	$1,500 **12%**	$750 **-44%**
Request for Continued Examination (RCE)	$930	$465	$1,700 **83%**	$850 **83%**	$425 **-9%**
Notice of Appeal	$620	$310	$1,500 **142%**	$750 **142%**	$375 **21%**
Filing a Brief in Support of an Appeal in Application or *Ex parte* Reexamination Proceeding	$620	$310	$0 **-100%**	$0 **-100%**	$0 **-100%**
Appeal Forwarding Fee (NEW)	NEW	NEW	$2,500 **N/A**	$1,250 **N/A**	$625 **N/A**
Total Appeal Fees (Paid before Examiner Answer)	*$1,240*	*$620*	*$1,500* ***21%***	*$750* ***21%***	*$375* ***-40%***
Total Appeal Fees (Paid after Examiner Answer)	*$1,240*	*$620*	*$4,000* ***223%***	*$2,000* ***223%***	*$1,000* ***61%***

Alternative 4 - Initial Proposal to PPAC Current and Proposed Fees					
Description	**Current Fees**		**Proposed Fees and % Change**		
	Current Large Entity Fee	**Current Small Entity Fee**	**Proposed Large Entity Fee**	**Proposed Small Entity Fee**	**Proposed Micro Entity Fee**
Publication Fee for Early, Voluntary, or Normal Publication	$300	N/A	$0 **-100%**	$0 **-100%**	$0 **-100%**
Utility Issue Fee	$1,740	$870	$960 **-45%**	$480 **-45%**	$240 **-72%**
Combined Total – Pre-grant Publication and Issue Fee - Utility	*$2,040*	*$1,170*	*$960* ***-53%***	*$480* ***-59%***	*$240* ***-79%***
Maintenance Fee Due at 3.5 Years (1st Stage)	$1,130	$565	$1,600 **42%**	$800 **42%**	$400 **-29%**
Maintenance Fee Due at 7.5 Years (2nd Stage)	$2,850	$1,425	$3,600 **26%**	$1,800 **26%**	$900 **-37%**
Maintenance Fee Due at 11.5 Years (3rd Stage)	$4,730	$2,365	$7,600 **61%**	$3,800 **61%**	$1,900 **-20%**
Ex Parte Reexamination[*]	$17,750	N/A	$17,760 **0.1%**	$8,880 **-50%**	$4,440 **-75%**
Processing and Treating a Request for Supplemental Examination (NEW)[*]	$5,140	N/A	$7,000 **36%**	$3,500 **-32%**	$1,750 **-66%**
Ex Parte Reexamination Ordered as a Result of a Supplemental Examination Proceeding (NEW)[*]	$16,120	$16,120	$20,000 **24%**	$10,000 **-38%**	$5,000 **-69%**
Inter Partes Review Petition (NEW)[*]	$27,200	N/A	$27,200 **N/A**	N/A **N/A**	N/A **N/A**
Post-Grant Review (NEW)[*]	$35,800	N/A	$35,800 **N/A**	N/A **N/A**	N/A **N/A**
Correct Inventorship after First Action on the Merits (NEW)	NEW	NEW	$1,700 **N/A**	$850 **N/A**	$425 **N/A**
File and Oath/Declaration Up to the Notice of Allowance (NEW)	NEW	NEW	$3,000 **N/A**	$1,500 **N/A**	$750 **N/A**
Petition for a Derivation Proceeding	$400	N/A	$400 **N/A**	N/A **N/A**	N/A **N/A**

[*] For purposes of comparing amounts, where a new fee has been proposed under 35 U.S.C. 41(d)(2) in the January and February 2012 Proposed Rules, that proposed fee (as adjusted through the final rule) is included in the current fee column and denoted with (*).

4.5.2 Key Indicators for Alternative 4

Table 4-10 presents the key indicators used to estimate the costs and benefits for Alternative 1 in sections 5.5 and 6.5, respectively. While the information in the table provides insight into the expected results of this alternative, its main purpose is to display the inputs used in the cost and benefit estimates.

Table 4-10

Alternative 4: Initial Proposal to PPAC Key Indicators					
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Aggregate Fee Revenue/Cost of Patent Operations (dollars in millions)	$2,643	$3,052	$3,098	$3,117	$3,200
Serialized Utility Application Filings (Total)	401,434	415,566	427,906	451,503	474,133
First Action Average Pendency (months)	16.9	15.9	10.1	9.4	9.4
Total Average Pendency (months)	30.1	24.6	22.9	18.3	18.1
Patents Granted (Total)	302,042	328,702	336,609	300,734	301,962
Maintenance Fee Renewal Rate – Stage 1	88.7%	85.8%	85.5%	85.2%	85.2%
Maintenance Fee Renewal Rate – Stage 2	79.1%	76.7%	78.0%	75.6%	76.9%
Maintenance Fee Renewal Rate – Stage 3	70.6%	65.8%	66.6%	64.2%	65.3%

- ***Aggregate Fee Revenue/Cost of Patent Operations:*** Overall, Alternative 4 provides sufficient aggregate revenue to pay for the cost of patent operations to achieve the NPRM rulemaking goals and strategies. This indicator is used to calculate the monetized cost of patent operations in section 5.5.1.

- ***Serialized Utility Application Filings:*** The serialized application filings are less than what would be expected under the Baseline, but would still increase each year.

The reduction is based on the estimated price elasticity of demand. The Office expects a slight decrease in new, serialized application filings in response to the increase in application filing fees (filing, search, and examination). The estimated decrease in filings for Alternative 4 is greater than it is for Alternatives 1 and 3, but less than that of Alternative 2. Serialized application filings are used as an input to calculate the monetized cost of lost patent value described in section 5.5.1 and Appendix B.

- ***First Action Average Pendency and Total Average Pendency:*** Both first action and total average pendency would gradually decrease over the five-year period in Alternative 4. Thus, the Office would achieve its first action pendency target in FY 2015 and the total pendency target in FY 2016. Alternative 1 is the only other alternative to achieve these pendency targets. The total average pendency is used as an input to calculate the monetized benefit of increased private patent value described in section 6.5.1 and Appendix A and the qualitative benefit of decreased uncertainty described in section 6.5.2.

- ***Patents Granted:*** The Office anticipates that more patents would be granted under Alternative 4 than under the Baseline. This is consistent with the larger cost of patent operations and reduced patent pendency indicators under Alternative 4. Granted patents are used as an input to calculate the monetized benefit of increased private patent value described in section 6.5.1 and Appendix A.

- ***Maintenance Fee Renewal Rates (Stage 1, Stage 2, and Stage 3):*** In Alternative 4, the maintenance fee renewal rates for all three stages are less than the renewal rates estimated for the Baseline. The estimated reduction is based on the price elasticity of demand – the Office expects a slight decrease in the maintenance fee renewal rates in response to the increase in maintenance fees. The estimated decrease in maintenance fee renewals for Alternative 4 generally mirrors the rates of Alternative 1, but beginning in FY 2014, the third stage maintenance fee renewal rate for Alternative 4 is slightly lower than that of Alternative 1. This is due to the larger price increase in the third stage fee for Alternative 4. The maintenance fee renewal rate indicator is used to evaluate the fee schedule design benefits in section 6.5.2.

Sections 5 and 6 use the above listed indicators to analyze Alternative 4's costs and benefits.

5 COSTS

5.1 Description of Costs

As discussed in section 2.3, the patent system's key indicators can represent either a cost or benefit, depending on the direction of the change. For example, if an alternative reduces average pendency, the decreased pendency is presented as a benefit for that alternative. If an alternative increases pendency, however, it is presented as a cost. Where the change represents a cost, the item is presented in this section and is described accordingly.

For the Baseline and each alternative, the costs are grouped into two mutually exclusive categories found to be applicable here: (1) monetized costs; and (2) qualitative costs (not quantified or monetized). Within each category, the cost is fully described, including a statement concerning the timing of the cost, and the bases for estimating the cost. In addition, for some costs, the level of uncertainty is assessed, including a sensitivity analysis with upper and lower bounds. Table 5-1 presents an overview of the specific costs associated with each alternative, and not all costs apply to each alternative. For example, the Alternative 2 fee schedule would result in a decrease in private patent value (due to an increase in pendency) but does not an increase the cost of patent operations (due to less expected aggregate revenue). If a cost applies to a certain alternative, it is denoted with a checkmark. Details about the costs associated with each alternative are discussed in the sections below.

Table 5-1

Cost Description	Alt.1 - Proposed Alternative – Set and Adjust Section 10 Fees	Alt. 2 – Fee Cost Recovery	Alt. 3 – Across-the-Board Adjustment	Alt. 4 – Initial Proposal to PPAC
Monetized Costs:				
Increase in Cost of Patent Operations	✓		✓	✓
Decrease in Private Patent Value from an Increase in Pendency		✓		
Lost Patent Value from a Decrease in Applications Filed	✓	✓	✓	✓
Qualitative Costs:				
Overall Fee Schedule Design Costs		✓		
Increase in Uncertainty from an Increase in Pendency		✓		

5.2 Costs of Alternative 1 – Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees

For Alternative 1, the Office identified two kinds of monetized costs: (i) increase in the cost of the Office's patent operations; and (ii) lost patent value from an initial slight decrease in applications filed. The Office identified no qualitative costs for this alternative.

5.2.1 Monetized Costs for Alternative 1

5.2.1.1 Alternative 1: Increase in the Office's Cost of Patent Operations

Under this alternative, the Office's cost of patent operations compared to the Baseline is estimated to be approximately six percent higher in total over five years (*see* bolded numbers in Table 5-2, Table 5-3, and Table 5-4).

Table 5-2

Alternative 1 – Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Cost of Patent Operations - Undiscounted						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,477	$2,707	$2,756	$2,788	$2,830	**$13,558**
Alt. 1 – Cost of patent operations	$2,604	$2,884	$2,934	$2,953	$3,022	**$14,397**
Alt. 1 - Increase in cost of patent operations (dollar change from Baseline)	$127	$177	$178	$165	$192	**$839**
Alt. 1 – Increase in cost of patent operations (% change from Baseline)	5.1%	6.5%	6.5%	5.9%	6.8%	**6.2%**

Table 5-3

Alternative 1 – Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Cost of Patent Operations - 3% Discount						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,405	$2,552	$2,522	$2,477	$2,441	**$12,397**
Alt. 1 – Cost of patent operations	$2,528	$2,718	$2,685	$2,624	$2,607	**$13,162**
Alt. 1 - Increase in cost of patent operations (dollar change from Baseline)	$123	$166	$163	$147	$166	**$765**
Alt. 1 – Increase in cost of patent operations (% change from Baseline)	5.1%	6.5%	6.5%	5.9%	6.8%	**6.2%**

Table 5-4

Alternative 1 – Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Cost of Patent Operations - 7% Discount						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,315	$2,364	$2,250	$2,127	$2,018	**$11,074**
Alt. 1 – Cost of patent operations	$2,434	$2,519	$2,395	$2,253	$2,155	**$11,756**
Alt. 1 - Increase in cost of patent operations (dollar change from Baseline)	$119	$155	$145	$126	$137	**$682**
Alt. 1 – Increase in cost of patent operations (% change from Baseline)	5.1%	6.6%	6.4%	5.9%	6.8%	**6.2%**

The primary driver for the increase in cost of patent operations under Alternative 1 is the increased examination capacity required to achieve pendency goals and the cost of building

a three-month operating reserve by FY 2017 to provide sustainable funding for the Office. Specifically, the Office plans to increase examination capacity by hiring an optimum size patent examining workforce (i.e., 1,500 new hires in each of FY 2012 and FY 2013), which would enable the Office to meet the target first action average pendency and total average pendency goals in FY 2015 and FY 2016, respectively. Additionally, other contributing costs include: quality initiatives, increased staffing levels at the BPAI to allow the Board to address the backlog of *ex parte* appeals that has developed as a result of increased production from the examining corps, the BPAI's new trial proceedings, large-scale IT improvements, and the nationwide workforce initiative to establish satellite offices around the country.

5.2.1.2 Alternative 1: Increase in the Office's Cost of Patent Operations – Sensitivity Analysis

The Office conducted a sensitivity analysis for Alternative 1, which involved calculating five percent above and below the estimate, as discussed in section 2.4.5. The sensitivity analysis reflects the uncertainty of the various factors influencing fee collections – and therefore the cost of operations – including economic growth and applicant behavior. Table 5-5 presents the high range and low range of the Office's cost of patent operations for Alternative 1.

Table 5-5

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Cost of Patent Operations - Sensitivity Analysis						
Type	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	$2,734	$3,028	$3,081	$3,101	$3,173	$15,117
Working estimate	$2,604	$2,884	$2,934	$2,953	$3,022	$14,397
Low estimate	$2,474	$2,740	$2,787	$2,805	$2,871	$13,677

The cost of patent operations fluctuates in line with the same workload and economy drivers that impact fee revenue. Any fee revenue collected above the working estimate would be deposited in the operating reserve, thereby concurrently increasing the cost of patent operations and accelerating the date by which the Office reaches the three-month target. It would also provide sufficient revenue for daily operations, and there would therefore be no change in examination capacity (and resulting pendency) and thus no additional benefit related to the private value of patents or reduced uncertainty. If revenue collections were below the working estimate, the Office's cost of operations would decrease because less revenue would be deposited in the operating reserve. However, examination capacity would remain substantially the same because the difference could be paid for from the operating reserve and, if necessary, through minor adjustments to annual operating plans. Therefore, progress toward the Office's pendency goals would not change significantly and there would be no reduction in the benefit associated with the private patent value discussed in section 6.2.1.

5.2.1.3 Alternative 1: Lost Patent Value from a Decrease in New Patent Applications Filed

Domestic: The estimated number of new patent application filed under Alternative 1 was adjusted for price elasticity since higher filing, search, and examination fees are estimated to result in slightly fewer applications compared to the Baseline. In other words, there would continue to be increases in the number of applications filed, but the rate of increase would be lower compared to the Baseline in the first few years, because of higher filing, search, and examination fees. Table 5-6 shows the estimated number of applications that would be filed for the Baseline and Alternative 1, the reduction in the number of applications filed due to price elasticity, and the resulting monetized loss in patent value. The lost patent value is then discounted at three percent and seven percent, in accordance with OMB Circular A-4.

The Office estimates that the number of new, serialized patent applications filed under Alternative 1 would decrease by a total of 37,084 (3.3 percent) over the five-year period compared to the Baseline. The Office estimates that this decrease in application filings equates to a loss in patent value of $196 million at no discount, $166 million at a three percent discount, and $135 million at a seven percent discount (shown in bold in Table 5-6).

Table 5-6

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Lost Patent Value from a Decrease in Applications Filed (Domestic)						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Serialized (New) Application Filings						
Baseline - Application Filings (number of)	200,104	212,146	223,846	236,191	248,029	**1,120,315**
Alt. 1 - Application Filings (number of)	197,404	206,421	214,786	226,630	237,989	**1,083,231**
Alt. 1 - Application Filings (number of - change from Baseline)	(2,700)	(5,725)	(9,060)	(9,561)	(10,040)	(37,086)
Granted Serialized Applications						
Alt. 1 - Granted Applications (50% of app filings-change from Baseline)	(1,350)	(2,862)	(4,530)	(4,780)	(5,019)	(18,541)
Alt. 1 - Granted Applications (% change from Baseline)	-1.3%	-2.7%	-4.0%	-4.0%	-4.0%	**-3.3%**
Lost Patent Value from a Decrease in New Applications Filed (dollars in millions)						
No Discount	($14)	($30)	($48)	($51)	($53)	**($196)**
3% Discount	($13)	($27)	($41)	($42)	($43)	**($166)**
7% Discount	($12)	($23)	($34)	($33)	($33)	**($135)**

Foreign: OMB Circular A-4 recommends that the Office report the foreign effect of regulations (when available) for each alternative. The lost foreign patent value from decreased patent applications for Alternative 1 is shown in Table 5-7 for undiscounted and three percent and seven percent discount rates. The rationale for these changes mirrors that of the domestic changes, namely higher filing, search, and examination fees.

Table 5-7

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Lost Patent Value from a Decrease in Applications Filed (Foreign)						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Serialized (New) Application Filings						
Baseline - Application Filings (number of)	210,787	223,472	235,797	248,800	261,270	**1,180,126**
Alt. 1 - Application Filings (number of)	207,943	217,442	226,253	238,730	250,695	**1,141,063**
Alt. 1 - Application Filings (number of-change from Baseline)	(2,844)	(6,030)	(9,544)	(10,070)	(10,575)	**(39,063)**
Granted Serialized Applications						
Alt. 1 - Granted Applications (50% of app filings-change from Baseline)	(1,422)	(3,015)	(4,772)	(5,035)	(5,288)	(19,532)
Alt. 1 - Granted Applications(% change from Baseline)	-1.3%	-2.7%	-4.0%	-4.0%	-4.0%	**-3.3%**
Lost Patent Value from a Decrease in New Applications Filed (dollars in millions)						
No Discount	($15)	($32)	($51)	($54)	($56)	**($208)**
3% Discount	($14)	($28)	($44)	($45)	($46)	**($177)**
7% Discount	($12)	($24)	($36)	($35)	($34)	**($141)**

5.2.1.4 Lost Patent Value from a Decrease in New Patent Applications Filed – Sensitivity Analysis

Domestic: As noted above, under Alternative 1, there would continue to be increases in the number of applications filed but at a lower rate in the first few years as the patent community adjusts to the increased filing, search, and examination fees. The decrease in patent applications filed results in a loss in patent value. The Office conducted a sensitivity analysis to determine high and low estimates for lost patent value as discussed in section

2.4.4. At either discount level (three percent or seven percent) and all estimate types (i.e., high, working, or low), there is estimated to be an increase in the lost patent value over the five-year period ending with FY 2017. At a three percent discount level, the range is $92 million dollars to $238 million dollars (as shown in bold in Table 5-8). At a seven percent discount level, the range is $74 to $192 million dollars (Table 5-9).

Table 5-8

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Lost Patent Value from a Decrease in Applications Filed-Sensitivity Analysis (Domestic) - 3% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	($16)	($32)	($62)	($63)	($65)	**($238)**
Working estimate	($13)	($27)	($41)	($42)	($43)	**($166)**
Low estimate	($8)	($16)	($22)	($23)	($23)	**($92)**

Table 5-9

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Lost Patent Value from a Decrease in Applications Filed-Sensitivity Analysis (Domestic) - 7% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	($14)	($28)	($51)	($50)	($49)	**($192)**
Working estimate	($12)	($23)	($34)	($33)	($33)	**($135)**
Low estimate	($7)	($14)	($18)	($18)	($17)	**($74)**

5.2.2 Qualitative Costs for Alternative 1

The Office did not identify any qualitative costs under Alternative 1.

5.3 Costs of Alternative 2 – Fee Cost Recovery

Monetized costs for Alternative 2 include: (i) a significant decrease in private patent value; and (ii) an increase in the lost patent value due to the estimated decrease in new patent applications filed. Qualitative costs include: (i) fee schedule design costs; and (ii) an increase in uncertainty. Individual fee amounts and their relationship to other fees in the fee schedule affect the first qualitative cost. Changes in pendency affect uncertainty.

5.3.1 Monetized Costs for Alternative 2

5.3.1.1 Alternative 2: Decrease in Private Patent Value from an Increase in Pendency

As described below, a significant increase in pendency under Alternative 2 would cause a large decrease in private patent value. Patent pendency would increase under this alternative because the Office would be unable to hire adequate staff (due to inadequate revenue) to manage both the incoming workload and the backlog. Consequently, delayed grant of a patent due to the Office's longer average pendency under this alternative decreases the value of that patent for both domestic and foreign entities interests.

***Domestic*:** The Office estimates that domestic private patent value would decrease under Alternative 2. The Office considers this decrease a significant cost to patent applicants, patent holders, other patent stakeholders, and society. Table 5–10 and Table 5–11 show the estimated domestic private patent values for the Baseline and Alternative 2, including the difference in dollars and percentage change between them. The Office forecasted these private patent values over five years and applied a three percent and seven percent discount rate.

Over five years, the Office estimates that private patent value would significantly decrease compared to the Baseline under Alternative 2. For example, as shown in Table 5–10, total private patent value discounted at three percent would decrease from $73.5 billion to $53.3 billion over the five-year period through FY 2017, resulting in a dollar decrease of $20.2 billion or 27.4 percent (as shown in bold in Table 5-10). Over the same period of time, the Office estimates that private patent value discounted at seven percent would decrease from $75.0 billion to $52.6 billion, resulting in a decrease of $22.5 billion or 30.0 percent (as shown in bold in Table 5–11). Whereas the Baseline private patent value would begin to increase in FY 2014 and FY 2015 before decreasing in FY 2016 and FY 2017, private patent value for Alternative 2 would begin below the FY 2013 Baseline level and decrease consistently from FY 2015 and beyond. Longer pendency drives the decreased private patent value, and under this alternative, longer pendency would be the result of the Office's inability to recover enough aggregate revenue to increase examination capacity.

Table 5–10

Alternative 2 - Fee Cost Recovery Decrease in Private Patent Value from an Increase in Pendency (Domestic) - 3% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$14,541	$15,289	$15,605	$14,078	$13,966	**$73,479**
Alt. 2 - Private patent value	$11,089	$11,123	$10,830	$10,439	$9,832	**$53,313**
Alt. 2 - Decrease in private patent value (dollar change from Baseline)	($3,452)	($4,166)	($4,775)	($3,639)	($4,134)	**($20,166)**
Alt. 2 - Decrease in private patent value (% change from Baseline)	-23.7%	-27.2%	-30.6%	-25.8%	-29.6%	**-27.4%**

Table 5-11

Alternative 2 - Fee Cost Recovery Decrease in Private Patent Value from an Increase in Pendency (Domestic) - 7% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$14,541	$15,598	$15,920	$14,594	$14,420	**$75,073**
Alt. 2 - Private patent value	$11,000	$11,123	$10,701	$10,273	$9,484	**$52,581**
Alt. 2 - Decrease in private patent value (change from Baseline)	($3,541)	($4,475)	($5,219)	($4,321)	($4,936)	**($22,492)**
Alt. 2 - Decrease in private patent value (% change from Baseline)	-24.4%	-28.7%	-32.8%	-29.6%	-34.2%	**-30.0%**

Foreign: The tables below show foreign private patent value estimates for Alternative 2 for three percent (Table 5-12) and seven percent (Table 5-13) discount rates. The trends for foreign stakeholders mirror those of domestic stakeholders, and the reasons are identical: inadequate revenue would result in inadequate staffing, which would limit the Office's ability to manage both the incoming application workload and the backlog and result in increased pendency over the five-year period.

Table 5-12

Alternative 2 - Fee Cost Recovery Decrease in Private Patent Value from an Increase in Pendency (Foreign) - 3% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$16,409	$17,253	$17,610	$15,887	$15,761	**$82,920**
Alt. 2 - Private patent value	$12,513	$12,552	$12,222	$11,780	$11,095	**$60,162**
Alt. 2 - Decrease in private patent value (dollar change from Baseline)	($3,896)	($4,701)	($5,388)	($4,107)	($4,666)	**($22,758)**
Alt. 2 - Decrease in private patent value (% change from Baseline)	-23.7%	-27.2%	-30.6%	-25.9%	-29.6%	**-27.4%**

Table 5-13

Alternative 2 - Fee Cost Recovery Decrease in Private Patent Value from an Increase in Pendency (Foreign) - 7% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$16,409	$17,602	$17,966	$16,469	$16,273	**$84,719**
Alt. 2 - Private patent value	$12,414	$12,552	$12,076	$11,593	$10,703	**$59,338**
Alt. 2 - Decrease in private patent value (change from Baseline)	($3,995)	($5,050)	($5,890)	($4,876)	($5,570)	**($25,381)**
Alt. 2 - Decrease in private patent value (% change from Baseline)	-24.3%	-28.7%	-32.8%	-29.6%	-34.2%	**-30.0%**

5.3.1.2 Alternative 2: Decrease in Private Patent Value from an Increase in Pendency – Sensitivity Analysis

Domestic: The sensitivity analysis for domestic private patent value under Alternative 2 is presented in Table 5-14 and Table 5-15. Regardless of the discount level used, for every estimate in the sensitivity analysis (high, working, or low), the decrease in private patent value is a large cost to patent stakeholders. The smallest total cost would be approximately $13.7 billion over five years according to a low estimate using a seven percent discount (as shown in bold in Table 5-15), while the largest cost would be approximately $23.7 billion over the same period according to a high estimate using a three percent discount (as shown in bold in Table 5-14). Even at the lowest amount in the sensitivity analysis, Alternative 2 has a large cost resulting from a decrease in private patent value because the pendency increase from the Baseline is the greatest of any of the alternatives considered.

Table 5-14

Alternative 2 - Fee Cost Recovery Decrease in Private Patent Value from an Increase in Pendency – Sensitivity Analysis (Domestic) - 3% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate (large entity mean value)	($3,917)	($4,809)	($5,556)	($4,374)	($5,002)	**($23,658)**
Working estimate (small & large entity mean value)	($3,488)	($4,283)	($4,947)	($3,895)	($4,455)	**($21,068)**
Low estimate (small entity mean value)	($2,378)	($2,920)	($3,373)	($2,656)	($3,037)	**($14,364)**

Table 5-15

Alternative 2 - Fee Cost Recovery Decrease in Private Patent Value from an Increase in Pendency – Sensitivity Analysis (Domestic) - 7% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate (large entity mean value)	($3,876)	($4,678)	($5,362)	($4,087)	($4,643)	**($22,646)**
Working estimate (small & large entity mean value)	($3,452)	($4,166)	($4,775)	($3,639)	($4,134)	**($20,166)**
Low estimate (small entity mean value)	($2,353)	($2,840)	($3,255)	($2,481)	($2,818)	**($13,747)**

5.3.1.3 Alternative 2: Lost Patent Value from a Decrease in New Patent Applications Filed

Domestic: The estimated patent application volume for Alternative 2 was adjusted for price elasticity because the Office estimates that higher filing, search, and examination fees would result in fewer applications compared to the Baseline.

Table 5-16 shows the estimated number of applications that would be filed for the Baseline and Alternative 2, the reduction in the number of applications filed due to price elasticity, and the resulting monetized loss in patent value. The lost patent value is then discounted at three percent and seven percent, in accordance with OMB Circular A-4. The Office estimates that the number of new patent applications filed under Alternative 2 would decrease by a total of 290,130 (25.9 percent) over the next five years compared to the Baseline. The Office estimates that the decrease in application filings under Alternative 2 equates to a loss in patent value of $1.5 billion at no discount, $1.3 billion at a three percent discount, and $1.1 billion at a seven percent discount (shown in bold in Table 5-16). Although all of the alternatives in this RIA present a decrease in application filings due to an increase in the fees for filing, search, and examination, the magnitude of the decrease is unique to Alternative 2.

Table 5-16

Alternative 2 - Fee Cost Recovery Lost Patent Value from a Decrease in Applications Filed (Domestic)						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Serialized Application Filings						
Baseline - Application Filings (number of)	200,104	212,146	223,846	236,191	248,029	**1,120,316**
Alt. 2 - Application Filings (number of)	178,982	167,359	152,962	161,397	169,486	**830,186**
Alt. 2 - Application Filings (number of-change from Baseline)	(21,122)	(44,787)	(70,884)	(74,794)	(78,543)	**(290,130)**
Granted Serialized Applications						
Alt. 2 - Granted Applications (50% of app filings-change from Baseline)	(10,561)	(22,394)	(35,442)	(37,397)	(39,272)	(145,065)
Alt. 2 - Granted Applications(% change from Baseline)	-10.6%	-21.1%	-31.7%	-31.7%	-31.7%	**-25.9%**
Lost Patent Value from a Decrease in Applications Filed (dollars in millions)						
No Discount	($112)	($238)	($376)	($397)	($417)	**($1,540)**
3% Discount	($103)	($211)	($324)	($332)	($338)	**($1,308)**
7% Discount	($91)	($180)	($265)	($261)	($256)	**($1,053)**

Foreign: The lost patent value from decreased foreign patent applications for Alternative 2 is shown in Table 5-17 for undiscounted and three percent and seven percent discount rates. The trends for foreign stakeholders mirror those of domestic stakeholders, and the reasons are identical: higher filing, search, and examination fees in Alternative 2 would mean a significant number of potential applicants and patentees would forego patent protection.

The value of those foregone patents is a cost to both the individual inventor and society overall.

Table 5-17

Alternative 2 - Fee Cost Recovery Lost Patent Value from a Decrease in Applications Filed (Foreign)						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Serialized Application Filings						
Baseline - Application Filings (number of)	210,787	223,472	235,797	248,800	261,270	**1,180,126**
Alt. 2 - Application Filings (number of)	188,537	176,295	161,128	170,013	178,535	**874,508**
Alt. 2 - Application Filings (number of-change from Baseline)	(22,250)	(47,177)	(74,669)	(78,787)	(82,735)	**(305,618)**
Granted Serialized Applications						
Alt. 2 - Granted Applications (50% of app filings-change from Baseline)	(11,125)	(23,589)	(37,335)	(39,394)	(41,368)	(152,809)
Alt. 2 - Granted Applications(% change from Baseline)	-10.6%	-21.1%	-31.7%	-31.7%	-31.7%	**-25.9%**
Lost Patent Value from a Decrease in Applications Filed (dollars in millions)						
No Discount	($118)	($251)	($396)	($418)	($439)	**($1,622)**
3% Discount	($108)	($222)	($341)	($349)	($356)	**($1,376)**
7% Discount	($96)	($189)	($279)	($275)	($269)	**($1,108)**

5.3.1.4 Alternative 2: Lost Patent Value from a Decrease in New Patent Applications Filed – Sensitivity Analysis

Domestic: As noted above, the decrease in patent applications filed is a significant driver of the loss in patent value under Alternative 2. The Office conducted a sensitivity analysis to determine high and low estimates for lost patent value (for more detail, *see* section 2.4.4). At either discount level (three percent or seven percent) and all estimate types (i.e., high,

working, or low), the Office estimates an increase in lost patent value over the five-year period ending in FY 2017. At a three percent discount level, the range is $0.7 billion to $1.9 billion (as shown in bold in Table 5-18). At a seven percent discount level, the range is $0.6 billion to $1.5 billion (as shown in bold in Table 5-19).

Table 5-18

Alternative 2 - Full Cost Recovery of Each Fee Lost Patent Value from a Decrease in Applications Filed-Sensitivity Analysis (Domestic) - 3% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	($123)	($253)	($484)	($495)	($505)	**($1,860)**
Working estimate	($103)	($211)	($324)	($332)	($338)	**($1,308)**
Low estimate	($62)	($127)	($173)	($177)	($180)	**($719)**

Table 5-19

Alternative 2 - Fee Cost Recovery Lost Patent Value from a Decrease in Applications Filed-Sensitivity Analysis (Domestic) - 7% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	($109)	($216)	($396)	($390)	($382)	**($1,493)**
Working estimate	($91)	($180)	($265)	($261)	($256)	**($1,053)**
Low estimate	($55)	($108)	($141)	($139)	($136)	**($579)**

5.3.2 Qualitative Costs for Alternative 2

5.3.2.1 Alternative 2: Fee Schedule Design Costs

The following discussion of the fee schedule design costs evaluates how well the major fees reflect the key policy considerations, namely *fostering innovation*, *facilitating effective administration of the patent system*, and *offering patent prosecution options for applicants*.

This discussion only includes fees for which the Office can draw reasonable conclusions about the qualitative costs; therefore, the discussion that follows does not address all of the fees included in Table 4-5. A complete list of fees for Alternative 2 can be found on the USPTO Web site available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1. Following is a discussion of each fee/fee group's expected qualitative benefit as it applies to the Alternative 2 fee schedule design (*see* Part V of the NPRM for further descriptions of the services performed related to the fees discussed below).

a) Utility—Basic Filing, Search, and Examination: Alternative 2 offers the most significant change to the current fee schedule of any of the alternatives, because it reverses the Office's long-established policy consideration to set front-end fees below cost in order to *foster innovation*. Setting the basic utility patent application fees (i.e., filing, search, and examination) at cost ($3,920) would create a barrier for entry into the patent system. For most patent applicants—whether large, small, or micro entities—this fee amount would be a cost to patenting that could cause some patent applicants to completely forego seeking patent protection (*see* section 5.3.1 for the monetized cost associated with an estimated reduction in new patent application filings). In response, this alternative would result in the largest decrease in application filings and the largest reduction in public disclosure of information of all the alternatives examined. The potential costs to society from reduced innovation include less or inefficient R&D that would not as effectively support economic growth and the creation of high-paying jobs—two tenets of the *Strategy for American Innovation*, as mentioned earlier.

b) Request for Prioritized Examination: Setting the large entity fee for prioritized examination at cost recovery ($4,000) continues to *offer more patent prosecution options for applicants*. Given that the fee is set at cost recovery only for large entities, revenue losses from discounts for small and micro entities must be recovered elsewhere in the fee schedule. However, with less revenue from back-end fees (discussed later in this section) and with most other fees already set at cost recovery, the Office has fewer options for recovering the lost revenue.

c) Request for Continued Examination (RCE): An RCE is sometimes used to resolve prosecution issues during examination. Setting the RCE fee at the cost ($1,700) could limit access to this patent service. Given the full cost of the basic utility application fees (*see* above), this higher RCE fee might have a significant adverse impact upon applicants, especially those with the fewest resources (e.g., small and micro entities). Setting all RCE fees at cost recovery is contrary to the fee setting policy factors of *fostering innovation* and *offering patent prosecution options for applicants*, because they increase costs to applicants to prosecute a patent application at a time when an applicant has less information about the value of their invention.

d) Appeal Fees: Setting the total large entity appeal fees at cost to be paid upon filing a notice of appeal and a brief to appeal an examiner's decision ($4,960) would create a barrier to using this service and would not *foster innovation*. If an examiner withdraws the final rejection to either allow the application or to make other rejections before it advances to the BPAI, the applicant would have already paid the full cost of the appeal and brief. If the applicant is "successful" in the sense that the patent is granted prior to proceeding to an

appeal, the costs would be significant because Alternative 2 does not provide for staging appeal fees, as compared to Alternatives 1 and 4. This would result in the qualitative cost of *limiting patent prosecution options* or, at least, making it more costly to pursue them effectively.

e) Ex Parte Reexamination, Supplemental Examination, Inter Partes Review, and Post-Grant Review: The AIA includes provisions directing the Office to establish several new procedures (supplemental examination, *inter partes* review, and post-grant review discussed here). These provisions established in the AIA are intended to offer options for persons wishing to dispute or pre-empt disputes concerning IP rights. The services discussed in this section are highly specialized, and the Office's costs for performing them are significant. However, setting these fees at full cost recovery reduces access to these proceedings, which works against the policy factor of providing options for post-prosecution actions.

f) Publication Fee for Early, Voluntary or Normal Publication (PG Pub) & Utility Issue Fee: As mentioned earlier, this cost recovery alternative does not provide for a subsidy of front-end application fees. Instead, setting the front-end application fees (i.e., filing, search, and examination) (discussed earlier) at cost does not require these back-end fees to be set above cost. This fee design does not support the policy factor of *fostering innovation*.

g) Maintenance Fee - 1st, 2nd, and 3rd Stages: Maintenance fee renewal rates would increase at each stage because the fees are reduced significantly from the Baseline. Table 5-

20 compares maintenance fee renewal rates for the Baseline and Alternative 2 over the next five fiscal years. Using price elasticity estimates (*see* USPTO Section 10 Fee Setting – Description of Elasticity Estimates *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1), the Office determined the change in maintenance fee renewal rates between the Baseline and Alternative 2 for each fiscal year and then analyzed the effect of this change on subsequent commercialization of the inventions protected by patents that are no longer in force. The increase in maintenance fee renewal rates in Alternative 2 is due to the significant decrease in maintenance fees. More patent holders would be willing to pay a lower fee, thus increasing the number of patents being renewed.

Table 5-20

Alternative 2 - Fee Cost Recovery Change in Maintenance Fee Renewal Rates						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Average**
Baseline - Maintenance Fee Renewal Rates						
Stage 1	90.7%	89.6%	89.7%	89.7%	89.7%	**89.9%**
Stage 2	80.8%	80.0%	81.5%	79.3%	80.6%	**80.4%**
Stage 3	74.4%	73.5%	74.8%	72.6%	73.8%	**73.8%**
Alt. 2 - Maintenance Fee Renewal Rates						
Stage 1	93.7%	95.6%	96.2%	96.6%	96.6%	**95.7%**
Stage 2	86.5%	89.7%	91.9%	89.9%	91.4%	**89.9%**
Stage 3	78.9%	82.3%	84.2%	82.1%	83.4%	**82.2%**
Alt. 2 - Maintenance Fee Renewal Rate Changes from Baseline						
Stage 1	3.3%	6.7%	7.2%	7.7%	7.7%	**6.5%**
Stage 2	7.1%	12.1%	12.8%	13.4%	13.4%	**11.8%**
Stage 3	6.0%	12.0%	12.6%	13.1%	13.0%	**11.4%**

With a lower maintenance fee, the Office presumes that some patent owners may reevaluate their patent(s) at each stage and decide to retain their exclusive rights more often than they would with higher maintenance fees. In those circumstances, the exclusive right of the patent would be maintained, and the subject matter of the patent would not be available for others to use. The Office estimates this result would be a qualitative cost to society, because it may increase costs (e.g., licensing) for further innovation and commercialization.

Summary of Fee Schedule Design Costs for Alternative 2

In summary, after analyzing the fee schedule design costs, the Office concludes that while Alternative 2 represents the standard approach to fee setting in the Federal Government, this approach does not support the rulemaking strategies and goals, especially the important policy considerations that go into the Office's individual fee setting strategy. The largest qualitative cost is the loss of a front-end subsidy designed to *foster innovation*, but the impacts of much costlier *patent prosecution options* (e.g., RCEs and appeals) are also noticeable. Overall, Alternative 2 would not offer adequate benefits and in fact would produce noticeable costs, especially when compared to the proposed alternative (Alternative 1).

5.3.2.2 Alternative 2: Increased Uncertainty

Alternative 2 would cause longer uncertainty in the clarity of patent scope and rights when compared to the Baseline, which represents a cost to patent stakeholders and society because it could likely reduce the incentives and freedom to innovate. Table 5-21 shows the uncertainty indicator of total average pendency for Alternative 2 compared to the Baseline. Beginning with FY 2013, average total pendency for Alternative 2 is already higher than the

Baseline—a trend that continues for every year after FY 2013. Pendency continues to increase because aggregate revenue is too low to support an optimum patent examining staff to respond to incoming workload and the patent application backlog.

Table 5-21

Alternative 2 - Fee Cost Recovery Increase in Uncertainty from an Increase in Pendency						
Indicators	**Fiscal Year**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total Change**
Baseline Total Average Pendency (months)	30.1	25.2	24.6	21.1	**22.3**	**-7.8**
Alternative 2 Total Average Pendency (months)	31.9	30.5	33	34.5	**38.6**	**6.7**
Average Pendency Change from Baseline (months)	1.8	5.3	8.4	13.4	16.3	**N/A**
Average Pendency Change from Baseline (%)	6.0%	21.0%	34.1%	63.5%	**73.1%**	**N/A**

For Alternative 2, the Office expects that total average pendency would increase by 6.7 months from 31.9 to 38.6 months, but under the Baseline average pendency would decrease by 7.8 months from 30.1 to 22.3 (as shown in bold in Table 5-21). Compared to the Baseline, Alternative 2 average total pendency would increase 73.1 percent over five years (as shown in bold in Table 5-21). A significant increase in pendency causes longer uncertainty in terms of patent scope, rights, and freedom to innovate, and on the market for technology. This is a cost to the patent applicant who would have to wait longer to know if their patent is granted. Increased uncertainty also impacts society as potential patent applicants may not become aware of the scope of new ideas due to delays in patent grants, resulting in less innovation.

5.4 Costs of Alternative 3 – Across-the-Board Adjustment

There are two monetized costs for Alternative 3: (i) an increase in the Office's cost of patent operations; and (ii) a cost associated with the lost patent value that occurs from a decrease in new patent applications filed.

5.4.1.1 Monetized Costs for Alternative 3Alternative 3: Increase in the Office's Cost of Patent Operations

The Office estimates an overall increase of $0.7 billion, or 4.9 percent, over the next five years in the cost of patent operations when Alternative 3 costs of $14.2 billion are compared to the Baseline costs of $13.6 billion (*see* Table 5-22). Cost of operations discounted at three percent would increase from $12.4 billion to $13.0 billion over the five-year period ending in FY 2017, resulting in a dollar increase of $0.6 billion or 4.8 percent (as shown in bold in Table 5-23). The cost of operations discounted at seven percent would increase from $11.1 billion to $11.6 billion over the five-year period ending in FY 2017, resulting in a dollar decrease of $0.5 billion or 4.8 percent (as shown in bold Table 5-24). While this alternative would provide additional revenue compared to the Baseline, the Office would not hire additional examiners in FY 2013 because projected revenue for Alternative 3 is only slightly higher than the Baseline and the risk of having insufficient funds for the out-year cost of operations is high. Instead, additional funding from Alternative 3 would be directed to other priorities, including building the three-month operating reserve.

Table 5-22

Alternative 3 - Across-the-Board Adjustment Increase in the Office's Cost of Patent Operations - Undiscounted						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,477	$2,707	$2,756	$2,788	$2,830	**$13,558**
Alt. 3 – Cost of patent operations	$2,529	$2,835	$2,911	$2,952	$2,991	**$14,218**
Alt. 3 - Increase in cost of patent operations (dollar change from Baseline)	$52	$128	$155	$164	$161	**$660**
Alt. 3 – Increase in cost of patent operations (% change from Baseline)	2.1%	4.7%	5.6%	5.9%	5.7%	**4.9%**

Table 5-23

Alternative 3 - Across-the-Board Adjustment Increase in the Office's Cost of Patent Operations - 3% Discount						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,405	$2,552	$2,522	$2,477	$2,441	**$12,397**
Alt. 3 – Cost of patent operations	$2,455	$2,672	$2,664	$2,623	$2,580	**$12,994**
Alt. 3 - Increase in cost of patent operations (dollar change from Baseline)	$50	$120	$142	$146	$139	**$597**
Alt. 3 – Increase in cost of patent operations (% change from Baseline)	2.1%	4.7%	5.6%	5.9%	5.7%	**4.8%**

Table 5-24

Alternative 3 - Across-the-Board Adjustment Increase in the Office's Cost of Patent Operations - 7% Discount						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,315	$2,364	$2,250	$2,127	$2,018	**$11,074**
Alt. 3 – Cost of patent operations	$2,364	$2,476	$2,376	$2,252	$2,133	**$11,601**
Alt. 3 - Increase in cost of patent operations (dollar change from Baseline)	$49	$112	$126	$125	$115	**$527**
Alt. 3 – Increase in cost of patent operations (% change from Baseline)	2.1%	4.7%	5.6%	5.9%	5.7%	**4.8%**

5.4.1.2 Alternative 3: Increase in the Office's Cost of Patent Operations – Sensitivity Analysis

The Office conducted a sensitivity analysis for Alternative 3, which involved calculating five percent above and below the estimate for the Office's cost of patent operations, as discussed in section 2.4.5. The sensitivity analysis reflects the uncertainty of the various factors influencing fee collections and the cost of patent operations, including economic growth, applicant behavior, and production levels.

Table 5-25

Alternative 3 - Across-the-Board Adjustment Cost of Patent Operations - Sensitivity Analysis						
Type	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	$2,655	$2,977	$3,057	$3,100	$3,141	$14,930
Working estimate	$2,529	$2,835	$2,911	$2,952	$2,991	$14,218
Low estimate	$2,403	$2,693	$2,765	$2,804	$2,841	$13,506

Table 5-25 presents high (plus five percent), working, and low (minus five percent) estimates of the Office's cost of patent operations for Alternative 3. Revenue collected above the working estimate would likely be deposited in the operating reserve; as a result, there would be no change in examination capacity (and resulting pendency) and thus no additional benefit related to the private value of patents or reduced uncertainty. The Office recognizes that revenue collected above the working estimate could be used to hire additional examiners instead of being deposited in the operating reserve. However, there is risk of not collecting revenue at the high level estimated in this sensitivity analysis each year. Therefore, there is a high financial risk associated with hiring additional examiners without assurance that future year revenue would be sufficient to cover the cost of the additional examiners in the out years. If the Office's cost of operations were below the working estimate, the revenue difference could be covered from the operating reserve and, if necessary, through adjustment to operating plans so that operations would continue at the same pace as the Baseline.

5.4.1.3 Alternative 3: Lost Patent Value from a Decrease in New Patent Applications Filed

Domestic: The estimated patent application volume was adjusted for price elasticity since higher filing, search, and examination fees are estimated to result in fewer applications compared to the Baseline. In other words, there would continue to be increases in the number of applications filed, but the rate of increase would be lower compared to the Baseline in the first few years, because of higher filing, search, and examination fees. Table 5-26 shows the estimated number of applications that would be filed for the Baseline and Alternative 3. The slight reduction over the next five years in the number of applications filed is due to price elasticity and results in a monetized loss in patent value. The lost patent value is then discounted at three percent and seven percent, in accordance with OMB Circular A-4.

Based on price elasticity estimates (*see* "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1) for filing, search, and examination fees, patent applications for Alternative 3 are estimated to decrease 0.8 percent over the next five years compared to the Baseline. The Office estimates that this decrease in application filings would equate to a loss in patent value of $46 million at no discount, $39 million at a three percent discount, and $32 million at a seven percent discount (shown in bold in Table 5-26).

Table 5-26

Alternative 3 - Across-the-Board Adjustment Lost Patent Value from a Decrease in New Patent Applications Filed (Domestic)						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Serialized (New) Application Filings						
Baseline - Application Filings (number of)	200,104	212,146	223,846	236,191	248,029	**1,120,316**
Alt. 3 - Application Filings (number of)	199,468	210,799	221,715	233,941	245,666	**1,111,589**
Alt. 3 - Application Filings (change from Baseline)	(636)	(1,347)	(2,131)	(2,250)	(2,363)	**(8,727)**
Granted Serialized Applications						
Alt. 3 - Granted Applications (50% of app filings-change from Baseline)	(318)	(674)	(1,066)	(1,125)	(1,182)	(4,364)
Alt. 3 - Granted Applications(% change from Baseline)	-0.3%	-0.6%	-1.0%	-1.0%	-1.0%	**-0.8%**
Lost Patent Value from a Decrease in New Patent Applications Filed (dollars in millions)						
No Discount	($3)	($7)	($11)	($12)	($13)	**($46)**
3% Discount	($3)	($6)	($10)	($10)	($10)	**($39)**
7% Discount	($3)	($5)	($8)	($8)	($8)	**($32)**

Foreign: The estimated lost patent value from decreased foreign patent applications under Alternative 3 is shown in Table 5-27 for undiscounted and three percent and seven percent discount rates. The rationale for these changes mirrors that of the domestic changes, namely higher filing, search, and examination fees.

Table 5-27

Alternative 3 - Across-the-Board Adjustment Lost Patent Value from a Decrease in New Patent Applications Filed (Foreign)						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Serialized (New) Application Filings						
Baseline - Application Filings (number of)	210,787	223,472	235,797	248,800	261,270	**1,180,126**
Alt. 3 - Application Filings (number of)	210,118	222,053	233,551	246,431	258,782	**1,170,935**
Alt. 3 - Application Filings (change from Baseline)	(669)	(1,419)	(2,246)	(2,369)	(2,488)	**(9,191)**
Granted Serialized Applications						
Alt. 3 - Granted Applications (50% of app filings-change from Baseline)	(335)	(710)	(1,123)	(1,185)	(1,244)	(4,596)
Alt. 3 - Granted Applications(% change from Baseline)	-0.3%	-0.6%	-1.0%	-1.0%	-1.0%	**-0.8%**
Lost Patent Value from a Decrease in New Patent Applications Filed (dollars in millions)						
No Discount	($4)	($8)	($12)	($13)	($13)	**($50)**
3% Discount	($3)	($7)	($10)	($11)	($11)	**($42)**
7% Discount	($3)	($6)	($8)	($8)	($8)	**($33)**

5.4.1.4 Alternative 3: Lost Patent Value from a Decrease in New Patent Applications Filed – Sensitivity Analysis

Domestic: As noted above, patent application decreases drive the loss in patent value under Alternative 3. The Office conducted a sensitivity analysis to determine high and low estimates for lost patent value (for more detail, *see* section 2.4.4). At either discount level (i.e., three percent or seven percent) and for all estimate types (i.e., high, working, or low), there is estimated to be lost patent value over the five-year period ending with FY 2017. At a three percent discount level, the range is $21 million dollars to $56 million dollars (as

shown in bold in Table 5-28). At a seven percent discount level, the range is $17 to $44 million dollars (as shown in bold in Table 5-29).

Table 5-28

Alternative 3 - Across-the-Board Adjustment Lost Patent Value from a Decrease in New Patent Applications Filed- Sensitivity Analysis (Domestic)- 3% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	($4)	($8)	($14)	($15)	($15)	**($56)**
Working estimate	($3)	($6)	($10)	($10)	($10)	**($39)**
Low estimate	($2)	($4)	($5)	($5)	($5)	**($21)**

Table 5-29

Alternative 3 - Across the Board Adjustment Lost Patent Value from a Decrease in New Patent Applications Filed- Sensitivity Analysis (Domestic) - 7% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	($3)	($6)	($12)	($12)	($11)	**($44)**
Working estimate	($3)	($5)	($8)	($8)	($8)	**($32)**
Low estimate	($2)	($3)	($4)	($4)	($4)	**($17)**

5.4.2 Qualitative Costs for Alternative 3

The Office did not identify any qualitative costs under Alternative 3. Under Alternative 3, the average total pendency is not expected to change compared to the Baseline, because the Office is not estimating to hire 1,500 more examiners in FY 2013. Since a change in total pendency is the key driver analyzing the impact on uncertainty, the Office estimates no change in the level of uncertainty through FY 2017 for Alternative 3.

5.5 Costs of Alternative 4 – Initial Proposal to PPAC

Alternative 4 includes two monetized costs: (i) the Office's cost of patent operations; and (ii) lost patent value due to a decrease in new patent application filings. The Office identified no qualitative costs for this alternative. The costs of Alternative 4 are similar to Alternative 1, but the Office's cost of patent operations and lost patent value are both higher. The biggest difference between this alternative and Alternative 1 is the growth rate of the operating reserve. This alternative achieves the three-month operating reserve target in FY 2015, but to accomplish this, the Office must set several fees at higher rates than presented under Alternative 1.

5.5.1 Monetized Costs for Alternative 4

5.5.1.1 Alternative 4: Increase in the Office's Cost of Patent Operations

Compared to the Baseline, the Office estimates an overall increase of the undiscounted cost of operations of $13.6 billion to $15.1 billion over the next five years, resulting in a dollar increase of $1.5 billion, or 11.4 percent, (as shown in bold in Table 5-30). From FY 2013 through FY 2017, the cost of patent operations discounted at three percent would increase from $12.4 billion to $13.8 billion, resulting in a dollar increase of $1.4 billion, or 11.4 percent (as shown in bold in Table 5-31). Cost of operations discounted at seven percent would increase from $11.1 billion to $12.3 billion by FY 2017 resulting in a dollar increase of $1.2 billion, or 11.3 percent (as shown in bold in Table 5-32). The expected increase in the Office's cost of patent operations is a result additional patent examination capacity required to reduce patent pendency and keep pace with incoming applications. Additionally, reaching the three-month operating reserve target in FY 2015 (instead of FY 2017, as in Alternative 1) increases the cost of patent operations.

Table 5-30

Alternative 4 - Initial Proposal to PPAC Increase in the Office's Cost of Patent Operations - Undiscounted						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,477	$2,707	$2,756	$2,788	$2,830	**$13,558**
Alt. 4 – Cost of patent operations	$2,643	$3,052	$3,098	$3,117	$3,200	**$15,110**
Alt. 4 – Increase in cost of patent operations (dollar change from Baseline)	$166	$345	$342	$329	$370	**$1,552**
Alt. 4 – Increase in cost of patent operations (% change from Baseline)	6.7%	12.7%	12.4%	11.8%	13.1%	**11.4%**

Table 5-31

Alternative 4 - Initial Proposal to PPAC Increase in the Office's Cost of Patent Operations - 3% Discount						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,405	$2,552	$2,522	$2,477	$2,441	**$12,397**
Alt. 4 – Cost of patent operations	$2,566	$2,877	$2,835	$2,769	$2,760	**$13,807**
Alt. 4 – Increase in cost of patent operations (dollar change from Baseline)	$161	$325	$313	$292	$319	**$1,410**
Alt. 4 – Increase in cost of patent operations (% change from Baseline)	6.7%	12.7%	12.4%	11.8%	13.1%	**11.4%**

Table 5-32

Alternative 4 - Initial Proposal to PPAC Increase in the Office's Cost of Patent Operations - 7% Discount						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,315	$2,364	$2,250	$2,127	$2,018	**$11,074**
Alt. 4 – Cost of patent operations	$2,470	$2,666	$2,529	$2,378	$2,282	**$12,325**
Alt. 4 - Increase in cost of patent operations (dollar change from Baseline)	$155	$302	$279	$251	$264	**$1,251**
Alt. 4 – Increase in cost of patent operations (% change from Baseline)	6.7%	12.8%	12.4%	11.8%	13.1%	**11.3%**

The primary driver for the increase in cost of patent operations is the increased examination capacity to achieve pendency goals and the cost of building a three-month operating reserve by FY 2015 to provide sustainable funding for the Office. Specifically, the Office would increase examination capacity by hiring an optimum size patent examining workforce (e.g., 1,500 new hires in each of FY 2012 and FY 2013), which would enable the Office to meet the target first action average pendency and total average pendency goals in FY 2015 and FY 2016, respectively. However, other contributing costs include: quality initiatives; increased staffing levels at the BPAI to allow the Board to address the backlog of *ex parte* appeals that has developed as a result of increased production from the examining corps; the BPAI's new trial proceedings; large-scale IT improvements; and the nationwide workforce initiative to establish satellite offices around the country.

5.5.1.2 Alternative 4: Increase in the Office's Cost of Patent Operations – Sensitivity Analysis

The Office conducted a sensitivity analysis for Alternative 4 (as shown in Table 5-33), which involved calculating five percent above and below the estimate, as discussed in section 2.4.5. The sensitivity analysis reflects the uncertainty of the various factors influencing fee collections and the cost of patent operations, including economic growth, applicant behavior, incoming workloads, and production.

Table 5-33

Alternative 4 - Initial Proposal to PPAC Cost of Patent Operations - Sensitivity Analysis						
Type	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	$2,775	$3,205	$3,253	$3,273	$3,360	$15,866
Working estimate	$2,643	$3,052	$3,098	$3,117	$3,200	$15,110
Low estimate	$2,511	$2,899	$2,943	$2,961	$3,040	$14,354

The cost of patent operations fluctuates in line with the same workload and economy drivers that impact fee revenue (as shown in Table 5-33). Revenue to cover operational costs above the working estimate would be deposited in the operating reserve. As a result, there would be no change in examination capacity (and resulting pendency) and thus no additional benefit related to the private value of patents or reduced uncertainty. If revenue to cover operational costs were below the working estimate, the difference would be covered from the operating reserve and, if necessary, through adjustment to operating plans. Therefore, progress toward the Office's pendency goals would not change significantly and there

would be no reduction in the benefit associated with the private patent value discussed in section 6.5.1.

5.5.1.3 Alternative 4: Lost Patent Value from a Decrease in New Patent Applications Filed

Domestic: The estimated number of new patent applications filed under Alternative 4 was adjusted for price elasticity since higher filing, search, and examination fees are estimated to result in fewer applications compared to the Baseline. In other words, there would continue to be increases in the number of applications filed, but the rate of increase would be lower compared to the Baseline in the first few years, because of higher filing, search, and examination fees. Table 5-34 shows the estimated number of applications that would be filed for the Baseline and Alternative 4, the reduction in the number of applications filed due to price elasticity, and the resulting monetized loss in patent value. The lost patent value is then discounted at three percent and seven percent, as provided by OMB Circular A-4.

Based on price elasticity estimates (*see* "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1) for filing, search, and examination fees, patent applications for Alternative 4 would decrease a total of 5.6 percent over the next five years compared to the Baseline. The Office estimates that this decrease in application filings equates to a loss in patent value of $336 million at no discount, $285 million at a three percent discount, and $230 million at a seven percent discount (shown in bold in Table 5-34).

Table 5-34

Alternative 4 - Initial Proposal to PPAC Lost Patent Value from a Decrease in New Patent Applications Filed (Domestic)						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Serialized (New) Application Filings						
Baseline - Application Filings (number of)	200,104	212,146	223,846	236,191	248,029	**1,120,316**
Alt. 4 - Application Filings (number of)	195,498	202,381	208,390	219,882	230,903	**1,057,054**
Alt. 4 - Application Filings (change from Baseline)	(4,606)	(9,765)	(15,456)	(16,309)	(17,126)	**(63,262)**
Granted Serialized Applications						
Alt. 4 - Granted Applications (50% of app filings-change from Baseline)	(2,303)	(4,883)	(7,728)	(8,155)	(8,563)	(31,631)
Alt. 4 - Granted Applications(% change from Baseline)	-2.3%	-4.6%	-6.9%	-6.9%	-6.9%	**-5.6%**
Lost Patent Value from a Decrease in New Patent Applications Filed (dollars in millions)						
No Discount	($24)	($52)	($82)	($87)	($91)	**($336)**
3% Discount	($22)	($46)	($71)	($72)	($74)	**($285)**
7% Discount	($20)	($39)	($58)	($57)	($56)	**($230)**

Foreign: The lost patent value from decreased foreign patent applications under Alternative 4 is shown in Table 5-35 for the undiscounted and three and seven percent discount rates. The rationale for these changes mirrors that of the domestic changes, namely higher filing, search, and examination fees.

Table 5-35

Alternative 4 - Initial Proposal to PPAC Lost Patent Value from a Decrease in New Patent Applications Filed (Foreign)						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Serialized (New) Application Filings						
Baseline - Application Filings (number of)	210,787	223,472	235,797	248,800	261,270	**1,180,126**
Alt. 4 - Application Filings (number of)	205,936	213,185	219,516	231,621	243,230	**1,113,488**
Alt. 4 - Application Filings (change from Baseline)	(4,851)	(10,287)	(16,281)	(17,179)	(18,040)	**(66,638)**
Granted Serialized Applications						
Alt. 4 - Granted Applications (50% of app filings-change from Baseline)	(2,426)	(5,144)	(8,141)	(8,590)	(9,020)	(33,319)
Alt. 4 - Granted Applications(% change from Baseline)	-2.3%	-4.6%	-6.9%	-6.9%	-6.9%	**-5.6%**
Lost Patent Value from a Decrease in New Patent Applications Filed (dollars in millions)						
No Discount	($26)	($55)	($86)	($91)	($96)	**($354)**
3% Discount	($24)	($48)	($74)	($76)	($78)	**($300)**
7% Discount	($21)	($41)	($61)	($60)	($59)	**($242)**

5.5.1.4 Alternative 4: Lost Patent Value from a Decrease in New Patent Applications Filed –Sensitivity Analysis

Domestic: As noted above, the decrease in the number of new patent applications filed drives the loss in patent value under Alternative 4 as the patent community adjusts to the increased filing, search, and examination fees. The Office conducted a sensitivity analysis to determine high and low estimates for lost patent value (for more detail, *see* section 2.4.4). At either discount level (i.e., three percent or seven percent) and for all estimate types (i.e., high, working, or low), there is estimated to be lost patent value over the five-year period

ending with FY 2017. At a three percent discount level, the range is a loss of $157 million dollars to a loss of $405 million dollars (as shown in bold in Table 5-36). At a seven percent discount level, the range is a loss of $127 to a loss of $325 million dollars (as shown in bold in Table 5-37).

Table 5-36

Alternative 4 - Initial Proposal to PPAC Lost Patent Value from a Decrease in New Patent Applications Filed- Sensitivity Analysis (Domestic) - 3% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	($27)	($55)	($105)	($108)	($110)	**($405)**
Working estimate	($22)	($46)	($71)	($72)	($74)	**($285)**
Low estimate	($13)	($28)	($38)	($39)	($39)	**($157)**

Table 5-37

Alternative 4 - Initial Proposal to PPAC Lost Patent Value from a Decrease in New Patent Applications Filed- Sensitivity Analysis (Domestic) - 7% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	($24)	($47)	($86)	($85)	($83)	**($325)**
Working estimate	($20)	($39)	($58)	($57)	($56)	**($230)**
Low estimate	($12)	($24)	($31)	($30)	($30)	**($127)**

5.5.2 Qualitative Costs for Alternative Four

The Office identified no qualitative costs for Alternative 4.

6 BENEFITS

6.1 Description of the Benefits

This section describes the major benefits associated with the alternatives considered in this analysis.

For the Baseline and each alternative, the benefits are grouped into two mutually exclusive categories: (1) monetized benefits; and (2) qualitative benefits (not quantified or monetized). Within each category, the benefit is fully described, including a statement concerning the timing of the benefit. Each category also contains assumptions for calculating the benefits. In addition, for some benefits, the Office assesses the level of uncertainty, including a sensitivity analysis with upper and lower bounds. Table 6-1 presents an overview of the specific monetized and qualitative benefits associated with each alternative, and not all benefits apply to each alternative. For example, Alternative 2 results in a decrease in cost of patent operations (due to less expected aggregate revenue) but does not increase private patent value (due to a decrease in pendency). If a benefit applies to a certain alternative, it is denoted with a checkmark. Details about the benefits associated with each alternative are discussed in the following sections.

Table 6-1

Benefit Description	Alternative 1 Proposed Alternative – Set and Adjust Section 10 Fees	Alternative 2 Fee Cost Recovery	Alternative 3 Across-the-Board Adjustment	Alternative 4 Initial Proposal to PPAC
Monetized Benefits:				
Decrease in Cost of Patent Operations		✓		
Increase in Private Patent Value from a Decrease in Pendency	✓			✓
Qualitative Benefits:				
Fee Schedule Design Benefits	✓		✓	✓
Decrease in Uncertainty from a Decrease in Pendency	✓			✓

6.2 Benefits of Alternative 1 – Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees

The Office identified an increase in private patent value as a monetized benefit for Alternative 1. Qualitative benefits include: (i) fee schedule design benefits; and (ii) a decrease in uncertainty.

6.2.1 Monetized Benefits of Alternative 1

6.2.1.1 Alternative 1: Increase in Private Patent Value from a Decrease in Pendency

Domestic: As discussed in section 2.4.3 and Appendix A, the Office estimated the average value of a patent for the Baseline and each alternative. A change in patent pendency impacts the value of a patent. Under Alternative 1, private patent value is estimated to increase and the Office considers this increase a benefit to patent applicants, patent holders, other patent stakeholders, and society. In Table 6-2 and Table 6-3, the Office shows the total domestic private patent value for the Baseline and Alternative 1. The Office forecasted these private patent values over five years and applied a three percent and seven percent discount rate.

Private patent value discounted at three percent would increase from $73.5 billion to $80.4 billion for the five years ending FY 2017, resulting in an increase of $6.9 billion, or 9.4 percent (as shown in bold in Table 6-2). Private patent value discounted at seven percent would increase from $75.1 billion to $82.8 billion through the five-year period ending in FY 2017, resulting in an increase of $7.7 billion, or 10.2 percent (as shown in bold in Table 6-3). This increase in patent value is the result of a significant decrease in average patent pendency over the next five years. Average pendency is expected to decrease under Alternative 1 as the Office would generate enough aggregate revenue to increase examination capacity through hiring additional patent examiners in FY 2013 to help reduce a growing backlog caused by a continued increase in patent applications.

Table 6-2

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Private Patent Value from a Decrease in Pendency (Domestic) - 3% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$14,541	$15,289	$15,605	$14,078	$13,966	**$73,479**
Alt. 1 - Private patent value	$15,137	$16,723	$17,228	$15,624	$15,688	**$80,400**
Increase in private patent value (change from Baseline)	$596	$1,434	$1,623	$1,546	$1,722	**$6,921**
Alt. 1 - Increase in private patent value (% change from Baseline)	**4.1%**	**9.4%**	**10.4%**	**11.0%**	**12.3%**	**9.4%**

Table 6-3

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Private Patent Value from a Decrease in Pendency (Domestic) - 7% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$14,541	$15,598	$15,920	$14,594	$14,420	**$75,073**
Alt. 1 - Private patent value	$15,137	$17,060	$17,717	$16,393	$16,460	**$82,767**
Alt. 1 - Increase in private patent value (change from Baseline)	$596	$1,462	$1,797	$1,799	$2,040	**$7,694**
Alt. 1 - Increase in private patent value (% change from Baseline)	**4.1%**	**9.4%**	**11.3%**	**12.3%**	**14.1%**	**10.2%**

Foreign: The foreign private patent value estimates for Alternative 1 are shown in Table 6-4 and Table 6-5 for three percent and seven percent discount rates, respectively. The trends for foreign stakeholders mirror those of domestic stakeholders, and the reasons are identical:

adequate revenue results in adequate staffing, giving the Office the ability to manage both the incoming application workload and the backlog and results in decreased pendency over the five-year period.

Table 6-4

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Private Patent Value from a Decrease in Pendency (Foreign) - 3% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$16,409	$17,253	$17,610	$15,887	$15,761	**$82,920**
Alt. 1 - Private patent value	$17,082	$18,871	$19,441	$17,632	$17,704	**$90,730**
Alt. 1 - Increase in private patent value (change from Baseline)	$673	$1,618	$1,831	$1,745	$1,943	**$7,810**
Alt. 1 - Increase in private patent value (% change from Baseline)	**4.1%**	**9.4%**	**10.4%**	**11.0%**	**12.3%**	**9.4%**

Table 6-5

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Private Patent Value from a Decrease in Pendency (Foreign) - 7% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$16,409	$17,602	$17,966	$16,469	$16,273	**$84,719**
Alt. 1 - Private patent value	$17,082	$19,252	$19,993	$18,499	$18,574	**$93,400**
Alt. 1 - Increase in private patent value (change from Baseline)	$673	$1,650	$2,027	$2,030	$2,301	**$8,681**
Alt. 1 - Increase in private patent value (% change from Baseline)	**4.1%**	**9.4%**	**11.3%**	**12.3%**	**14.1%**	**10.2%**

6.2.1.2 Alternative 1: Increase in Private Patent Value from a Decrease in Pendency – Sensitivity Analysis

Domestic: As noted above, a decrease in pendency drives the increase in domestic private patent value under Alternative 1. At either discount level (three percent or seven percent) and all estimate types (i.e., high, working, or low), the increase is always positive over the five-year period ending in FY 2017. At a three percent discount level, the range is $4.7 to $7.8 billion dollars (as shown in bold in Table 6-6). At a seven percent discount level, the range is $5.2 to $8.6 billion dollars (as shown in bold in Table 6-7).

Table 6-6

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Private Patent Value from a Decrease in Pendency (Domestic) Sensitivity Analysis - 3% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate (large entity mean value)	$670	$1,610	$1,822	$1,737	$1,934	**$7,773**
Working estimate (small & large entity mean value)	$597	$1,433	$1,623	$1,546	$1,722	**$6,921**
Low estimate (small entity mean value)	$407	$977	$1,106	$1,054	$1,174	**$4,718**

Table 6-7

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Increase in Private Patent Value from a Decrease in Pendency (Domestic) Sensitivity Analysis - 7% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate (large entity mean value)	$670	$1,642	$2,018	$2,020	$2,290	**$8,640**
Working estimate (small & large entity mean value)	$597	$1,462	$1,797	$1,799	$2,039	**$7,694**
Low estimate (small entity mean value)	$407	$997	$1,225	$1,226	$1,390	**$5,245**

6.2.2 Qualitative Benefits of Alternative 1

6.2.2.1 Alternative 1: Fee Schedule Design Benefits

Table 4-2 presents the major fees for Alternative 1. The following discussion of the fee schedule design costs evaluates how well the major fees reflect the key policy considerations, namely *fostering innovation*, *facilitating effective administration of the patent system*, and *offering patent prosecution options for applicants*. This discussion only includes fees for which the Office can draw reasonable conclusions about the qualitative costs; therefore, the discussion that follows does not address all of the fees included in Table 4-2. A complete list of fees for Alternative 1 can be found on the USPTO Web site available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1. Following is a discussion of each fee/fee group's expected qualitative benefit as it applies to the fee schedule design (*see* Part V of the NPRM for further descriptions of the services performed related to the fees discussed below).

a) Utility – Basic Filing, Search, and Examination: Currently, the large entity basic filing, search, and examination fees for a utility patent recover slightly more than one-third of the average unit cost for prosecuting a patent application (*see* cost at Table 4-4). This alternative continues the long-standing policy factor of *fostering innovation* by keeping the entry and pre-issue fees low with a back-end subsidy of the entry (front-end) fees.

To help stabilize the USPTO funding model, in this alternative the Office is increasing the total filing, search, and examination fees to recover slightly more than 40 percent of the average unit cost for processing a patent application (*see* cost at Table 4-4). This fee schedule design is a benefit and supports the key policy consideration to *foster innovation.* The disadvantage of increased filing, search, and examination fees is a slight initial reduction in the number of application filings, which could lead to a similarly slight reduction in public disclosure. This is considered a relatively minor cost compared to the benefit of *fostering innovation*.

b) Request for Prioritized Examination: The Office is proposing to set the large entity fee at cost instead of further increasing the large entity fee to subsidize the new micro entity discount. Instead, the Office would recover this lost revenue through other fees proposed to be set above cost recovery. This benefits applicants and furthers key policy considerations of *fostering innovation* and *offering patent prosecution options for applicants*.

c) Excess Claims, Utility Application Size, and Extension of Time Fees: The increase in excess claims and application size fees facilitates an efficient examination process, which

benefits the applicant and the USPTO through more effective administration of patent prosecution. This encourages application filing with the most prudent number of claims to enable prompt conclusion of application processing. A more succinct application facilitates faster examination with an expectation of fewer errors. The increase in the extension of time fees incentivizes applicants to give more consideration to filing an extension of time request, which offers the applicant the option to extend patent prosecution. Extension of time fees facilitate the prompt conclusion of application processing, which assists in reducing patent pendency. Concluding prosecution more quickly also has wider societal benefits, because new ideas can go to market faster and provide technological progress, job creation, and wage growth. All of these fees support the key policy considerations of *facilitating the effective administration of the patent system*.

d) Request for Continued Examination (RCE): Alternative 1 divides the fees for RCE into two parts. The large entity fee for the first RCE would be set about 30 percent below cost recovery at $1,200 to *foster innovation* by easing the burden on an applicant needing to resolve outstanding items with an examiner. The fee for the second and subsequent RCEs would be set at $1,700, which is estimated to be at cost recovery. Because 70 percent of RCEs are for a first and only RCE, this indicates that applicants often need modest additional time to resolve the outstanding issues with the examiner. Alternative 1's multipart approach seeks to *foster innovation* and *offer patent prosecution options for applicants* to make critical decisions at multiple points in the patent prosecution process.

e) Appeal Fees: Currently, a large entity applicant pays a total of $1,240 to appeal and file a brief, which recovers around 25 percent of the Office's cost ($4,799 in FY 2011) of an

appeal. This alternative assumes a large entity application would pay a total of $1,000 to appeal and file a brief. This alternative further includes a $2,000 fee for the appellant to forward the appeal file—with the Appellant's Brief and the Examiner's Answer—to the BPAI for review. Overall, with this fee design, one-third of the fee would be paid at the time of notice of appeal and the remaining two thirds would be paid after the Examiner's Answer, but only if the appeal is then forwarded to the BPAI. This staged fee payment structure allows the appellant to reduce the amount invested in the appeal process until the Examiner's Answer is received and allows applicants to pay less in situations when an application is either allowed or re-opened before being forwarded to the BPAI. This fee design offers *patent prosecution options for applicants* to make critical decisions at multiple points in the patent prosecution process.

f) Ex Parte Reexamination and Supplemental Examination: This alternative reduces fees for the request for supplemental examination and the *ex parte* reexamination ordered as a result of a supplemental examination proceeding from $7,000 and $20,000, respectively, as included in the initial section 10 proposal delivered to PPAC on February 7, 2012 (Alternative 4), to $4,400 and $13,600, respectively, which are both below cost. The large entity fee for *ex parte* reexamination is also reduced to $15,000, which is below the Office's cost of conducting the proceeding. Setting these fees below cost will permit easier access to the processes, which is beneficial to post-grant validity challenges, the overall patent system, and patent quality. Further, given that supplemental examination and *ex parte* reexamination are also eligible for small and micro entity fee reductions, setting these fees slightly below cost recovery improves their access to these groups, which are likely to have fewer resources.

g) Inter Partes Review, Post-Grant Review, and Covered Business Methods Review: This alternative would set each of these fees for new services related to the AIA slightly below the cost, which allows greater access to these new services.

h) Publication Fee for Early, Voluntary, or Normal Publication and Utility Issue Fees: Currently, the PG Pub fee is set to collect over two times the cost to publish a patent, and the issue fee is set to collect over seven times the cost to issue a patent. Decreasing these fees help inventors financially at a time when the marketability of their invention is highly uncertain. The reduction offsets the increases in patent prosecution fees (e.g., examination, RCE, and appeals), which supports *fostering innovation* by reducing the cost to the applicant.

i) Maintenance Fees - 1st, 2nd, and 3rd Stages: Under Alternative 1, maintenance fee renewal rates would decrease at each stage because the fees increase when compared to the Baseline. Given price elasticity, increased maintenance fees would likely result in reduced renewal rates for certain patents. It is presumed that a significant portion of these patents that are not renewed would be deemed unprofitable by their owners because, for example, the owner did not have the means to produce a competitive product covered by the patent. In those circumstances, the exclusive right of the patent is terminated and the subject matter of the patent would be available for others to use, which may lower the cost of R&D for the next generation of innovators. This would result in a benefit for society because it may reduce costs (e.g., licensing) for further innovation and commercialization. However, at the

same time, the higher maintenance fees decrease the net value of the patent. This cost is considered a second order effect.

For the proposed patent fee schedule (Alternative 1), the estimated average maintenance fee renewal rates are lower compared to the Baseline, because the Office estimates that fewer patent holders would be willing to pay a higher fee, thus decreasing the number of patents renewed. Based on elasticity estimates (*see* "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1), maintenance fee renewal rates are expected to decrease on average over the next five years as follows: 4.2 percent decrease in first stage renewals; 3.9 percent decrease in second stage renewals; and 9.2 percent decrease in third stage renewals (as shown in bold in Table 6-8).

Table 6-8

Alternative 1 - Proposed Alternative – Set and Adjust Section 10 Fees Change in Maintenance Fee Renewal Rates						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Average**
Baseline - Maintenance Fee Renewal Rates						
Stage 1	90.7%	89.6%	89.7%	89.7%	89.7%	**89.9%**
Stage 2	80.8%	80.0%	81.5%	79.3%	80.6%	**80.4%**
Stage 3	74.4%	73.5%	74.8%	72.6%	73.8%	**73.8%**
Alt. 1 - Maintenance Fee Renewal Rates						
Stage 1	88.7%	85.8%	85.5%	85.2%	85.2%	**86.1%**
Stage 2	79.1%	76.7%	78.0%	75.6%	76.9%	**77.3%**
Stage 3	70.9%	66.4%	67.2%	64.8%	65.9%	**67.0%**
Alt. 1 - Maintenance Fee Renewal Rates - change from Baseline						
Stage 1	-2.2%	-4.2%	-4.7%	-5.0%	-5.0%	**-4.2%**
Stage 2	-2.1%	-4.1%	-4.3%	-4.7%	-4.6%	**-3.9%**
Stage 3	-4.7%	-9.7%	-10.2%	-10.7%	-10.7%	**-9.2%**

Summary of Fee Design Benefits for Alternative 1: Alternative 1 captures the most qualitative benefits of any of the alternatives examined—primarily due to the extensive fee schedule design benefits. The Office designed the fee schedule around the three policy factors described in the strategies and goals discussion: *(1) fostering innovation; (2) facilitating effective administration of the patent system; and (3) offering patent prosecution options for applicants.* As demonstrated by the continuation of a front-end/back-end subsidy structure, the reduction of the pre-grant publication and issue fees, and the progressively increasing maintenance fee structure, this alternative designs the fee structure in a way to achieve its rulemaking and operational strategies and goals and benefit patent stakeholders.

6.2.2.2 Alternative 1: Decrease in Uncertainty from a Decrease in Pendency

Alternative 1 would decrease uncertainty in the clarity of patent scope and rights when compared to the Baseline, which represents a benefit to patent stakeholders and society because it is expected to increase the incentives and freedom to innovate. Table 6-9 shows the uncertainty indicator of total average pendency for Alternative 1. In Table 6-9, the Office compared the Baseline total patent pendency to Alternative 1 total patent pendency.

Table 6-9

Alternative 1 - Proposed Patent Fee Schedule – Set and Adjust Section 10 Fees Decrease in Uncertainty from a Decrease in Pendency						
Indicators	**Fiscal Year**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total Change**
Baseline Total Average Pendency (months)	30.1	25.2	24.6	21.1	**22.3**	**-7.8**
Alternative 1 Total Average Pendency (months)	30.1	24.6	22.9	18.3	**18.1**	**-12.0**
Average Pendency Change from Baseline (months)	0	-0.6	-1.7	-2.8	-4.2	**N/A**
Average Pendency Change from Baseline (%)	0.0%	-2.4%	-6.9%	-13.3%	**-18.8%**	**N/A**

Under Alternative 1, the Office estimates a significant qualitative benefit due to a large reduction in total patent pendency. From FY 2013 to FY 2017, total average pendency is estimated to decrease by 12 months, from 30.1 to 18.1 months. This compares to a Baseline estimated pendency decrease of only 7.8 months, from 30.1 to 22.3 months, over the same period of time. Under Alternative 1, average total pendency would decrease 18.8 percent over five years (as shown in bold in Table 6-9) compared to the Baseline. In addition, under the Baseline pendency starts to increase in FY 2017. Total average patent pendency decreases under Alternative 1 as the Office would generate enough aggregate revenue to increase examination capacity through hiring additional patent examiners in FY 2013 to help reduce pendency. A 12-month decrease in pendency would reduce uncertainty in the scope of patent rights and validity of claims for patentees, competitors, and new entrants. The overall reduction in uncertainty would be a benefit to patent stakeholders and society.

6.3 Benefits of Alternative 2 – Fee Cost Recovery

The Office identified a decrease in the Office's cost of patent operations as a monetized benefit under Alternative 2. While this is classified as a benefit in the analysis, the lack of sufficient aggregate revenue under this alternative to achieve the Office's goals, including reducing patent pendency, represents a major cost. The Office did not identify any qualitative benefits under Alternative 2.

6.3.1 Monetized Benefits of Alternative 2

6.3.1.1 Alternative 2: Decrease in the Office's Cost of Patent Operations

The Office expects an overall decrease in the cost of operations compared to the Baseline from $13.6 billion to $12.4 billion for the five-year period ending in FY 2017, resulting in a decrease of $1.2 billion, or 8.6 percent, (as shown in bold in Table 6-10). The cost of patent operations discounted at three percent would decrease from $12.4 billion to $11.3 billion over the same period of time, resulting in a decrease of $1.1 billion, or 8.6 percent, (as shown in bold in Table 6-11). The cost of patent operations discounted at seven percent would decrease from $11.1 billion to $10.1 billion for the five-year period ending in FY 2017, resulting in a decrease of $0.9 billion, or 8.5 percent, (as shown in bold in Table 6-12). The decrease in the cost of the Office's patent operations is due to an expected reduction in aggregate revenue. Aggregate revenue would decrease as a result of higher front-end fees, which could create barriers to entry for applicants, thus limiting the number of incoming patent applications and in turn the number of patents that would be maintained. This cost reduction is classified as a benefit to patent stakeholders and society.

Table 6-10

Alternative 2 - Fee Cost Recovery Decrease in the Office's Cost of Patent Operations - Undiscounted						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,477	$2,707	$2,756	$2,788	$2,830	**$13,558**
Alt. 2 – Cost of patent operations	$2,336	$2,483	$2,419	$2,553	$2,599	**$12,390**
Alt. 2 - Decrease in cost of patent operations (dollar change from Baseline)	($141)	($224)	($337)	($235)	($231)	**($1,168)**
Alt. 2 – Decrease in cost of patent operations (% change from Baseline)	-5.7%	-8.3%	-12.2%	-8.4%	-8.2%	**-8.6%**

Table 6-11

Alternative 2 - Fee Cost Recovery Decrease in the Office's Cost of Patent Operations - 3% Discount						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,405	$2,552	$2,522	$2,477	$2,441	**$12,397**
Alt. 2 – Cost of patent operations	$2,268	$2,340	$2,214	$2,268	$2,242	**$11,332**
Alt. 2 - Decrease in cost of patent operations (dollar change from Baseline)	($137)	($212)	($308)	($209)	($199)	**($1,065)**
Alt. 2 – Decrease in cost of patent operations (% change from Baseline)	-5.7%	-8.3%	-12.2%	-8.4%	-8.2%	**-8.6%**

Table 6-12

Alternative 2 - Fee Cost Recovery Decrease in the Office's Cost of Patent Operations - 7% Discount						
Cost of Patent Operations	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline – Cost of patent operations	$2,315	$2,364	$2,250	$2,127	$2,018	**$11,074**
Alt. 2 – Cost of patent operations	$2,183	$2,169	$1,975	$1,948	$1,853	**$10,128**
Alt. 2 - Decrease in cost of patent operations (dollar change from Baseline)	($132)	($195)	($275)	($179)	($165)	**($946)**
Alt. 2 – Decrease in cost of patent operations (% change from Baseline)	-5.7%	-8.2%	-12.2%	-8.4%	-8.2%	**-8.5%**

6.3.1.2 Alternative 2: Decrease in the Cost of Patent Operations – Sensitivity Analysis

The Office conducted a sensitivity analysis for Alternative 2 (as shown in Table 6-13), which involved calculating five percent above and below the estimate for the Office's cost of patent operations, as discussed in section 2.4.5. The sensitivity analysis reflects the uncertainty of the various factors influencing fee collections and the cost of patent operations, including economic growth, applicant behavior, and production levels.

Table 6-13

Alternative 2 - Fee Cost Recovery Cost of Patent Operations - Sensitivity Analysis						
Type	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate	$2,453	$2,607	$2,540	$2,681	$2,729	$13,010
Working estimate	$2,336	$2,483	$2,419	$2,553	$2,599	$12,390
Low estimate	$2,219	$2,359	$2,298	$2,425	$2,469	$11,770

Table 6-13 presents the high range (plus five percent) and low range (minus five percent) of the cost of operations for Alternative 2. If aggregate revenue, and therefore the cost of patent operations, under Alternative 2 is reduced by five percent, the Office would still maintain its Baseline workforce level, less attrition. To minimize the operational impact, the Office would redirect funding from other areas of the patent operations such as IT investments. If the Office received five percent more revenue, the additional income could be used to replace some examiners lost through attrition, which would improve backlog and pendency slightly, although it would still fall short of the Office's goals. However, even the high range for Alternative 2 does not provide as much revenue as the Baseline working estimate, so not all attritions could be replaced. If the number of attritions increased too quickly, the Office would struggle to manage incoming workload and the backlog and pendency could increase even more.

6.3.2 Qualitative Benefits of Alternative 2

The Office did not identify any qualitative benefits under Alternative 2.

6.4 Benefits of Alternative 3 – Across-the-Board Increase

The Office did not identify any monetized benefits related to Alternative 3. Qualitative benefits include fee schedule design benefits associated with setting individual fees to further key policy considerations

6.4.1 Monetized Benefits for Alternative 3

Under Alternative 3, average pendency is not expected to change compared to the Baseline, because the Office is not expected to recover enough revenue to fund the current year and out year costs of hiring 1,500 more examiners in FY 2013 to address the backlog of patent applications. Since pendency is the key driver for private patent value, the Office estimates no change in domestic private patent value compared to the Baseline and therefore no associated benefits.

6.4.2 Qualitative Benefits for Alternative 3

6.4.2.1 Alternative 3: Fee Schedule Design Benefits

Table 4-7 presents the major fees for Alternative 3. The following discussion of the fee schedule design costs evaluates how well the major fees reflect the key policy considerations, namely *fostering innovation, facilitating effective administration of the patent system,* and *offering patent prosecution options for applicants*. This discussion only includes fees for which the Office can draw reasonable conclusions about the qualitative costs; therefore, the discussion that follows does not address all of the fees included in Table 4-7. A complete list of fees for Alternative 3 can be found on the USPTO Web site available at http://www.uspto.gov/aia_implementation/fees.jsp#heading-1. Following is a discussion of each fee/fee group's expected qualitative benefit as it applies to the fee schedule design (*see* Part V of the NPRM for further descriptions of the services performed related to the fees discussed below).

a) Utility—Basic Filing, Search, and Examination: Currently, the large entity basic filing, search, and examination fees for a utility patent recover slightly more than one-third

of the average unit cost for prosecuting a patent application. The long-standing policy consideration of *fostering innovation* by keeping the entry and pre-issue fees low would continue under Alternative 3 by maintaining this back-end subsidy of front-end fees. However, the application fees (i.e., filing, search, and examination) proposed in Alternative 3 do not attempt to realign the individual fees with costs, as in Alternatives 1 and 4. For example, under Alternative 3, as with the Baseline, approximately 51 percent of the cost to prosecute an application is estimated to occur during examination while only 20 percent of the fee amount is derived from the examination fee.

b) Excess Claims, Application Size, and Extension of Time Fees: The Office would increase excess claims and application size fees consistent with the across-the-board increase for Alternative 3. This would maintain the key policy consideration that exists in the Baseline today of *facilitating effective administration of the patent system*, which benefits the applicant and the USPTO by encouraging application filing with the most prudent number of claims to enable prompt conclusion of application processing. A similar increase would be made to the extension of time fees so that applicants give additional consideration whether to file an extension of time request, which extends patent prosecution. Extension of time fees promote the prompt conclusion of application processing, which assists in reducing patent pendency.

c) Request for Continued Examination (RCE): In Alternative 3, the fee for RCEs would remain significantly below cost, as in the Baseline. This could be viewed as a benefit by providing greater access to this service, which helps *foster innovation*. However, keeping the fee significantly below cost might cause those applicants that do not use RCEs

to effectively subsidize those that do. Also, Alternative 3 does not include the benefit of a multipart RCE structure to *offer patent prosecution options for applicants* as discussed under Alternative 1.

d) Appeal Fees: The Office would continue to subsidize appeals fees under this alternative to offer applicants another prosecution option by which to secure patent rights if the initial application proved unsuccessful. This helps *foster innovation* by keeping the costs low for applicants to continue patent application prosecution. However, Alternative 3 would not close the gap between fee and cost, so those applicants that do not use appeals would be effectively subsidizing those that do. In addition, Alternative 3 does not provide the benefit of appeals staging options (*offering patent prosecution options for applicants*) provided in Alternatives 1 and 4.

e) Publication Fee for Early, Voluntary or Normal Publication & Utility Issue Fee: Both of these fees are revenue recovery fees. That is, their cost to the Office is relatively small but applicants pay these fees after they have completed the patent prosecution and reached the notice of allowance stage. This subsidizes the front-end fees to help *foster innovation*. However, Alternative 3 would not reconfigure back-end fees to better account for when an applicant is likely to have the most information.

f) Maintenance Fees - 1st, 2nd, 3rd Stage: Under Alternative 3, the increase to all three stages of maintenance fees maintains the existing policy of subsidizing front-end costs through maintenance fees, and maintains the fee ratio between the three renewal stages.

Table 6-14 details maintenance fee renewal rates for the Baseline and Alternative 3 over the next five fiscal years.

Table 6-14

Alternative 3 - Across-the-Board Adjustment Change in Maintenance Fee Renewal Rates						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Average**
Baseline - Maintenance Fee Renewal rates						
Stage 1	90.7%	89.6%	89.7%	89.7%	89.7%	**89.9%**
Stage 2	80.8%	80.0%	81.5%	79.3%	80.6%	**80.4%**
Stage 3	74.4%	73.5%	74.8%	72.6%	73.8%	**73.8%**
Alt. 3 - Maintenance Fee Renewal rates						
Stage 1	90.5%	89.3%	89.4%	89.3%	89.3%	**89.6%**
Stage 2	80.5%	79.4%	80.9%	78.6%	79.9%	**79.9%**
Stage 3	74.1%	72.8%	74.1%	71.8%	73.0%	**73.2%**
Alt. 3 - Maintenance Fee Renewal Rates Change from Baseline						
Stage 1	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	**-0.3%**
Stage 2	-0.4%	-0.8%	-0.7%	-0.9%	-0.9%	**-0.6%**
Stage 3	-0.4%	-1.0%	-0.9%	-1.1%	-1.1%	**-0.8%**

For Alternative 3, the estimated maintenance fee renewal rates are slightly lower compared to the Baseline. Based on elasticity estimates (*see* "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1), maintenance fee renewal rates are expected to decrease on average over the next five years as follows: a 0.3 percent decrease in first stage maintenance fee renewals; a 0.6 percent decrease in second stage renewals; and a 0.8 percent decrease in third stage maintenance fee renewals (as shown in

bold in Table 6-14). As shown, increased maintenance fees would likely result in reduced maintenance fee renewal rates for certain patents.

Summary of Fee Design Benefits for Alternative 3: Overall, the fee schedule design for Alternative 3 maintains the key policy considerations in the current fee schedule (Baseline) to *foster innovation* and *facilitate effective administration of the patent system*. However, it does not offer some of the fee schedule design benefits in Alternative 1, such as multipart RCE fees and staged appeal fees to support *offering patent prosecution options for applicants*.

6.5 Benefits of Alternative 4 – Initial Proposal to PPAC

The Office identified an increase in private patent value resulting from a decrease in patent pendency as a monetized benefit for Alternative 1. Qualitative benefits include: (i) fee schedule design benefits; and (ii) a decrease in uncertainty.

6.5.1 Monetized Benefits of Alternative 4

6.5.1.1 Alternative 4: Increase in Private Patent Value from a Decrease in Pendency

Domestic: As discussed in section 2.4.3 and Appendix A, the Office estimated the average value of a patent for the Baseline and each alternative. A change in patent pendency impacts the value of a patent. Under Alternative 4, the Office estimates that private patent value would increase (relative to the Baseline), which benefits patent applicants, patent holders, other patent stakeholders, and society. Table 6-15 and Table 6-16 show the domestic private patent values for the Baseline and Alternative 4. The Office forecasted

private patent values over the five-year period and applied a three percent and seven percent discount rate.

Private patent value discounted at three percent would increase from $73.5 billion to $80.4 billion over the five-year period ending in FY 2017, resulting in an estimated increase of $6.9 billion, or 9.4 percent (as shown in bold in Table 6-15). Private patent value discounted at seven percent would increase from $75.1 billion to $82.8 billion over the same period of time, resulting in an increase of $7.7 billion, or 10.2 percent (as shown in bold in Table 6-16). Average total patent pendency would decrease under Alternative 4 because the Office would generate enough aggregate revenue to increase examination capacity by hiring 1,500 additional patent examiners in FY 2013.

Table 6-15

Alternative 4 - Initial Proposal to PPAC Increase in Private Patent Value from a Decrease in Pendency (Domestic) - 3% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$14,541	$15,289	$15,605	$14,078	$13,966	**$73,479**
Alt. 4 - Private patent value	$15,137	$16,723	$17,228	$15,624	$15,688	**$80,400**
Alt. 4 - Increase in private patent value (change from Baseline)	$596	$1,434	$1,623	$1,546	$1,722	**$6,921**
Alt. 4 - Decrease in private patent value (% change from Baseline)	4.1%	9.4%	10.4%	11.0%	12.3%	**9.4%**

Table 6-16

Alternative 4 - Initial Proposal to PPAC Increase in Private Patent Value from a Decrease in Pendency (Domestic) - 7% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$14,541	$15,598	$15,920	$14,594	$14,420	**$75,073**
Alt. 4 - Private patent value	$15,137	$17,060	$17,717	$16,393	$16,460	**$82,767**
Alt. 4 - Increase in private patent value (change from Baseline)	$596	$1,462	$1,797	$1,799	$2,040	**$7,694**
Alt. 4 - Decrease in private patent value (% change from Baseline)	4.1%	9.4%	11.3%	12.3%	14.1%	**10.2%**

Foreign: The foreign private patent value estimates for Alternative 4 are shown in Table 6-17 and Table 6-18 for three percent and seven percent discount rates. As with domestic private patent value, the primary driver of these gains is a significant decrease in patent pendency. The trends for foreign stakeholders mirror those of domestic stakeholders, and the reasons are identical: adequate revenue results in adequate staffing, giving the Office the ability to manage both the incoming application workload and the backlog and results in decreased pendency over the five-year period.

Table 6-17

Alternative 4 - Initial Proposal to PPAC Increase in Private Patent Value from a Decrease in Pendency (Foreign) - 3% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$16,409	$17,253	$17,610	$15,887	$15,761	**$82,920**
Alt. 4 - Private patent value	$17,082	$18,871	$19,441	$17,632	$17,704	**$90,730**
Increase in private patent value (change from Baseline)	$673	$1,618	$1,831	$1,745	$1,943	**$7,810**
Alt. 4 - Increase in private patent value (% change from Baseline)	4.1%	9.4%	10.4%	11.0%	12.3%	**9.4%**

Table 6-18

Alternative 4 - Initial Proposal to PPAC Increase in Private Patent Value from a Decrease in Pendency (Foreign) - 7% Discount						
Private Patent Value	**Fiscal Year (dollars in millions)**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
Baseline - Private patent value	$16,409	$17,602	$17,966	$16,469	$16,273	**$84,719**
Alt. 4 - Private patent value	$17,082	$19,252	$19,993	$18,499	$18,574	**$93,400**
Alt. 4 - Increase in private patent value (change from Baseline)	$673	$1,650	$2,027	$2,030	$2,301	**$8,681**
Alt. 4 - Increase in private patent value (% change from Baseline)	4.1%	9.4%	11.3%	12.3%	14.1%	**10.2%**

6.5.1.2 Alternative 4: Increase in Private Patent Value from a Decrease in Pendency – Sensitivity Analysis

Domestic: As noted above, a decrease in pendency would result in an increase in private patent value under Alternative 4. At either discount level (three percent or seven percent) and all estimate types (high, working, or low), the increase is always positive over the five-

year period ending with FY 2017. At a three percent discount level, the range is $4.7 to $7.8 billion dollars (as shown in bold in Table 6-19). At a seven percent discount level, the range is $5.2 to $8.6 billion dollars (as shown in bold in Table 6-20).

Table 6-19

Alternative 4 - Initial Proposal to PPAC Increase in Private Patent Value from a Decrease in Pendency – Sensitivity Analysis (Domestic) - 3% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate (large entity mean value)	$670	$1,610	$1,822	$1,737	$1,934	**$7,773**
Working estimate (small & large entity mean value)	$597	$1,433	$1,623	$1,546	$1,722	**$6,921**
Low estimate (small entity mean value)	$407	$977	$1,106	$1,054	$1,174	**$4,718**

Table 6-20

Alternative 4 - Initial Proposal to PPAC Increase in Private Patent Value from a Decrease in Pendency – Sensitivity Analysis (Domestic) - 7% Discount						
Type	**Fiscal Year (dollars in millions) - Change from Baseline**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total**
High estimate (large entity mean value)	$670	$1,642	$2,018	$2,020	$2,290	**$8,640**
Working estimate (small & large entity mean value)	$597	$1,462	$1,797	$1,799	$2,039	**$7,694**
Low estimate (small entity mean value)	$407	$997	$1,225	$1,226	$1,390	**$5,245**

6.5.2 Qualitative Benefits of Alternative 4

6.5.2.1 Alternative 4: Fee Schedule Design Benefits

Table 4-9 presents the major fees for Alternative 4. The following discussion of the fee schedule design costs evaluates how well the major fees reflect the key policy considerations, namely *fostering innovation*, *facilitating effective administration of the patent system*, and *offering patent prosecution options for applicants*. This discussion only includes fees for which the Office can draw reasonable conclusions about the qualitative costs; therefore, the discussion that follows does not address all of the fees included in Table 4-9. A complete list of fees for Alternative 4 can be found on the USPTO Web site *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1. Following is a discussion of each fee/fee group's expected qualitative benefit as it applies to the fee schedule design (*see* Part V of the NPRM for further descriptions of the services performed related to the fees discussed below).

a) Utility—Basic Filing, Search, and Examination: Currently, the large entity basic filing, search, and examination fees for a utility patent recover slightly more than one-third of the average unit cost for prosecuting a patent application, while a small entity application recovers around 17 percent of the average unit cost (*see* cost at Table 4-4). Alternative 4 continues the long-standing policy factor of *fostering innovation* by keeping the entry (front-end) fees low using a back-end subsidy.

To help stabilize the USPTO funding model, under Alternative 4, the Office would increase the total filing, search, and examination fees to recover slightly more than 40 percent of the average unit cost for processing a patent application (*see* cost at Table 4-4). This fee

schedule design is a benefit and supports the key policy consideration to *foster innovation.* The disadvantage of increased filing, search, and examination fees under Alternative 4 is an initial reduction in the number of application filings, which could result in a slight decrease in public disclosure. This is considered a relatively minor cost compared to the benefit of *fostering innovation,* but this cost is greater under Alternative 4 than it is under Alternatives 1 and 3.

b) Request for Prioritized Examination: The AIA established the Baseline large and small entity fees, which the Office put in place in 2011. The AIA set the large entity fee above the Office's cost to process a single prioritized examination request in order to subsidize the fee revenue lost from providing small entity applicants a 50 percent discount from the large entity fee. The higher large entity fee, coupled with the lower small entity fee, recovers the Office's total cost for conducting all prioritized examinations.

Micro entities become eligible to receive a 75 percent discount from the large entity fee when setting the prioritized examination fee using section 10 of the AIA. Under Alternative 4, the Office would set the large entity fee at cost instead of further increasing the fee to subsidize the new micro entity discount and recover this lost revenue through other fees proposed to be set above cost recovery. This benefits applicants and further the key policy considerations of *fostering innovation* and *offering patent prosecution options for applicants*.

c) Excess Claims, Application Size, and Extension of Time Fees: Under Alternative 4 the Office would increase excess claims and application size fees to facilitate an efficient

examination process, which benefits the applicant and the USPTO through by *facilitating the effective administration of the patent system.* This design encourages applicants to file only the most prudent number of claims to enable prompt conclusion of application processing. A more succinct application facilitates faster examination with an expectation of fewer errors. Alternative 4 would also increase the extension of time fees so that applicants give more consideration to whether to file an extension of time request, which extends patent prosecution. Extension of time fees prompt conclusion of application processing, which assists in reducing patent pendency. Concluding prosecution more quickly also has wider societal benefits, because new ideas can go to market faster and provide benefits to society including technological progress, job creation, and wage growth. All of these fees support the key policy considerations of *facilitating the effective administration of the patent system*.

***d) Request for Continued Examination*:** Applicants typically file an RCE when they choose to continue to prosecute an application before the examiner, rather than appeal its rejection or abandon the application. Under Alternative 4, the Office would set the fee for an RCE at cost, which would be an increase but still *offer patent prosecution options for applicants*. The Office recognizes that for many applicants, an RCE is one way to reach an allowance, so the Office would not want to discourage or limit this processing option by setting the RCE fee above cost. This fee schedule design also balances the desire to make RCEs reasonably affordable while noting the strain they put on the patent system. This approach was refined under Alternative 1 to include a tiered structure for RCEs based on feedback from the PPAC.

e) Appeal Fees: Under Alternative 4, the Office would set a $1,500 notice of appeal fee and a $0 fee when filing the brief. Both of these actions would occur prior to the preparation of an Examiner's Answer (and forwarding of the appeal to the BPAI). The Office recognizes that after some notices of appeal are filed, the matter gets resolved and there is no need to take the ultimate step of forwarding the appeal to the BPAI for rendering a decision. The Office would also set a $2,500 fee for the appellant to forward the appeal file—with the Appellant's Brief and the Examiner's Answer — to the BPAI for review. Overall, under Alternative 4, approximately one-third of the fee would be paid at the time of notice of appeal and the remaining amount would be paid after the Examiner's Answer, but only if the appeal is then forwarded to the BPAI. This fee schedule design allows the appellant to reduce the amount invested in the appeal process until receiving the Examiner's Answer.

Staging the appeal fees in this manner would allow applicants to pay less in situations when an application is either allowed or re-opened before being forwarded to the BPAI. This fee design offers *patent prosecution options for applicants* by allowing applicants to make critical decisions at multiple points in the patent prosecution process.

f) Ex Parte Reexamination and Supplemental Examination: Under Alternative 4, the Office would set the request for supplemental examination, supplemental examination, and request for *ex parte* reexamination fees to be at or slightly greater than the cost of conducting the proceeding. The expected benefit of setting these fees above cost is that the higher fees would encourage applicants to submit applications with all relevant information during initial examination, which facilitates compact prosecution (*facilitates effective*

administration of the patent system). In all cases, a complete and accurate patent file, with all supporting documentation, benefits the overall IP system even if the higher fee might limit how many people would be able to pursue the patent service. Alternative 1 provides a revised approach to these fees based on feedback from PPAC and the public during the February 2012 public hearings. (*See* the NPRM for additional detail on the PPAC public hearings).

g) Inter Partes Review and Post-Grant Review, and Covered Business Methods Review: The new trial proceedings established in the AIA are intended to offer options for persons wishing to dispute or preempt disputes concerning IP rights. These services are highly specialized and the Office's costs for performing them are significant, so the fees would be set at cost under Alternative 4. Allowing the Office to recoup the cost for performing these specialized services would *facilitate effective administration of the patent system.*

h) Combined Pre-Grant Publication (PG Pub) and Issue Fee: Because both the PG Pub and Issue fees must be paid before a patent is granted, Alternative 4 combines the fees to streamline the fee schedule. Under Alternative 4, the Office would decrease the combined fee to a relatively low level because the patenting system benefits from publishing applications. Further, the cost of publishing and issuing a patent is relatively low, and the fee reduction contributes to the alignment of front-end to back-end fees and offsets the increase in front-end fees, enabling the fee schedule to continue *fostering innovation*. In addition, many patent owners do not typically possess enough information to know the value of their invention until a few years after a patent is granted. Decreasing these fees

helps inventors financially at a time when the marketability of their invention is unclear. The payment of an issue fee is also important to forecast future maintenance fee payments.

i) Maintenance Fees - 1st, 2nd, and 3rd Stages: Under Alternative 4, maintenance fee renewal rates would decrease at each stage because the fees increase compared to the Baseline. The Office presumes that a significant portion of these patents that are not renewed would be deemed unprofitable by their owners because, for example, the owner did not have the means to produce a competitive product covered by the patent. In those circumstances, the exclusive right of the patent is terminated and the subject matter of the patent would be available for others to use, which may lower the cost of R&D for the next generation of innovators. This results in a benefit for society because it may reduce costs (e.g., licensing) for further innovation and commercialization. However, at the same time, the higher maintenance fees decrease the net value of the patent. These are considered second order effects.

Table 6-21 details maintenance fee renewal rates for the Baseline and Alternative 4 over the next five fiscal years. For Alternative 4, the estimated average maintenance fee renewal rates are lower compared to the Baseline and Alternative 1, because the Office estimates that fewer patent holders would be willing to pay a higher fee, thus decreasing the number of patents renewed. Based on elasticity estimates (*see* "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1), maintenance fee renewal rates are expected to decrease on average over the next five years as follows: a 4.2 percent

decrease in first stage renewals; a 3.9 percent decrease in second stage renewals; and a 9.9 percent decrease in third stage renewals (as shown in bold in Table 6-21).

Table 6-21

Alternative 4 - Initial Proposal to PPAC Change in Maintenance Fee Renewal Rates						
Indicators	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Average**
Baseline - Maintenance Fee Renewal Rates						
Stage 1	90.7%	89.6%	89.7%	89.7%	89.7%	**89.9%**
Stage 2	80.8%	80.0%	81.5%	79.3%	80.6%	**80.4%**
Stage 3	74.4%	73.5%	74.8%	72.6%	73.8%	**73.8%**
Alt. 4 - Maintenance Fee Renewal Rates						
Stage 1	88.7%	85.8%	85.5%	85.2%	85.2%	**86.1%**
Stage 2	79.1%	76.7%	78.0%	75.6%	76.9%	**77.3%**
Stage 3	70.6%	65.8%	66.6%	64.2%	65.3%	**66.5%**
Alt. 4 - Maintenance Fee Renewal Rate Change from Baseline						
Stage 1	-2.2%	-4.2%	-4.7%	-5.0%	-5.0%	**-4.2%**
Stage 2	-2.1%	-4.1%	-4.3%	-4.7%	-4.6%	**-3.9%**
Stage 3	-5.1%	-10.5%	-11.0%	-11.6%	-11.5%	**-9.9%**

Summary of Fee Design Benefits for Alternative 4: Alternative 4 includes several of the qualitative benefits presented in Alternative 1 (the proposed alternative). Alternative 4 also supports rapid growth of the operating reserve, which would help the Office implement a sustainable funding model for patent operations—a goal that provides benefits to both the Office and the larger IP community. Like Alternative 1, Alternative 4 proposes the fees for several common patent services at or below their cost to the Office—thereby providing incentives for applicants to enter the patent system (*fostering innovation*) and then continue through the process by *offering patent prosecution options*. Alternative 4 also *facilitates*

effective administration of the patent system by incentivizing compact prosecution and permitting the Office to recoup fees for performing highly specialized services.

Despite the numerous identified benefits, the costs associated with the rapid growth of the operating reserve are not negligible. Higher fees reduce applicant benefits even as they speed the Office's progress toward the sustainable funding goal. Based on stakeholder feedback in response to Alternative 4, the Office modified the fee schedule design to develop Alternative 1, which increases the time period to build the operating reserve and offers more net benefits.

6.5.2.2 Alternative 4: Decrease in Uncertainty from a Decrease in Pendency

Alternative 4 would decrease uncertainty in the clarity of patent scope and rights when compared to the Baseline, which represents a benefit to patent stakeholders and society because it is expected to increase the incentives and freedom to innovate. Table 6-22 shows the uncertainty indicator of total average pendency for Alternative 4. In Table 6-22, the Office compared the Baseline total patent pendency to Alternative 4 total patent pendency. The Office estimates that average pendency would decrease under Alternative 4 as the Office would generate enough aggregate revenue to increase examination capacity through hiring additional patent examiners.

Table 6-22

Alternative 4 - Initial Proposal to PPAC Decrease in Uncertainty from a Decrease in Pendency						
Indicators	**Fiscal Year**					
	FY 2013	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total Change**
Baseline Total Average Pendency (months)	30.1	25.2	24.6	21.1	**22.3**	**-7.8**
Alternative 4Total Average Pendency (months)	30.1	24.6	22.9	18.3	**18.1**	**-12.0**
Average Pendency Change from Baseline (months)	0	-0.6	-1.7	-2.8	-4.2	**N/A**
Average Pendency Change from Baseline (%)	0.0%	-2.4%	-6.9%	-13.3%	**-18.8%**	**N/A**

For Alternative 4, the average total pendency is expected to decrease by 12 months from 30.1 to 18.1 months for the period of FY 2013 through FY 2017, as compared to a decrease of 7.8 months from 30.1 to 22.3 months for the Baseline over the same period of time. Compared to the Baseline, Alternative 4 total average patent pendency would decrease 18.8 percent over the five-year period (as shown in bold in Table 6-22). Total average patent pendency would decrease under Alternative 4 as the Office would generate enough aggregate revenue to increase examination capacity through hiring additional patent examiners in FY 2013. This decrease in total average patent pendency would reduce uncertainty regarding scope of patent rights and validity of claims for patentees, competitors, and new entrants. The overall reduction in uncertainty is a benefit to patent applicants, patent holders, other patent stakeholders and society.

7 COMPARSION OF COSTS AND BENEFITS

The Office analyzed each alternative's specific costs and benefits as described in sections 5 and 6. As presented in section 1.3 the Office assessed each alternative against several strategies and goals. This section presents a summary comparison of the monetized and qualitative costs and benefits across the alternatives and provides a ranking of the alternatives based on the comparison. It also presents a summary of certain advantages and disadvantages for the alternatives not directly captured in the costs and benefits related to the Office's strategies and goals.

7.1 Monetized Costs and Benefits

Table 7-1 and Table 7-2 summarize the monetized and discounted costs and benefits for each of the alternatives, as presented in sections 5 and 6.

Table 7-1

Summary of Monetized Costs and Benefits - 3% discount rate				
Type	**Alternatives (dollars in millions) - Change from Baseline**			
	1 – Proposed Alternative – Set and Adjust Section 10 Fees	**2 – Fee Cost Recovery**	**3 – Across-the-Board Adjustment**	**4 – Initial Patent Fee Schedule Proposed to PPAC**
Costs				
Decrease in private patent value		($20,166)		
Increase in the Office's cost of patent operations	($765)		($597)	($1,410)
Lost Patent Value from a Decrease in Applications Filed	($166)	($1,308)	($39)	($285)
Total Costs	*($931)*	*($21,474)*	*($636)*	*($1,695)*
Benefits				
Increase in private patent value	$6,921			$7,177
Decrease in the Office's cost of patent operations		$1,065		
Total Benefits	*$6,921*	*$1,065*	*$0*	*$7,177*
Net Benefit (Cost)	**$5,990**	**($20,409)**	**($636)**	**$5,482**
Ranking of Alternatives	**1st**	**4th**	**3rd**	**2nd**

Table 7-2

Summary of Monetized Costs and Benefits - 7% discount rate				
Type	**Alternatives (dollars in millions) - Change from Baseline**			
	1 – Proposed Alternative – Set and Adjust Section 10 Fees	**2 – Fee Cost Recovery**	**3 – Across-the-Board Adjustment**	**4 – Initial Patent Fee Schedule Proposed to PPAC**
Costs				
Decrease in private patent value		($22,492)		
Increase in the Office's cost of patent operations	($682)		($527)	($1,251)
Lost Patent Value from a Decrease in Applications Filed	($135)	($1,053)	($32)	($230)
Total Costs	*($817)*	*($23,545)*	*($559)*	*($1,481)*
Benefits				
Increase in private patent value	$7,694			$7,694
Decrease in the Office's cost of patent operations		$946		
Total Benefits	*$7,694*	*$946*	*$0*	*$7,694*
Net Benefit (Cost)	**$6,877**	**($22,599)**	**($559)**	**$6,213**
Ranking of Alternatives	**1st**	**4th**	**3rd**	**2nd**

As shown in Tables 7-1 and 7-2, Alternative 1 (the proposed alternative) has the largest net benefit, followed closely by Alternative 4. This is also true at both the three and seven percent discount rates. Alternative 1 and Alternative 4 each achieve the same benefit related to the increase in private patent value because both alternatives achieve the same reduction in pendency. However, the Office's cost of patent operations for Alternative 1 is less than that of Alternative 4. This reduced cost is attributed to the reduction in the amount the

Office would place in the operating reserve to meet the three-month operating reserve target in FY 2017 for Alternative 1, rather than FY 2015 for Alternative 4.

Alternatives 2 and 3 have an estimated net cost. The net cost is very large for Alternative 2 due to the longer patent pendency and the resulting decrease in private patent values. The net cost for Alternative 3 is primarily due to the increase in the cost of patent operations, with no benefit related to private patent value (as pendency would not change from the Baseline).

7.2 Qualitative Costs and Benefits

This section presents the summary assessment of qualitative costs and benefits.

- **Fee Schedule Design:** Based on an assessment of this factor, Alternative 1 best meets the rulemaking strategies and goals, and addresses the following policy factors:

    - It would *foster innovation* by maintaining below cost filing, search, and examination fees and reducing the fee for the first RCE to encourage applicants to continue through the prosecution process.

    - It would *encourage the effective administration of the patent system* by increasing fees for certain services that are more strenuous on the patent system, including second and subsequent RCEs and fees related to application size, excess claims, and extensions of time.

- It would *offer patent prosecution options for applicants* by providing a multipart and staged fee structure for RCEs and appeals.

Alternative 4 would also support some of these goals, but would have higher fees for filing, search, examination, and RCEs (a single fee), so it would not *foster innovation* as effectively as Alternative 1. Alternative 4 does not include some of the *patent prosecution options for applicants* as found in Alternative 1. Alternatives 2 and 3 would not *foster innovation* as effectively, nor do they offer as many *patent prosecution options for applicants* as Alternative 1. Furthermore, Alternatives 2 and 3 would not meet some of the Office's goals. Alternative 2 fails to provide sustainable funding via a three-month operating reserve, while both Alternatives 2 and 3 do not meet the patent pendency and patent application backlog targets.

- **Uncertainty:** Alternatives 1 and 4 would have the same reduction in uncertainty because they achieve the same patent pendency reduction. Alternative 2 would produce a significant cost related to an increase in uncertainty because patent pendency would increase the most over the five-year period. Alternative 3 would maintain the Baseline pendency so it has neither a benefit nor a cost related to uncertainty.

Table 7-3 provides a ranking of the alternatives for monetized and qualitative factors as well as the overall ranking.

Table 7-3

Ranking of Alternatives				
	1 – Proposed Alternative – Set and Adjust Section 10 Fees	**2 – Fee Cost Recovery**	**3 – Across-the-Board Adjustment**	**4 – Initial Patent Fee Schedule Proposed to PPAC**
Monetized	1st	4th	3rd	2nd
Qualitative	1st	4th	3rd	2nd
Overall	**1st**	**4th**	**3rd**	**2nd**

In summary, Alternative 1 has the greatest net benefit of the considered alternatives. At the seven percent discount rate, the monetized net benefit for Alternative 1 is approximately $6.9 billion (10 percent). Alternative 1 also ranks higher for qualitative factors because of greater fee schedule design benefits related to the key policy considerations.

7.3 Achievement of the Rulemaking Strategies and Goals

Aside from each alternative's costs and benefits, the alternatives have their own set of expected outcomes that can be characterized as advantages or disadvantages. These outcomes tie, for the most part, to the Office's strategies and goals. The Office analyzed each alternative's ability to achieve a set of strategies and goals meant to benefit patent applicants, patent holders, other patent stakeholders, and society.

Table 7-4 below summarizes whether the Baseline and each alternative achieves the NPRM's strategies and goals. Following the table is a discussion of each strategy and goal, and the specific outcomes that contribute to the Office achieving them.

Table 7-4

Comparison of Ability to Achieve Planned Improvements Across Alternatives					
Strategy or Goal	**Baseline**	**Alternatives**			
		1 – Proposed Alternative – Set and Adjust Section 10 Fees	**2 – Fee Cost Recovery**	**3 – Across-the-Board Adjustment**	**4 – Initial Patent Fee Schedule Proposed to PPAC**
Strategy 1: Generate sufficient revenue to recover aggregate costs					
Aggregate revenue is sufficient to recover aggregate costs	Yes	Yes	Yes *(With risks)*	Yes	Yes
Goal: Sustainable Funding Model for Operations					
Build three-month operating reserve	No	Yes *(by FY 2017)*	No	Yes *(by FY 2017)*	Yes *(by FY 2015)*
Goal: Optimize Patent Timeliness and Quality by Reducing Patent Application Backlog and Pendency					
Reduce 1st action pendency to 10 months by FY 2015	No	Yes	No	No	Yes
Reduce total average pendency to 20 months by FY 2016	No	Yes	No	No	Yes
Strategy 2: Set Individual Fees to Further Key Policy Considerations					
Implement key policy considerations	Partial	Yes	No	Partial	Partial
Apply micro-entity discount	No	Yes	Yes	Yes	Yes

Aggregate revenue is sufficient to recover aggregate costs: As shown in Table 7-4, the Office expects to generate sufficient revenue to recover aggregate costs under the Baseline and all four alternatives. However, the Office would need to make operational adjustments to recover aggregate costs under Alternative 2. Although lower Office revenue provides a short term advantage to society, through a lower cost of patent operations, Alternative 2 does not provide sufficient aggregate revenue to accomplish the majority of the Office's goals and strategies, which provide long term benefits to society. Additionally, under both Alternatives 2 and 3, the Office would not bring in enough revenue to increase examiner capacity by hiring 1,500 examiners in FY 2013, as planned.

Build three-month operating reserve: Alternatives 1, 3, and 4 are expected to provide sustainable funding for the Office by achieving a three month operating reserve. A three month operating reserve would allow the Office to sustain operations during temporary fluctuations in the demand for products and services. Alternatives 1 and 3 would build the reserve by FY 2017, while Alternative 4 would build a three month reserve by FY 2015. Neither Alternative 2, nor the Baseline would bring in enough revenue to enable the Office to build a three month operating reserve and in fact would deplete the operating reserve.

Optimize Patent Timeliness and Quality by Reducing Patent Application Backlog and Pendency: Under Alternatives 1 and 4, the Office expects to reduce first action pendency to ten months by FY 2015, and to reduce total pendency to 20 months by FY 2016. To achieve these pendency goals, the Office would need to bring in enough aggregate revenue to increase examination capacity by hiring an optimum size patent examining workforce (e.g., 1,500 new hires in each of FY 2012 and FY 2013). The Baseline, Alternative 2, and

Alternative 3 would not reduce first action or total pendency to the desired levels over the next five years, as the Office would not bring in enough aggregate revenue to hire an additional 1,500 patent examiners in each FY 2012 and FY 2013. However, under the Baseline, Alternative 2, and Alternative 3, the Office expects that pendency would decrease in FY 2013 and FY 2014, but would begin to increase again in FY 2015, as the Office does expect some increase in patent examiner workforce, though insufficient to meet the goal.

Implement Key Policy Considerations: The Office's three policy considerations are *fostering innovation, facilitating effective administration of the patent system,* and *offering patent prosecution options for applicants*. As discussed in section 7.2, Alternative 1 achieves each of the three key policy considerations while the Baseline and Alternatives 3 and 4 only achieve some of them. The Baseline does not increase patent prosecution options for applicants. Alternative 3 fails to implement policy considerations beyond what exists in the Baseline via the fee schedule design (e.g., no multipart RCE fees or staged appeal fees to *offer patent prosecution options for applicants*). Compared to Alternative 1, Alternative 4 does not offer as many patent prosecution options for applicants, such as the multipart and staged fees for RCEs and appeals.

Apply Micro Entity Discount: Given that the Baseline fees were established prior to enactment of the AIA, the Baseline does not include micro entity fee reductions and the scope of fees eligible for small entity fee reductions is smaller, because the earlier authority was more limited. However, each of the four alternatives applies small and micro entity discounts to the fees eligible under section 10(b). In fact, given the scope of section 10(b),

small and micro entity discounts would be available across all four alternatives for more than 25 patent fees that do not qualify for a small entity discount under the Baseline.

APPENDIX A: Change in Private Patent Value Calculation

To estimate the private gain from lower patent application pendency, the Office based the average value of a patent for large and small entities on two economic studies: Bessen (2008) and Serrano (2005). These studies were chosen for several reasons. First, most of the previous scholarly studies of patent renewals, while offering patent value estimates, relied on European data, because many European jurisdictions require annual patent renewal payments; Bessen (2008) and Serrano (2005) instead use data from U.S. utility patents. Second, these studies are relatively recent and thus offer up-to-date value estimates. Last, both studies provide well-documented estimates of mean and median patent value. Bessen (2008) and Serrano (2005) use data on patent renewal decisions, controlling for patent and owner characteristics, to estimate the mean and median patent values from a sample of U.S. origin utility patents.[3] Based on Bessen (2008), the Office used a mean patent value of $115,684[4] for large entity patents. For small entity patents, the Office used a mean patent value of $70,232[5] based on Serrano (2005), which uses renewal and re-assignment data to estimate patent value for smaller entities.[6] In this RIA, these numbers are referred to as the "Baseline patent value." The Office assumed that the patent value is acquired by the patentee in a lump sum and accrues to patentees at the end of the third year measured from

[3] Bessen, J., 2008. The Value of U.S. Patents by Owner and Patent Characteristics. Research Policy, 37(5), 932-945. Bessen's sample excluded patents assigned to governments and foreign individuals. Bessen examined patents issued in 1991 because it was the last year for which the final patent renewal decision was observable. A copy of this paper is available for inspection upon request at the USPTO offices in Alexandria, VA.

[4] USD 2011 value calculated using Implicit Price Deflator for GDP

[5] USD 2011 value calculated using Implicit Price Deflator for GDP

[6] Serrano C.J., 2005. The Market for Intellectual Property: Evidence from the Transfer of Patents. Working Paper, as cited in Bessen (2008). The Serrano (2005) values as cited by Bessen are similar to those found in Serrano (2006) and Serrano (2011). The similarity of values from these different estimates indicates some consistency and reasonableness of results for estimating average patent values for small entities.

filing ("Baseline pendency") and are held over a 17-year period of patent protection.[7] The Office then calculated the increase (or decrease) in patent value from the reduction (or extension) in pendency under each alternative relative to this set Baseline.

To estimate an expected pendency, the Office applied a fixed ratio of actual average traditional total pendency that includes RCEs to actual average traditional total pendency (excluding RCEs)[8] for each alternative, subject to an upper and lower bound noted below. This pendency measure ("expected pendency") is larger than average first action and average traditional total pendency (*see* section 2.3 for a description of average patent pendency) but more consistent with the pendency that patent applicants actually experience. For example, in FY 2014, the proposed scenario (Alternative 1) estimates average traditional total pendency of about 2.1 years (24.6 months). Applying the fixed ratio of 1.2, the Office calculated expected pendency of about 2.5 years in FY 2014 under the proposed scenario (average traditional total pendency * ratio of actual average traditional total pendency with RCEs to actual average traditional pendency = expected pendency; 2.1 * 1.2 = 2.5 years).

From the set Baseline, the proposed scenario projects that pendency would decline by 0.5 years (Baseline pendency – expected pendency = change in pendency; 3.0 – 2.5 = 0.5 years). Some patentees would receive two benefits: they would receive their patent value 0.5 years earlier and their patent terms would be extended from 17 years to 17.5 years. That is, some patentees would benefit from an earlier and longer patent grant, subject to the upper

[7] Both studies calculate patent value estimates based on a 17-year patent term from grant date.
[8] We apply the January 2012 ratio of traditional pendency with RCEs to traditional pendency. This ratio has held largely constant at 1.2 since February 2010.

and lower bounds as noted below. Such patentees would benefit from an increase in the time value of the realization of the patent value, and from an extended period in which to exclude competitors and earn profits from the invention.

The Office calculated the gain from an earlier grant by discounting Baseline patent value forward by the number of years that pendency declines. In the above example, receiving a patent 0.5 years earlier increases per patent value to about $117,400, discounted continuously at three percent for large entities (Baseline patent value x $* e^{r(Baseline\ pendency - scenario\ pendency)}$ = earlier grant value; $115,684 $x\ e^{0.03(3.0-2.5)}$ = $117,432). Thus, the large entity per patent gain from receiving a patent 0.5 years earlier is $1,748 at the mean (earlier grant value – Baseline value = per patent gain; $117,432 - $115,684 = $1,748).[9]

The Office estimated the gain from a longer patent term by treating patent value like an annuity with a negative growth rate (i.e., a depreciating asset). The Office used a -10 percent growth rate to calculate an annuity payment based on Baseline patent value and patent term (Baseline patent value*$(e^{(r-g)} - 1)/(1 - e^{-t_0(r-g)})$ = annuity; $115,684 x $(e^{(0.03-(-0.10))} - 1)/(1 - e^{-17(0.03-(-0.10))})$ = $18,039). The gain from reduced pendency is equivalent to the additional value generated during the extended patent term, subject to depreciation. In the FY 2014 example for a large entity, the per patent gain from a half year

[9] Discounted continuously at 7%, per patent value is about $119,800 (115,684$*e^{0.07(3.0-2.5)}$ = 119,805); per patent gain is about $4,100 (119,805 - 115,684 = 4,121).

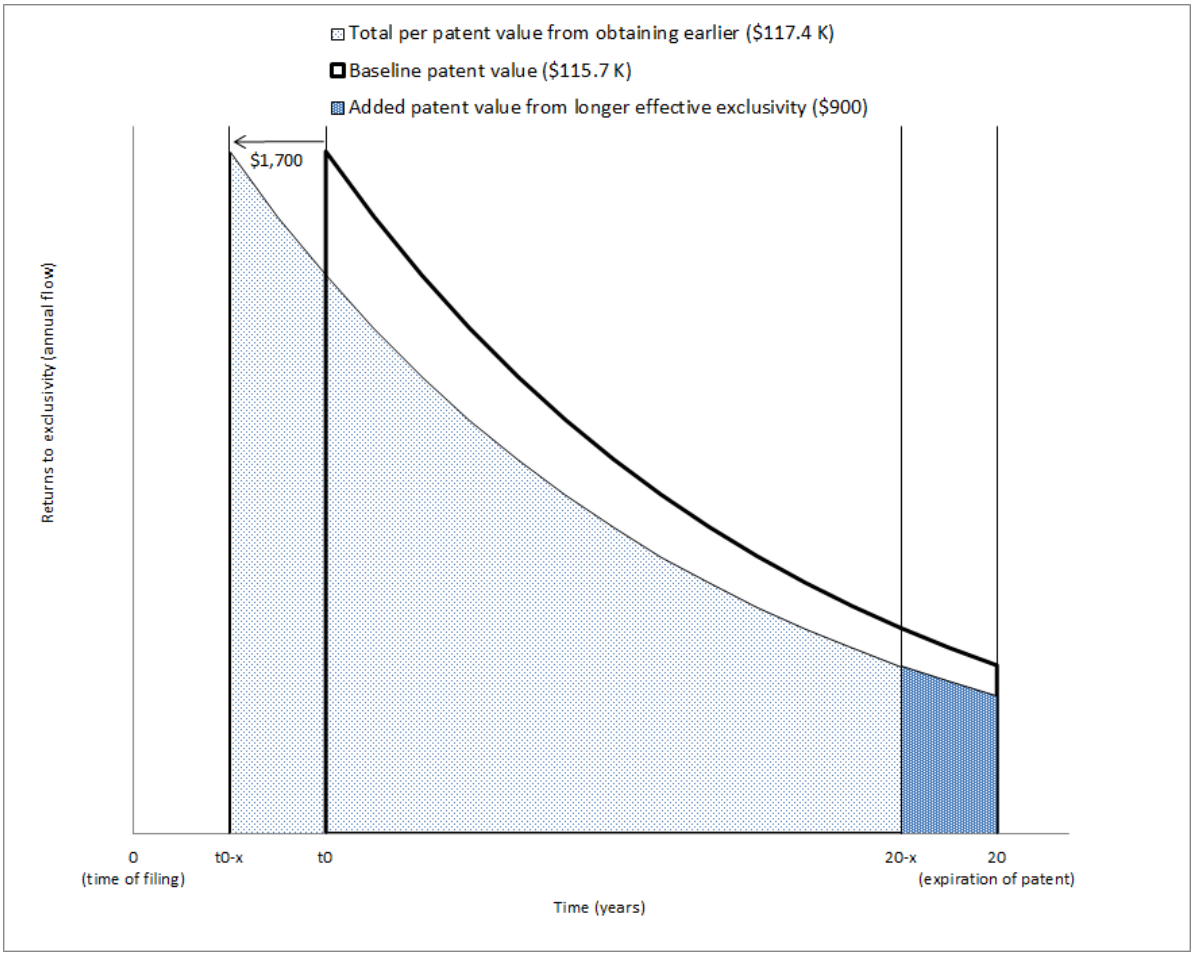
patent term extension is about $897, discounted continuously at three percent (annuity payment x $(e^{-t_0(r-g)} - e^{-t_1(r-g)})/(e^{(r-g)} - 1) = 18{,}039x$ $(e^{-17(0.03-(-0.10))} - e^{-17.5(0.03-(-0.10))})/(e^{(0.03-(-0.10))} - 1) = \$897$). For a large entity, the combined per patent gain from a half year earlier grant and half year extended patent term is about $2,645 ($1,748 + $897 = $2,645).

One important qualification to the analysis relates to patent term extension (PTE) and patent term adjustment (PTA), and how this interacts with decreased pendency. The statutory provisions which govern PTA and PTE grant additional term to a patent holder, in certain circumstances, to extend the patent term based on the amount of time an application was delayed by the Office during prosecution. PTA and PTE calculations are offset by delays attributable to the patentee. The private patent value attributable to decreased pendency depends upon the relationship between reduced pendency and PTA/PTE. The Office considered two extremes to form an upper bound and lower bound based on the impact that reduced pendency has on PTA/PTE.

Figure A illustrates the two potential effects of a change in pendency: (1) the earlier grant of the patent (realized in all cases); and (2) additional patent term (realized in some cases as described below). Figure A is a representative example, but will not necessarily be applicable for all users in all technologies in all situations. In this example below, the patent application is received at 0 and the patent is issued at t0 (representing current pendency). By reducing pendency, the patent can be granted sooner (patent grant is shifted to t0-x, where x is the reduction in pendency), and the value (benefit) gained from an earlier grant is represented by the area under the curve between t0-x and t0. This is the first effect

described above, and increases the average patent value by $1,700, from $115,700 to $117,400. The shorter pendency also increases the amount of time the patent is available for commercialization (assuming there would have been no PTA/PTE adjustments), and the value (benefit) of this effect is the area under the curve between 20-x and 20 and in this illustration the per patent gain from a half year patent term extension is about $900. This is the second effect described above.

Figure A



On one extreme (lower bound), if the reduction in pendency represents a one-for-one decrease in PTA/PTE, then reduced pendency would have no impact on the length of the

patent term because the benefit of a "longer term" otherwise attributable to reduced pendency is already being realized from PTA/PTE. Alternatively, if lower pendency stems entirely from less delay in other areas—so that PTA/PTE eligibility is unaffected—the patent term would be lengthened by exactly the same duration as the change in pendency (upper bound). In both of these extremes, applicants still receive the benefit in extra value of an earlier grant ($1,700 in the example above). However, where a reduction in pendency eliminates PTA/PTE, an applicant receives no additional gain because the patent term is unchanged – that is, the second effect identified above does not apply. Thus, in that case the gain from an earlier grant alone ($1,700) represents a lower bound of the private patent value gain that may accrue to some patentees. In the latter case, an applicant obtains an earlier grant and the longest possible extended patent term. Thus, the combined gain from earlier grant ($1,700) plus the longer term ($900) reflects an upper bound of the potential private patent value gain from lower pendency.

Tables A-1 and A-2 show the upper and lower bound estimates (described above) for each alternative based on projected patent grants from FY 2013 through FY 2017, as shown in the Key Indicators tables for each alternative. Alternatives 1 and 4 have the same value because the change in pendency in each alternative is equal. Alternative 3 exhibits no change in private patent value because the pendency is the same as the Baseline.

Table A-1

Change in Private Patent Value of Granted Patents from Baseline FY 2013 – FY 2017 Upper Bound		
Upper Bound (earlier and longer)	**(dollars in millions)**	
	3% Discount	**7% Discount**
Alt.1 - Proposed Patent Fee Schedule - Set and Adjust Section 10 Fees		
Low (small entity mean value)	4,895	5,352
Mid (small & large entity mean value)	7,179	7,850
High (large entity mean value)	8,062	8,815
Alt. 2 - Fee Cost Recovery		
Low (small entity mean value)	(14,363)	(15,716)
Mid (small & large entity mean value)	(21,068)	(23,052)
High (large entity mean value)	(23,659)	(25,887)
Alt. 3 - Across-the-Board Adjustment		
Low (small entity mean value)	No change	
Mid (small & large entity mean value)		
High (large entity mean value)		
Alt. 4 Initial Proposal to PPAC		
Low (small entity mean value)	4,895	5,352
Mid (small & large entity mean value)	7,179	7,850
High (large entity mean value)	8,062	8,815

Table A-2

Change in Private Patent Value of Granted Patents from Baseline FY 2013 – FY 2017 Lower Bound		
Lower Bound (earlier only)	**(dollars in millions)**	
	3% Discount	**7% Discount**
Alt.1 - Proposed Patent Fee Schedule - Set and Adjust Section 10 Fees		
Low (small entity mean value)	4,719	5,245
Mid (small & large entity mean value)	6,921	7,694
High (large entity mean value)	7,773	8,640
Alt. 2 - Fee Cost Recovery		
Low (small entity mean value)	(13,748)	(15,334)
Mid (small & large entity mean value)	(20,166)	(22,491)
High (large entity mean value)	(22,646)	(25,257)
Alt. 3 - Across-the-Board Adjustment		
Low (small entity mean value)	No change	
Mid (small & large entity mean value)		
High (large entity mean value)		
Alt. 4 Initial Proposal to PPAC		
Low (small entity mean value)	4,719	5,245
Mid (small & large entity mean value)	6,921	7,694
High (large entity mean value)	7,773	8,640

The Office calculated the aggregate total gain to patent holders by multiplying the per patent gain by the number of expected patent grants under each alternative for each fiscal year. The Office generated large and small entity estimates for foreign and domestic total gains by applying the FY 2011 percentage of grants by entity size and origin. The Office then calculated the incremental gain relative to the Baseline scenario.

APPENDIX B: Lost Patent Value from a Decrease in Patent Applications Calculation

Under each alternative scenario, the Office projected that some number of parties would not apply for patents because of higher fees. The value of these foregone patents represents a private loss to these parties.

To calculate this loss, the Office applied elasticity estimates to the filing, search, and examination fee increases for each alternative to estimate the decline in applications relative to the Baseline (*see* the document titled "USPTO Section 10 Fee Setting – Description of Elasticity Estimates" *available at* http://www.uspto.gov/aia_implementation/fees.jsp#heading-1 for a definition of elasticity and how the Office applies this economic concept). The Office calculated reduced numbers of applications only for those directly subject to filing, search, and examination fees in each fiscal year.[10]

For example, the Baseline forecast projects that the Office will receive about 435,600 serialized applications in FY 2014. Alternative 4 (Initial Proposal to PPAC) includes a 46 percent increase in filing, search, and examination fees. At an elasticity of -0.10, the Office calculated that about 20,000 fewer applications would be filed in FY 2014 under

[10] For the lost patent value estimate, elasticity estimates were applied to serialized utility applications only, omitting plant, RCE and reissue applications. This was done because serialized applications best represent new filings that would be affected by increased fees and result in lost patent value. The Office estimated applications not filed for FY 2013 by applying elasticity estimates to half the baseline quantity of serialized applications because fee changes are expected to be implemented mid-fiscal year.

Alternative 4 (Baseline quantity*elasticity*price change = applications not filed; 435,618*-0.10*0.46 = 20,038).

The Office estimated that 50 percent of the foregone applications would have been granted under the Baseline, based on FY 2007 – FY 2011 data related to patent grants from serialized applications. The Office anticipates that the 50 percent estimate would be the maximum grant rate, as most applicants would self-select the less valuable patent applications from filing. Thus, in the above example, only about 10,000 patents would be foregone in Alternative 4 relative to the Baseline (lost applications*allowance rate = foregone patents; 20,038*0.5 = 10,019).

To estimate lost patent value, the Office used a per patent value of $10,619[11] based on the median patent value estimate from Bessen (2008). The Office used the median value because applicants with less valuable inventions are expected to be more sensitive to increases in filing, search, and examination fees. In this example, the pre-discounted total loss in patent value (foreign and domestic combined) from applications not filed in FY 2014 is about $106 million (median per patent value * applications not filed = lost patent value; $10,619 * 10,019 = $106,391,761). Parties who elect not to file applications would also benefit from not having paid for the filing fees for foregone applications; however, this savings is a transfer payment (*see* section 3.4 "Description of Transfers" in this RIA for additional detail). Consequently, the Office did not factor it into the estimated loss from foregone applications.

[11] USD 2011 value calculated using Implicit Price Deflator for GDP

The Office assumed a three-year lag between application and grant (based on current pendency estimates), so that a foregone application in FY 2013 represents lost private value in FY 2015 when the value would arrive to the patentee. Consequently, patent value losses are discounted back three (FY 2015 grant) to seven (FY 2019 grant) years to obtain present value estimates. In the FY 2014 example, the present value of the total loss in patent value (for patents that would have been granted in FY 2017 under the Baseline) is about $94 million, discounted continuously at 3% (lost patent future value x e^{-rt}= lost patent present value; $106,391,761 $x\ e^{-0.03*4}$ =$94,361,027), or $80 million, discounted continuously at 7% ($105,980,982 $x\ e^{-0.07*4}$ =$80,409,163).

Total losses represent the value of foregone patents (granted in FYs 2015 – 2019 under the Baseline) derived from foregone applications in FYs 2013 – 2017. The Office estimated domestic and foreign losses by applying the FY 2011 percentage of total grants by origin. Approximately 49 percent of FY 2011 patent grants were of domestic origin based on the first-named inventor residence. Thus, the pre-discounted U.S. patent value loss is about $52 million in the FY 2014 example (lost patent future value*domestic origin share = domestic lost patent future value; $106,391,761 x 0.49 =$52,131,963).

The Office generated low and high estimates by applying the range of elasticity estimates from de Rassenfosse and van Pottelsberghe de la Potterie (2012). The Office applied short run and long run elasticity in the same manner as point estimates for low[12] and high[13] figures.

[12] Low range estimates are based on short run elasticity of filing, search, and examination fees = -0.06 (2013-2014) increasing to -0.08 (2015-2017).

[13] High range estimates are based on short run elasticity of filing, search, and examination fees = -0.12 (2013-2014) increasing to -0.22 (2015-2017).

APPENDIX C: References

The Office references several documents used for information and guidance to complete several sections of this RIA. Many of these documents are available for public inspection at the USPTO or at the appropriate Web site. The following is a list of each reference's citation and associated electronic location (when available):

35 U.S.C. § 1-376, available at http://uscode.house.gov/download/title_35.shtml.

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* Part of the information on which the Office based its elasticity estimates are copyrighted materials and are available for inspection at the USPTO headquarters (600 Dulany Street, Alexandria, Virginia).

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Gaetan de Rassenfosse & Bruno van Pottelsberghe de la Potterie, *On the Price Elasticity of Demand for Patents,* 74 Oxford Bulletin of Economics and Statistics 58-77 (2012).*

* Part of the information on which the Office based its elasticity estimates are copyrighted materials and are available for inspection at the USPTO headquarters (600 Dulany Street, Alexandria, Virginia).

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APPENDIX D: Acronyms

ABC – Activity-based costing

ABI – Activity-based information

AIA – Leahy-Smith American Invents Act

BPAI – Board of Patent Appeals and Interferences, which will become the Patent Trial and Appeal Board on September 16, 2012

CBO – Congressional Budget Office

CPI-U – Consumer Price Index for All Urban Consumers, as determined by the Secretary of Labor

FASAB – Federal Accounting Standards Advisory Board

FAOM – First Action on the Merits

FY – Fiscal Year

GAO – Government Accountability Office

IG – Inspector General

IP – Intellectual Property

IPC – International Patent Classification

MCA – Managerial cost accounting

NOA – Notice of allowance

NPRM – Notice of Proposed Rulemaking

OMB – Office of Management and Budget

PALM – Patent Application and Location Monitoring System

PPAC – Patent Public Advisory Committee

PPH – Patent Prosecution Highway

PPM – Patent Pendency Model

PTA – Patent Term Adjustment

PTE – Patent Term Extension

R&D – Research and Development

RCE – Request for Continued Examination

RGDP – Real Gross Domestic Product

RIA – Regulatory Impact Analysis

SFFAS – Statement of Federal Financial Accounting Standards

USPTO – United States Patent and Trademark Office